



2018



# DISTRICT DISASTER MANAGEMENT PLAN

Bargarh, Odisha

Volume- I



District Disaster Management Authority,  
Bargarh, Odisha

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## Preface



The Geographical position of Bargarh district with its natural rivers and mountains plays a significant role in shaping the history, culture and religion of the people living in this region since the pre-historic period.

The District has experienced many disasters like- Drought, Pest attack, Flood, Heat Wave, Lighting, Hailstorm, Whirl wind, Fire Accident, Drowning & Snake Bite during past years causing widespread loss of life, livelihood and property.

The District Disaster Management Plan (DDMP) is the guide for achieving the objective i.e. mitigation, preparedness, response and recovery. This Plan is prepared to respond to disasters with sense of urgency in a planned way to minimize human, property and environmental loss. Keeping the requirements of the District for Disaster Management & fulfilling the mandates specified in the **Section 31 of Disaster Management Act 2005 (DM Act)** the District Disaster Management Authority (DDMA) has taken steps for updating the DDMP. Accordingly on dated 7<sup>th</sup> May 2018, a district level consultation workshop was organised for updating the plan and reviewed the disaster plan 2017. Keeping in view of the past Disaster experiences like Drought, Pest attack during Khariff-2017 and the recent govt. notifications like implementation of School Safety Policy, Climate Change, Safety & Security in Child Care Institutions (CCIs), Forest Fire Vulnerability, District Crisis Group & Off Site Plans, Status of Dams & Dam Burst Situation, Famex Exercises, Fire Safety in high rise buildings, etc are included/updated in the Plan.

In this context, I am pleased to share the District Disaster Management Plan 2018 of Bargarh District in Two volumes viz. Volume-I and Volume-II as Chairman of DDMA, Bargarh. I would like to thank Sri Tapiram Majhi, OAS (S), ADM cum CEO, DDMA, Bargarh, Sri Dashrath Bhoi, OAS (retd.), District Emergency Officer, Sri Rakesh Kumar Nayak, District Project Officer, OSDMA-DDMA and Staff of District Emergency Operation Centre for their untiring efforts in bringing up this document. My special thanks to all the officials of Line Department, BDOs, Tahasildars and EOs of all ULBs of the district who have cooperated with sharing of information for updating DDMP.

  
(Indramani Tripathy)

Collector-cum- Chairman  
District Disaster Management Authority, Bargarh

*CONTENTS*

1	Introduction	
1.1	Overview to Disaster Management Plan.....	12
1.2	Aims and Objectives of the DDMP.....	12
1.3	Preparation and Approval of DDMP.....	13
1.4	Evolution of DDMP in brief: Evolution, Procedure and Methodology.....	14
1.5	Stakeholders and their responsibilities.....	14
1.6	Plan for review and updating: Periodicity.....	16
2	District Profile	
2.1	Introduction of Bargarh District.....	18
2.2	Administrative Setup.....	22
2.3	Geography	
2.3.1	Natural Divisions and Land Formation.....	24
2.3.2	Geological Formation, Mines, Minerals and Rocks:.....	25
2.3.3	Flora and Fauna.....	27
2.3.4	General Characteristics of Vegetation.....	27
2.3.5	Climatic Condition and Weather.....	28
2.3.6	Temperature.....	29
2.3.7	Humidity.....	29
2.3.8	Wind.....	29
2.4	Topography:.....	29
2.5	Soil Type:.....	30
2.6	River System.....	31
2.6.1	Spring, Waterfall and Water reservoir.....	31
2.7	Rain Fall.....	32
2.7.1	Rain gauge and Automatic Weather Stations.....	33
2.8	Demography.....	33
2.9	Socio-Economic profile.....	37
2.10	Critical infrastructures.....	41
3	Hazard, Vulnerability and Risk Assessment	
3.1	Multi-hazard Profile of the District.....	44

3.2	Matrix of Past Disasters in Bargarh district.....	45
3.2.1	Major Disasters/ Incidents during 2007-2015.....	46
3.2.2	Major Disasters/ Incidents in the District during 2016.....	50
3.3	Vulnerability and Risk Assessment related to disasters:.....	
3.3.1	Flood.....	51
3.3.2	Whirl wind.....	53
3.3.3	Heat Waves.....	54
3.4	Drinking Water Crisis.....	54
3.5	Fire Accident.....	55
3.6	Events/ Festivals/ Functions organized in the district:.....	55
3.7	Lightning:.....	56
3.8	Drought.....	56
3.9	Road Accidents.....	57
3.10	Cultural Heritage Sites & Precincts.....	60
3.11	Museums.....	61
3.12	Important Libraries.....	62
3.13	Earthquake Vulnerability.....	62
3.14	Fire & Life Safety of High Rise Buildings.....	62
3.15	Forest Fire.....	64
3.16	Embankments.....	65
3.17	Dam Burst Scenario.....	65
4	Institutional Arrangement	
4.1	National Disaster Management Authority (NDMA).....	67
4.1.1	National Executive Committee (NEC).....	67
4.2	State Disaster Management Authority (SDMA).....	67
4.2.1	State Executive Committee (SEC).....	68
4.3	Revenue and Disaster Management Department.....	69
4.4	Special Relief Organization.....	69
4.5	Odisha State Disaster Management Authority (OSDMA).....	69
4.6	State Level Committee on Natural Calamity (SLCNC).....	70
4.7	District Disaster Management Authority (DDMA).....	70

4.8	District Level Committee on Natural Calamity (DLCNC).....	75
4.9	National Disaster Response Force (NDRF).....	76
4.10	Odisha Disaster Rapid Action Force (ODRAF).....	78
4.11	Other Disaster Response Teams in the district.....	81
4.12	Emergency Communication System.....	
4.12.1	State Emergency Operation Center (SEOC).....	82
4.12.2	District Emergency Operation Centers (DEOC).....	82
4.12.3	Block Emergency Operation Center (BEOC).....	88
4.13	GO-NGO Coordination before and after disaster in the district:.....	89
4.14	Role of Corporate Sector in the district relating to Disaster Management .....	91
4.15	Public Private Partnership.....	92
4.16	National Legal Service Authority.....	92
4.17	Odisha State Legal Service Authority.....	93
4.18	Other identified Safe temporary shelters in the district.....	94
5	Prevention & Mitigation Measures	
5.1	Measures to be taken up.....	95
5.2	Prevention & Preparedness Plan.....	95
5.3	Disaster Specific Prevention Plan.....	96
5.4	Disaster Management Planning.....	109
5.5	Disaster Inventory.....	111
5.6	Enforcing Existing Codes and Laws .....	112
5.7	Mitigation Plan.....	112
5.8	Integration DRR Activities in various schemes.....	113
6	Climate Change Adaptation.....	116
7	Safety of Schools and Child care Institutions.....	124
8	Capacity Building Measures:	
8.0	Approach.....	135
8.1	Capacity Building of Govt. Officials, PRI Members etc.:.....	135
8.2	Table top Exercise:.....	139
8.3	District/ Block level Mock Drills:.....	139
8.4	Disaster management Education (School Safety and School Disaster Preparedness)....	140
8.5	Community Capacity Building and Community Based Disaster Management.....	141

8.6	Capacity building of Cyclone and Flood Shelter Maintenance & Management Committee and Task Force members:.....	141
9	Preparedness	
9.1	Relief Lines: District to Blocks.....	143
9.2	Relief Line Channels: Block to GPs & Villages (Based on past records).....	143
9.3	Resources available: Response force & Volunteers.....	144
9.4	Preparedness at District level.....	145
9.5	Preparedness at Community Level.....	146
9.6	Preparedness at Family Level.....	147
9.7	Preparedness at Individual Level.....	147
9.8	Preparedness of Departments.....	148
10	Response	
10.1	Phases of Response: Timeline.....	159
10.2	Relief Management: Timeline.....	160
10.3	Forecasting & Warning.....	161
10.4	Activation of Emergency Plan.....	161
10.5	Response.....	163
10.5.1	Response: District.....	163
10.5.2	Response: Community Level.....	164
10.5.3	Response: Family & Individual Level.....	165
10.5.4	Role of Response Team.....	165
10.6	Response: Standard Operating Procedures for Departments.....	167
10.7	Format for First Information Report (FIR).....	195
10.8	Daily Status Report on Relief/ Restoration Measures Undertaken By Departments.....	197
10.9	Damages to Roads/River Embankments.....	198
11	Rehabilitation & Restoration	
11.1	Standard Operating Procedure: Restoration & Rehabilitation.....	199
11.2	Damage Loss Assessment.....	207
11.3	Calculation of assistance for agricultural input subsidy-SMF.....	208
11.4	Agricultural input subsidy- Farmers other than SMF.....	209
11.5	Farmers affected by successive calamities.....	210
11.6	Animal Husbandry (Replacement of Animals).....	211
11.7	Assistance sought for repair /restoration of damaged houses.....	212
11.8	Assistance for provision for temporary accommodation, food, clothing & medical care..	213

11.9	Extent of damage due to natural calamities.....	214
11.10	Format for working out the requirements under the head of repair of damaged infrastructure of immediate nature.....	215
12	Recovery	
12.1	Livelihood Recovery Plan.....	219
12.1.1	Agri based Livelihood.....	219
12.1.2	Skill Development Programme.....	231
13	Financial Arrangement	
13.1	National Disaster Response Fund (NDRF).....	234
13.2	State Disaster Response Fund (SDRF).....	234
13.3	Chief Minister Relief Fund (CMRF).....	235
13.3.1	Cases Eligible for Assistance under CMRF.....	235
13.4	Release of funds to Departments & Districts.....	236
13.5	Damage Assessments and Report after Flood/Cyclone.....	236
13.6	Central and State Government programmes and Schemes on Natural Calamities.....	237
13.7	Roles of District Planning committee.....	240
13.8	Role of DPC for mainstreaming Disaster Risk Reduction (DRR).....	240
13.9	Monitoring and evaluation of projects from DRR/CCA angle.....	241
13.10	Fund provision for disaster preparedness & capacity building.....	243
14	Preparation and Implementation of DDMP	
14.1	Procedure for preparation.....	244
14.2	Roles of ADM, DEO and Nodal Officers support from other line Departments.....	245
14.3	Support of line departments.....	245
14.4	Time lines for updating DDMP.....	246
14.5	Details of number of consultation and meetings, discussion with stakeholders.....	246
14.6	Sharing and placing before DDMA for approval.....	247
14.7	Implementation of DDMP, 2017.....	247
15	Lessons learnt and Documentation	
15.1	Drought, 2015.....	249
15.2	Flood, 2014.....	249
15.3	Heat Wave, 2010.....	249

*List of Tables*

Table 2-1 Rain Recording Station.....	34
Table 2-2 Rural- Urban Population Distribution .....	34
Table 2-3 Population Distribution .....	36
Table 3-1 List of Past Disasters.....	46
Table 3-2 Major Disasters/ Incidents during 2006-2015.....	47
Table 3-3 Major Disasters/ Incidents in the District during 2016.....	50
Table 3-4 Flood vulnerable areas of the district.....	52
Table 3-5 Roads Exposed to Flood.....	52
Table 3-6 Boat Operation Points.....	53
Table 3-7 Drinking Water Crisis.....	54
Table 3-8 Event/ Festival/ Function.....	56
Table 3-9 Drought Vulnerability.....	57
Table 3-10 Habitations adjacent to accident prone areas.....	58
Table 3-11 List of High Rise Buildings in Bargarh.....	63
Table 4-1 Structure of District Disaster Management Authority.....	72
Table 4-2 Structure of District Level Committee on Natural Calamity.....	75
Table 4-3 Location of National Disaster Response Forces.....	77
Table 4-4 Location of Odisha Disaster Rapid Action Force.....	78
Table 4-5 List of other Disaster Response Teams in the District.....	81
Table 4-6 Equipment provided to DEOC and their operational status.....	83
Table 4-7 Contact details of Heads of the Department at district level.....	86
Table 4-8 Action Points in Go-NGO Coordination .....	89
Table 5-1 Block wise Irrigation potential created.....	98
Table 5-2 Component wise Consolidated budget.....	99
Table 5-3 Consolidated Budget.....	103
Table 5-4 Proposed Sensitization Programme.....	109
Table 5-5 Proposed Disaster Management Plan.....	111
Table 5-6 Possible activities for DRR.....	114
Table 8-1 Proposed Training programme.....	136
Table 8-2 Proposed Mock Drills.....	141
Table 8-3 Proposed School Safety and School Disaster Preparedness.....	141
Table 8-4 Proposed CBDM.....	142
Table 8-5 Shelter level Mockdrils.....	142
Table 11-1 Standard Operating Procedures.....	142
Table 13-1 Different State and Central Government Schemes and Programms.....	238



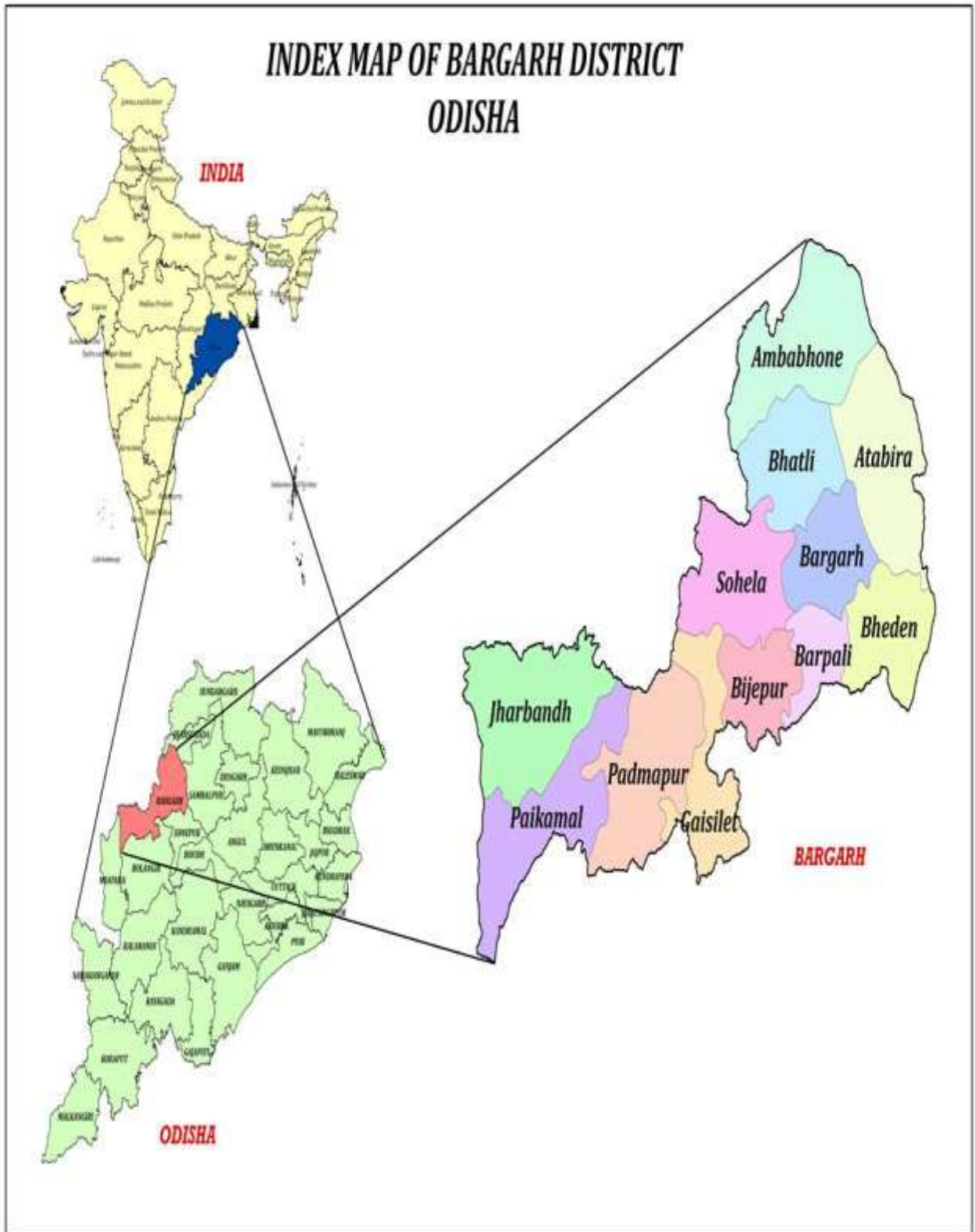
*List of Figures*

Figure 2-1 Population Growth .....	34
Figure 2-2 Work Participation.....	37
Figure 4-1 Organogram of District Disaster Management Authority.....	72
Figure 4-2 Information flow chart from SEOC to Districts.....	82
Figure 4-3 Information flow chart from DEOC to Villages with early warning .....	86
Figure 4-4 Information flow chart from Villages to DEOC without early warning .....	88
Figure 4-5 Coordination structure at the District level and down the line .....	89
Figure 4-6 Organogram of Legal Service Authorities/Committees .....	93
Figure 10-1 Timeline of various phases of response .....	159
Figure 10-2 Timeframe of Relief Management.....	160

## Abbreviation

AAY	India Awas Yojna
ANM	Auxiliary Nurse Midwife
ASHA	Accredited Social Health Activist
AWCs	Anwanwadi centre
BEOC	Block Emergency Operation Centers
BNRGSK	Bharat Nirmak Rajiv Gandhi Seva Kendra
BSF	Boarder Security Forces
CDVO	Chief District Veterinary Officer
CHCs	Community Health Centre
CIFS	Central Industrial Security Forces
CPMF	Central Paramilitary Forces
CWC	Central Warehouse Corporation
DDA	Deputy Director Agriculture
DDMA	District Disaster Management Authority
DDMP	District Disaster Management Plan
DDMT	District Disaster Management Teams
DEOC	District Emergency Operation Centre
DIP	District Irrigation Plan
DLCNC	District Level Committee on Natural Calamity
DM Act	Disaster Management Act 2005
DRR-CCA	Disaster Risk Reduction and Climate Change Adaptation
FIR	First Information Report
GPDP	Gram Panchayat Development Plan
HH	Households
IAY	Indira Awas Yojna
IEC	Information Education and Communication
IMR	Infant Mortality Rate
IPPE	Intensive participatory Planning Exercises
KMS	Kharif Marketing Season
MGNREGS	Mahatma Gandhi National Rural Employment Guarantee Scheme
MHUs	Mobile Health Unit

MMR	Maternal Mortality Rate
NABARD	National Bank for Agriculture and Rural Development
NDMA	National Disaster Management Authority
NDRF	National Disaster Response Force
NDRFs	National Disaster Response Funds
NEC	National Executive Committee
NFSA	National Food Security Act
NGOs	Non-Government Organisation
NH	National Highways
NRLM	National Rural Livelihood Mission
ODF	Open Defecation Free
ODRAF	Odisha Disaster Rapid Action Force
OSDMA	Odisha State Disaster Management Authority
OSWC	Odisha State Warehouse Corporation
PACS	Primary Agriculture Cooperative Society
PHCs	Public Health Centre
PWD	Person with Disability
RAT	Railway Affected Tank
RAW	Railway Affected Work
RMC	Regulated Market Committee
SDG	Sustainable Development Goal
SDHs	Sub-Divisional Hospital
SDMA	State Disaster Management Authorities
SDRF	State Disaster Response Funds
SDVO	Sub-Divisional Veterinary Officer
SEC	State Executive Committee
SH	State Highways
SHGs	Self Help Group
SLCNC	State Level Committee on Natural Calamity
SoP	Standard Operating Procedure
UNDP	United Nation Development Programme
VDMC	Village Disaster Management Committee



## CHAPTER – 1: INTRODUCTION

### 1.1 Overview of the DDMP:

Under the Disaster Management 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. District Disaster Management Plan (DDMP) shall include Hazard Vulnerability Capacity and Risk Assessment (HVCRA), prevention, mitigation, preparedness measures, response plan and procedures.

The District Disaster Management Plan (DDMP) has envisaged all the aspect of preparedness whereby receipt of the signal of an impending disaster would simultaneously energise and activates the mechanism for response and mitigation without loss of time. It enables the participating managers to know well in advance the task assigned to them and the manner of response, available resources including manpower, material, equipment and adequate delegation of financial and administrative powers.

### 1.2 Aims and Objectives of the DDMP:

The objective of the plan is to identify all common elements of response, which acts as a base plan or a generic / modular plan for all response activities. It provides a framework basing on which other agencies and departments can outline their own activities for disaster response. This plan will then be supplemented with specific disaster management plan and will take into account the peculiar conditions that might arise due to the occurrence of specific disaster.

The specific aims and objectives of the DDMP are,

- a) To identify the areas vulnerable to major types of the hazards in the district.
- b) To adopt proactive measures at district level by all the govt. departments to prevent disaster and mitigate its effects.
- c) To define and assign the different tasks and responsibilities to stakeholders during the pre-disaster and post-disaster phases of the disaster.
- d) To enhance disaster resilience of the people in the district by way of capacity building.

- e) Reduce the loss of public and private property, especially critical facilities and infrastructure, through proper planning.
- f) Manage future development to mitigate the effect of natural hazards in the district.
- g) To develop the standardized mechanism to respond to disaster situation to manage the disaster efficiently.
- h) 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.
- i) 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.
- j) To make the use of media in disaster management.
- k) 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.

### **1.3 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 will discuss 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 Disaster Management plan to the State Disaster Management Authority for approval. The District DM Plan is to be reviewed and updated annually.

## 1.4 Evolution of DDMP in brief: Evolution, Procedure and Methodology:

### 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:

### Consultation with district and block level officials

The district followed a comprehensive process to prepare the DDMP, 2018. The district level meeting on preparation of DDMP under chairmanship of Collector, Bargarh was conveyed on 07.05.2018 at Collector Conference Hall at 10.00 AM on proposed methodology suggested by OSDMA and role of various stakeholders at district, block and village level. After that meeting prescribed formats were shared (vide letter No. 878 dated 07/05/2018) with the line department officials to submit the information.

### Key processes

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 are explained at Chapter-12.1.

### Review, Finalization and Approval

The information submitted by all concerned was compiled and report was drafted by DEOC, Bargarh 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 on dt. 22.05.2018 in the DLCNC meeting. After necessary modification, the revised plan was shared with the members of District Disaster Management Authority (DDMA), Bargarh. The DDMP, 2018 was finally approved by DDMA on **08.06.2018**.

## 1.5 Stakeholders and their responsibilities:

At the District level, District Disaster Management Authority, with the District Collector designated as the Response Officer (RO), and other line departments at district HQ were entrusted to deal with all phases of disaster management within district. Besides, district level officials, PRIs members, community at large, NGOs etc. were provided inputs to the District Disaster Management Plan. Roles of various stakeholders are explained below,

**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 sectors were 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 were adhering 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 were encouraged to participate in all training activities as may be organized and to be familiarised themselves with their role in disaster management.

#### **Citizens:**

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

#### **1.6 Plan for review and updating: Periodicity**

The approved plan is to be implemented by the concerned line department. Each department needs to train their personnel so that they have the knowledge, skills and abilities needed to perform the tasks identified in the plan. Activities identified for each department at various stages of disaster should be followed judiciously. At the same time the plan to be reviewed periodically to determine whether the goals, objectives, decisions, actions and timing outlined in the plan led to a successful response. As DM Plan is a "living document" would require regular improvement and updating at least once a year. The DDMP, 2018 prepared by the DEOC, Bargarh will be upgraded every year and will continue to be done. The DDMA will sit at least twice a year to effect regular improvements or remove bottlenecks in the Disaster Management Plan.

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

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

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

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.

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## **CHAPTER-2 DISTRICT PROFILE**

### **2.1. Introduction of Bargarh District:**

The district of Bargarh was created on 1<sup>st</sup> April 1993 by dividing the erstwhile Sambalpur district into four districts viz. Sambalpur, Deogarh, Jharsuguda and Bargarh. Geography of a region shapes the history of the people living therein. The geographic position of South Koshala therefore naturally impacted upon the life of the people of the region from time to time. The present district of Bargarh was carved out of the ancient South Koshala region. The history of the present district of Bargarh formed a part of the history of erstwhile Sambalpur region with changing administrative boundaries under different historical and administrative contexts. The present identity of Bargarh district is constructed in terms of its historical geography, architectural remains, pre-historic finds, historical data found in sites, primary data analysis, available records etc. relating to the present boundaries of the districts.

The Geographical position of the district with its natural rivers and mountains plays a significant role in shaping the history, culture and religion of the people living in this region since the pre-historic period. Till the invasion of Samudragupta in the 4<sup>th</sup> Century A.D. this region was exclusively inhabited by indigenous hilly tribes. They were independent in their life-style and would not surrender to any intrusion in their way of life. Asoka, the Mauryan king who invaded Kalinga in the 3<sup>rd</sup> Century B.C. therefore chose to stay away from direct military engagement and instead preferred to give a warning to these people and named them as Attavika or forest people.

The region of South Koshala was close to central India geographically. The invasion of South Koshala from Magadha opened a new line of communication connecting northern and southern India. It was along this route that the process of Aryanisation entered the main land of Odisha. The original inhabitants of this region who were primarily tribes, began to accept the process of Aryanisation in phases. It was through a long process of affinity between the Aryans/Brahmins with the tribals that resulted in the assimilation of tribal faith with Brahminism. The impact of this assimilation was manifested in the field of religion, art, architecture, sculpture, language and culture not only in this region but also in different parts of Odisha in subsequent stages.

The geographical location of this district served as a link of communication between Cuttack and Nagpur. It was because of the strategic position of the district that the Marathas and the British were attracted to this region and to establish their sway over it.

### Origin and Evolution Of The Name Of The District And Significance Thereof:

Bargarh District was the heartland of ancient South Koshal. It became a kingdom for the first time under the Chauhan since 16<sup>th</sup> CA.D.

In 1320 A.D. Ramai Dev founded the Chouhan dynasty in Patna. Balaram Dev belonged to this dynasty. His elder brother Narasingha Dev was the independent King of Patna. Balaram Dev was both stronger and popular. He got the Huma province as a share from his elder brother. Huma state was believed to be rich in gold and diamond along with other natural resources. The river Chitrotapala (now Mahanadi) flowed through one end of the Huma Kingdom which was a part of the then Koshal that included Dandakaranya. The then Koshal was surrounded by the rivers Mahanadi, Ong and Surangi on all the four sides. It would be more pertinent to view the Huma province as the Bargarh region than to call it directly Huma or Sambalpur Kingdom.

Prahallad Dubey in his book 'Jayachandrika' mentions that as the two brothers Narasingha Dev (elder) and Balaram Dev (younger) were not in good terms with each other, their mother gave Balaram Dev the Huma province which was a part of Patna Kingdom, as a share in order to prevent further tussle between the two. With the settlement, she made the two brothers swear not to quarrel anymore. The mother declared that whoever of the two failed to honour the settlement would be declared to have committed the sin of outraging her modesty. The Huma province was on the northern side of the river 'Onga'. (2)

The mother's order made Balaram the ruler of the Huma Kingdom that existed on the northern side of the river 'Ong'. But historian Shiba Prasad Dash records other reasons of the division of the Patna Kingdom as found in the manuscript of Sri Satyabadi Mishra. In his manuscript, Satyabadi Mishra contends that Balaram Dev got the kingdom "Kangaon Barapali" as a reward from his elder brother Narasingha Dev. But to spread his empire, the mighty and courageous Balaram Dev started conquering regions outside his Kingdom which irritated the elder brother Narasingha Dev. Narasingha Dev ordered Balaram Dev to leave the conquered regions and to go back to his original kingdom. However, the latter paid no attention to the order at all. So Narasingha Dev sent troops to drive away his younger brother forcibly from the conquered regions, but the soldiers were defeated. Finally, he came himself with his soldiers to fight with his younger brother. He camped at Salebhata which is situated on the southern side of the river 'Ong'. Balaram Dev prepared his troops for the fight at Cherupali that existed on the northern side of the said river. Their mother knew it and interfered for a settlement. She divided the Patna Kingdom into two on the basis of the river. The 'Ong' river which originates in

Khadias merged in Mahanadi in the Sonapur kingdom served the purpose of boundary line between the kingdom of Patna and that of Sambalpur. At that time, the Huma province existed on the northern side of the river and Bargarh comprised the central region.

### **The Establishment of Bargarh**

Balaram Dev founded his capital on the bank of the perennial river 'Jira'. Prior to it, two brothers named Barna and Ujar belonging to the Sahara tribe had built a fort on the bank of the river and ruled this region. Balaram Dev drove them out of power and settled here after rebuilding the fort. He named it Bara (greatest) garh (fort). At first, it was known as the Huma kingdom. Bargarh was actually set up as the first capital by Balaram Dev, the first independent king of the Sambalpur Kingdom. He settled here after he came from Patna. He gifted some villages like Ambapali, Dumberpali, Brahmachari etc. to the Brahmins. These villages are situated on the bank of Jira. Criminals administered with death penalty were executed at Shuliapada near Bargarh.

Balaram Dev came here and rebuilt the fort and established himself as the ruler. He most probably named the region Bargarh as a monument of his royal achievement. In course of time, he changed his capital to Nuangarh village surrounded by the Barapahar forest range which at present comes under Bhatli Police Station. As he moved out of his old capital Bargarh to settle in the newly built fort (Nuangarh), people obviously called it Nuangarh (newly built fort). Later, he saw Goddess Samaleswari in his dream during his halt at night on a hunting trip to the Chaunpur forest range situated on the bank of the river Mahanadi. He was ordained by the Goddess to set up his capital at Sambalpur. He built her temple there and enshrined her taking from Gumdarha. After him the others who succeeded him were Hrudaya Narayan Dev, Balabhadra Dev, Madhukar Dev, Baliar Singh Dev, Ratna Singh Dev, Chhatra Singh Dev and Ajit Singh Dev. From 1778 A.D. to 1781 A.D. Abhaya Singh Dev (a minor named Balabhadra Sai belonging to the Chandrapur Zamindar family) was made the King although one Akbar Ray became de facto ruler. The minor king was succeeded by Jayant Singh Dev who ruled Sambalpur from 1781 A.D. to 1800 A.D.

In 1800 A.D. the Marathas conquered the Sambalpur Kingdom and ruled it upto 1817 A.D. Bhupa Singh, the representative of the Bhonsla ruled it from 1800 A.D. to 1802 A.D. After him, the Bhonsla appointed Tantia Gadnabish as the ruler of Sambalpur who reigned from 1802 A.D. to 1803 A.D. The second Maratha war was between the Bhonsla and the British which started in the month of September in 1803 A.D.

On 2<sup>nd</sup> January, 1804 A.D., the British General Lieutenant Browton conquered Sambalpur and dislodged Tantia Gadnabish from power. The Britishers were unwilling to allow the Marathas to rule the kingdom after they captured it. However, Keshab Govinda, the Subedar of Ratnapur at that time refused to leave his region and continued to rule by keeping his troops at Sonepur. The Bhonsla from Nagpur in the meantime complained to the then Governor Lord Wellesley in vain regarding British intrusion into regions outside Cuttack. The Britishers had reasons for not heeding to the complaint of the Bhonsla of Nagpur and dishonouring the Treaty of Deogaon.

Commercial goods could be easily transported to Cuttack by Mahanadi waterways through Boudh and Sonepur regions and it was easy for them to travel through waterways. Browton wrote a letter to Harcourt on 24<sup>th</sup> March, 1804 not to return the Sambalpur kingdom again to the Bhonsla. On 26<sup>th</sup> March, in reply to a query whether they wished to continue under the Bhonsla or not, Ratna Kumari, the queen of Sambalpur, and the Samanta kings such as Queen Laxmipriya of Sonepur, Raigarh King Jujhur Singh, Sarangarh king Bishwanath Ray, Rairakhol King Bira Budha Jena, Gangpur King Indra Dev, Bamanda King Sachidanand Tribhuban Dev, Bargarh King Thakur Ranjit Singh at all refused to oblige the autocracy of the Bhonsla.

After the Britishers conquered the Sambalpur Kingdom, they ruled the Gadjat kingdoms through political agents. The kings and zamindars of the eighteen gadjats remained so only in name. But when Veer Surendra Sai belonging to the Chauhan zamindar family of Khinda rebelled against the Britishers, he received overwhelming support from the Bargarh region. Paharsrigida zamindar Janardan Singh, Bheden zamindar Manohar Singh, Ghess Zamindar Madho Singh and his family, Lakhanpur Zamindar Balabhadra Singh Dao etc. extended immense help to him in this rebellion. However, Bargarh continued to be under British Rule till India achieved Independence in 1947. The present territory of Bargarh district was under direct British rule. No Princely State was there within this territory. So the merger of Princely State did not take place in this district.

When Gandhiji launched Non-Cooperation Movement against the Britishers after his return from South Africa, this region extended support and Pandit Ghanashyam Panigrahi, Fakira Behera, Madhaba Sathua, Rama Chandra Puri, Bhagirathi Pattnaik led the movement in this region. They too groomed thirty two freedom fighters of Panimora for the famous 1942 Quit-

India Movement. The movement of 1942 also contributed to the emergence of the women leaders of the region such as Parbati Giri, and Prabhabati Devi.

Hence, Bargarh, founded by the Chauhan King Balaram Dev in the first half of the 16<sup>th</sup> century as a capital on the bank of the river Jira, is now a culturally and commercially rich town as well as one of the most important districts of Odisha.

## 2.2 Administrative Setup: (Please refer Table 1.1 of volume –II)

No of Sub Division:-	2 1. Bargarh, 2. Padampur
1. No. of Tahasil:	12 1. Attabira, 2.Bargarh. 3. Barpali, 4.Bhatli, 5. Bheden, 6.Padampur, 7.Paikmal, 8.Sohella, 9. Bijepur 10. Gaisilet, 11. Ambabhona, 12. Jharbandh
2. No. of R.I. Circles:	83
3. No. of Blocks:	12 Attabira, Ambabhona, Bargarh, Barpali, Bhatli, Bheden, Bijepur, Gaisilet, Jharbandh, Padampur, Paikmal, Sohella.
4. No. of U.L.Bs.	5 Bargarh Municipality, N.A.C., Barpali, Padampur, Attabira & Bijepur.
5. No. of I.C.D.S. Projects.	13 Bargarh, Bheden, Barpali, Bhatli, Attabira, Ambabhona, Bargarh (Urban), Padampur, Paikmal, Jharbandh, Bijepur, Gaisilet, Sohella.
6. No. of Police Stations:	16 Ambabhona, Attabira, Barpali, Bheden, Bijepur, Buden, Bhatli, Gaisilet, Jharbandh, Melchhamunda, Padampur, Bargarh Town, Bargarh Sadar, Paikmal, Sohella, Jagdalpur
7. No. of Gram Panchayats:	253
8. No. of Villages:	1204
9. No. of Fire Stations:	11
10. Nos. of Assembly Constituency:	05

**BARGARH (ODISHA)**

Bargarh is one of the 30 districts in Odisha and it is situated in the western part of Odisha. The district lies between latitude  $20^{\circ} 43'$  and  $21^{\circ} 41'$  North and between longitude  $82^{\circ} 39'$  and  $83^{\circ} 58'$  East. The District covers an area of 5837 square kilometres. It is bounded on the north by the Raigarh district of Chhattisgarh, on the east by Sambalpur district, on the south Bolangir and Subarnapur districts and on the west by Nuapada district of Odisha.



## 2.3 Geographical Area of Present Bargarh District:

### 2.3.1 Natural Divisions and Land Formation:

Geographically the district of Bargarh can be divided into three natural divisions viz. (i) The plain of Bargarh (ii) Raj Borasambar and (iii) The Barapahar range and Ambabhona-Lakhanpur.

#### (i) The plain of Bargarh

It is formed by the rivers Jeera, Danta and Jhaun- the three tributaries of Mahanadi. The plain spreads from Godbhaga in the east to Sohela in the west and Bhatli in the north to Bheden-Turum in the south. It is an expanse of undulating land slopping down from the Barapahar range in the north to the Mahanadi valley in the south having a soil suitable for rice production. The soil is a mixture of clay, sand and gravel.

#### (ii) Raj Borasambar

It lies to the south-west of Bargarh plain and is the second largest sub-division of the district. It is sub-divided into two sub-ranges viz., Gandhamardana mountain-forest range and Ong River valley.

a) **Gandhamardana mountain and forest range-** It is formed by three sub-ranges. The first sub-range being the Gandhamardana Mountain itself separates Bargarh from Bargarh district. It is 2000 to 3000 feet high. Nrusinghanath is the highest peak of this area with a height of 3234 feet i.e. 985.72 metres. The mountain contains many natural streams and waterfalls like Kapildhar, Chaldhar and Bhimdhar. It is a treasure-house of many kinds of medicinal plants of which some are very rare in the world. The people of the region are attached religiously to these streams. People of Chhatisgarh refer these streams as holy as the river *Ganga*. The second sub-range situated to the west of Nrusinghanath runs first north-south and then north-east at Jagdalpur where the river Ong breaks it. The third sub-range runs eastward to village *Tal* and then runs the north-east separating the district of Bargarh from Chhatisgarh region. It joins the western end of Barapahar range and is linked to the tail of the Vindhya mountain range of central India.

b) **Ong River Valley-** The Ong river valley is situated in between the hill ranges lying to the north and south of Raj Borasambar division. The whole valley, particularly the eastern portion is best suited to agriculture due to river silt and hill drainage.

The river has its origin in the Nuapara district and enters Raj Borasambar at its extreme south-west corner. It flows in a wide semi circular way from west to east. It leaves Bargarh district a few miles east of Gaisilet to enter Subarnapur where it joins the Mahanadi.

**(iii) The Barapahar range and Ambabhona**

**Lakhanpur-** Barapahar is a cluster of small hills situated to the North-east of the district. It is called Barapahar because according to the tradition of the region, it is supposed to consist of twelve hills. It has an area of 776 Sq. Km. and its highest peak Debrigarh is 2267 ft. in height. It provides an all-weather stream near the summit in the name of Barabakhara where a flanked stone roof is present. It is believed that it has a capacity of giving shelter to 500 persons at a time. It was an important place of shelter for the revolutionaries during the Ulgulan of Surendra Sai.

The Ambabhona-Lakhanpur plain is cut off from the Bargarh plain by a long spur of the Barapahar hill running south west nearly 48 Kms. The region is dominated by the Mali caste people who called Mangoand mangroves as ‘Ama’ and ‘Bhona’ respectively for which the place was called “Ambabhona”.

The area slopes down from the Barapahar to the River Mahanadi on the north-east. The Lakhanpur tract suitable for good cultivation is surrounded by forest-clad hills.

The whole Barapahar range is divided into the following reserve forest areas viz-(1) Sareidamu-Budharaja (7683.040 Hectare), (2) Dechuan-Lakhanpur (6997.000 hectare), (3) Phulsuri-Dungri Reserve Forest to the side of Mahanadi (880.964 hectare), (4) Lohra reserve forest near Kamgaon (346.091 hectare) and (5) Debrigarh Reserve forest (2409 hectare).

**2.3.2 Geological Formation, Mines, Minerals and Rocks:**

The Geology of this district is constituted by the Central India Craton (CIC) and the Eastern Ghat Mobile Belt (EGMB) belonging to the Archean to Proterozoic age. The younger intrusive alkaline rocks are found at the conjunction of the above two. The Chhattisgarh Group of rocks belongs to the Vindhyan which lies over the CIC basement.

The Padampur Civil Sub-division exposes different lithostratigraphic units having varied lithoassemblages. The Iron Ore Group consists of relics of cherty quartzite, metavolcanics in an envelope of granite gneisses and migmatites.

The granitic country is dominated by massive; medium grained granite of plutonic dimension (Sambalpur Granite) and is presently dated at 2600BC. The intrusive of different compositions intrude into iron ore Group of rocks. The intrusive are identified as pyroxenites, granophyres, syenite, dolerite and quartzvein. Three different phases of intrusive have intruded at different periods of time presumably in middle to upper Proterozoic. The Eastern Ghat Super Group comprises rock types of granulite facies, viz: quartz-feldspar-garnet-sillimanite graphite schist/ gneiss, garnetiferous quartzite, calcgranulites (Khondalite group), Charnockite, leptynite, garnetiferous granite gneiss and migmatites (Granitoids).

The anorthosite body possibly an apophysis of Bargarh anorthosite is marked as an intrusive into Eastern Ghat Super Group of rock. The Eastern Ghat Super Group of rocks is juxtaposed against the Iron Ore Group craton along a tectonic lineament marked as T-T in plate- I.

The chronostratigraphic relationships of Eastern Ghat Super Group of rocks vis-a-vis those of Iron Ore Group are highly conjectural. On a broader perspective, although both have late Archean ancestry, the EGMB (Eastern Ghat Mobile Belt) has yielded an overwhelmingly large impact on early to middle Proteromic dates.

The Chhatisgarh Super Group of rocks are represented by conglomerate, grit, arkoze, sandstone, shale of Chandrapur group overlain by fine grained siltstone, shale, calcareous clay and limestone of Raipur Group.

Gondwana Super Group of sediments occurs in a narrow basin along the Eastern Ghat Mobile Belt and Iron Ore Group border. These sediments are represented by pebbly sandstone, siltstone and needle clay. Fossil imprints of Glossopteris are reported from these rocks.

Quaternary formations are represented by transported laterite, sandy clay and medium to fine sand.

The Eastern Ghat Super Group of rocks show a history of intricate folding. Metamorphism had progressed up to granulite facies. Local partial melting and antefix is frequently observed.

Sl No	Name of the Agency	Name of the Minerals	Forest area involved (In hect.)	Non-forest land involved (In hect.)	Total area of the Project (In hect.)	Remarks
1	Dungri Lime Stone Quarry by M/s. ACC Ltd. Bargarh Cement Works, Bardol.	Lime Stone	73.323	428.892	502.215	Out of total forest area 19.5 applied for 2nd RML

### 2.3.3 Flora and Fauna:

Flora is the plant life occurring in a particular region or time, generally the naturally occurred or indigenous. Plants are grouped into different types of flora based on region, period, specific environment, or climate. Regions may have geographically distinct habitats like mountain or flatland. Flora can mean plant life of a historic era as in fossil flora. Lastly, flora may be subdivided by specific environments.

### 2.3.4 General Characteristics of Vegetation:

The topography of the forest is markedly hilly to moderately hilly and plain areas. The major forest types included in this Working Circle are 5B/CI Dry Sal Forest represented by the sub-type 5B/C1c dry peninsular Sal Forest, 5B/C2 Dry Mixed Deciduous Forests and 5/E9 Bamboo Brakes.

The Reserved Forest blocks Sareidamak-Budharaja, Papanga, Jhanjpahar, Borasambar, Adwal, and Gandhamardhan are allotted to this Working Circle. Salia Bamboo is present in number of blocks allotted to this Working Circle.

The vegetation consists of mainly Sal and associated species like Piasal, Asan, Dhaura, Kurum, Kasi etc.

Bamboo is present in varying densities and is found along with other tree species. Regeneration of Sal, other principal and secondary species is adequate. Climbers like Atundi (*Combretum decandrum*) and weeds like Eupatorium and Lantana at places are creating problems by suppressing the regeneration of principal species. The forests allotted to this Working Circle are subjected to various biotic pressures like grazing, fire and illicit felling. Steps need to be taken during the implementation of this Plan to ensure that these pressures are minimized in these blocks. In general, the problem of fire especially during the NTFP collection season is prevalent in the entire area, resulting in changes in soil composition and crop condition.

Major portion of this district is an open plain of great natural fertility drained by the rivers Danta and Jira. Paddy is cultivated on the low lands whereas pulses, sesamum, coarse rice and cotton are cultivated on uplands. Besides, several types of vegetables are grown in different parts of the district. The district almost entirely depends on agriculture, with a considerable amount of the land mass brought under cultivation, which is increasing with the reclamation of the forest land. The distribution of land used in different sectors of the district is shown below:

**Statistics of land cover areas of the District Bargarh (Area in sq.km.)**

Type of land use	Total area covered
Agriculture	4543.850
Deciduous Forest	566.725
Scrub/Degraded Forest	256.725
Land with /without scrub	289.415
Mining area	0.625
Settlements	6.960
River/Reservoir	178.350
<b>Total</b>	<b>5837.6500</b>

The forest area of the district covers 1216.13 sq km approximately occupying 20.83 per cent of the total geographical area of the state. The vegetation in the district ranges from tropical semi-evergreen to dry-deciduous and grasslands with varying species of diverse compositions.

**2.3.5 Climatic Condition and Weather:**

Four seasons distinctly seen in this division, viz:

1. Hot and dry summer,
2. Hot and humid wet season,
3. Post monsoon season, and
4. Winter season.

1. **Hot and Dry Summer** It extends from early February to middle or end of June. The temperature shoots up to 46° C in May. The humidity is very low in April and May. On an average, rainfall received in March and April is less than 50 mm.
2. **Hot and Humid Wet Season** Monsoon breaks in the first fortnight of June and lasts up to September. Maximum rainfall is received in July and August. On an average 300-400 mm rainfall is received in these months. The relative humidity is also high in this season, and the sky is heavily clouded. The average maximum temperature in July is about 34° C and in August is 33° C.

3. **Post Monsoon season** In this season there are occasional showers. The humidity is high. There is moderately thin cloud in this season and the temperature starts falling down.
4. **Winter season** This extends from December to last part of January or first fortnight of February. The humidity also decrease in December and January. There is almost no rainfall in December, January and February.

### 2.3.6 Temperature:

The district is characterized by an extreme climate with very hot dry summer and considerably cold winter. The cold season lasts from November upto February. Generally temperature rises steadily from early March till the end of May and continues till June. The average temperature is as high as 47° – 48° C during peak summer and falls to 10° – 12° C in winter. Mean daily temperature in summer is 35° C.

### 2.3.7 Humidity

It is generally medium to high in this Division. Maximum humidity is seen in the month of August and minimum in April and May. It reaches 80 % in July, August and September. The average humidity in this district varies from 40% in May to 95% in August.

### 2.3.8 Wind

Wind is usually gentle and moderate in this district. But sometimes strong wind blows during summer and rainy season. In the month of May and during rainy season the wind blows from south-west to north-east. During the rest of the year wind blows from the north-eastern corner in the morning and from the corner of north-west and north in the afternoon.

## 2.4 Topography:

The main topographic features of Bargarh District are -

**Bargarh Plain-** It is an open plain which is drained by three small rivers, Danta, Ongand & Jira. To the north of this plain runs the Barapahad range of hills and to the south-west lies the valley of river Ong. The Mahanandi Valley is in the east. It is a very fertile zone of greenery due to cultivation throughout the year in its major parts.

**Borasambar Plain-** It lies to the south-west of Bargarh plain and is surrounded by high hills on north and south. This valley is drained by river Ong. It is also a green zone with rich soil especially on the eastern side which is best suited to agriculture. Its soil is enriched by the river-slit drained from the hill-top.

**Ambabhona-Lakhanpur Plain-** This area is separated from rest of the Bargarh plain by the long spur of Barapahar hills running south-west for a distance of nearly 48 km. and is extended up to the river Mahanandi. Ambabhona is a fairly level tract sloping down from the hills to the river Mahanadi and is under close cultivation. Lakhanpur Valley is completely surrounded by forest-clad hills. The area is under extensive cultivation.

**Hills and Plateaus-** Being a part of the central plateau of the country, the district has a number of undulating hills with hillocks and small hill ranges. The main hill ranges and hills are the Gandhamardan hill ranges, the Barapahad hill ranges and the Jhanjpahad. Besides these, a few other hilly and non-hilly forest areas are also found here. The high physiographic areas are the main hill ranges in the district.

The Barapahad hill ranges covering an area of over 777 sq km is situated on the south-west of the district.

It attains a height of 2,267 feet (691.1m) at the peak of Debrigarh. Debrigarh is one of the few hills of the range offering level ground and good water supply near the summit. It is one of the best hill sites in the district suitable for health resort. The Gandhamardan hill a range covering an area of 300 sq km is situated towards the North West of the district and extended upto Bargarh and Bargarh districts. The hill range rises to a height of 2,000-3000 feet (629.6m-914.4m) and reaches its highest point (3,234 feet or 985.72m) at the peak of Nrusinghnath, one of the very important sacred places in the district. Another range branches off to the west of Nrusinghnath running first north-south and then north-east near Jagdalpur, where it is broken by the Ong River. The Jhanjpahad hill range is another high physiographic area of the district, covering an area of 1.90 sq km and it runs eastward to Tal of Padampur sub-division and then to the north-east forming the boundary between Bargarh district and Raipur district of Chhattisgarh. Besides this a few more such hilly areas are also situated in different localities in the district.

## 2.5 Soil Profile:

The main soil groups found in the district are red, red and black, red and yellow and alluvial and sandy type.

Red and black type of soil is found in the blocks of Bargarh, Barpali, Bheden, Attabira, Bhatli, Bijepur, Gaisilet and Paikmal. The soil in Ambabhona block is red and yellow, alluvial type. In Sohela and Jharbandh block the soil is of lateritic type.

## 2.6 River system:

The rivers of this district are primarily peninsular rivers and most of them have originated from the plateau of Chhattisgarh and Eastern Ghats Mountain range of Odisha. River Mahanadi, (Total length of 852.8 km) is the main river, which has its source in the Amarkantak plateau of Madhya Pradesh. It enters Odisha near Chikhili village of this district. On this river Hirakud Dam, the longest dam of the country has been built and an artificial lake has been created which stretches upstream for about 52.8 km from Hirakud town. Its net irrigable area is 35,486 hectares and ultimate installed capacity is 4, 75,000 KW of hydel power. The downstream of River Mahanadi upto Sonapur is almost north south and in this section a number of tributaries meet Mahanadi on its right bank. The most important rivers are river Jira and Jhaun, which drain the Bargarh plains. The Jira has its main tributary, the Danta which joins it a few kilometres north of its confluence with the Mahanadi near the village Gandturm in Bheden block. Another river that flows through the district is the Ong that originates in Nuapada district and enters Borasambar (Padampur) at its extreme south-west corner. It flows in a wide-semi-circle from west to east and leaves the district a few miles to the east of Gaisilet eventually joining the Mahanadi in Subarnapur district.

### 2.6.1 Spring, Waterfall and Water reservoir:

Presently there are 7 natural and perennial springs found in the Gandhamardan hills. The waterfalls are called Gupat Mahadev (rising from Gupta Ganga), Kapildhar, Akali, Bhojpurgarh, Gupteswar, Khandijharan and Manbhang, which are considered to be very sacred and are perennial. In the Barapahar hills there are several springs, notably, Gangei-nala, Kanhei-nala, Kusmada-nala, Sukha-nala, Badmal-nala and Ghugar.

There are many water reservoirs in the district, some of them serving the purpose of irrigation. They are Manbhang dam project at Manbhang, Salepali dam reservoir at Salepali, Sarkarikata at Paikmal, Bhoisagar near Rasmunda and Malda village, Victoria Sagar near Ghess, Sarkarikata at Buromuda (Gaisilet), Yogimunda in Barpali, Ranisagar in Bijepur and Kumo Dam project at Kumo in Ambabhona block.



## 2.7 Rainfall:

This district falls under tropical monsoon climate. Here the weather is commonly warm and receives rainfall mostly from southwest monsoon and rarely from northeast retreating monsoons. The rainy season starts from first part of the second week of June and continues till September. The average annual rainfall in this district is about 1317.22mm. The daily rainfall data received from the 12 rain recording stations situated in each Block Head quarters have been compiled and recorded. The daily reports on rainfall are sent to proper quarters regularly. The recorded rainfall is compared with the record maintained in the Office of the Special Relief Commissioner's office, Bhubaneswar every year as per the programme given by the S.R.C, Odisha. The rainfall figures of the district for the last three years are given below. (Fig. in mm).

**Rainfall Data for the Period from 2006 to 2017**

<b>Year/ Month (in mm)</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>
<b>Jan</b>	0	12.5	18.17	105.5	0	19.42	57.42	5.5	0	0.42	5.5	6.97
<b>Feb</b>	0	19.1	1.5	0	0	0	0	17.08	32.92	5.08	12.25	0.00
<b>March</b>	41.92	22	41.92	0	0	0	0	0	23.75	6.88	15	11.83
<b>April</b>	0	20	1.33	0	0	51.83	4.75	29.37	1.42	74.42	4.75	0.00
<b>May</b>	62.17	25.6	0	30	6	21.67	1.67	10.5	98.17	6.75	30.04	16.80
<b>June</b>	140.33	205.6	272.67	55	161.92	94.25	321.83	198.17	94	255.67	125.32	260.57
<b>July</b>	399.33	397.2	324.89	746.52	421.42	233.25	276.92	396.33	670.67	259.58	218.97	263.00
<b>Aug</b>	871.67	374.4	408.17	210	221.08	290.25	481.25	221.58	462.25	274.42	284.32	244.83
<b>Sept</b>	74	222.6	311.25	145.67	157.25	552.4	254.42	177.75	294.08	119.46	292.11	115.57
<b>Oct</b>	9.17	52.8	0.17	38.67	51.83	9.58	80.83	186.17	33.42	0.83	56.6	63.26
<b>Nov</b>	54.25	10.4	0	0	24.5	0	6.78	0	0	0	0.2	1.12
<b>Dec</b>	0	5.1	0	10	0	0	0	0	0.08	7.08	0	0.00
<b>Total</b>	<b>1652.84</b>	<b>1367.3</b>	<b>1380.07</b>	<b>1341.36</b>	<b>1044</b>	<b>1272.65</b>	<b>1485.87</b>	<b>1242.45</b>	<b>1710.76</b>	<b>1010.59</b>	<b>1045.06</b>	<b>983.95</b>

### 2.7.1 Rain gauge and Automatic Weather Stations:

The district has 12 Rain Recording stations to record the rainfall on regular basis. The recorded are updated in Odisha Rainfall Monitoring, a web based rainfall monitoring portal of Government of Odisha.

**Table 2-1 Rain Recording Station**

Sl	Rain Recording Station	Location	Contact No.
1	Ambabhona	Block Office Premises	06646-268838
2	Attabira	Block Office Premises	06682-220254
3	Baragarh	Block Office Premises	06646-233162
4	Barpali	Block Office Premises	06646-256744
5	Bhatli	Block Office Premises	06646-261230
6	Bheden	Block Office Premises	06682-240032
7	Bijepur	Block Office Premises	06685-274030
8	Gaisilet	Block Office Premises	06683-226630
9	Jharbandh	Block Office Premises	06684-255530
10	Paikmal	Block Office Premises	06684-250337
11	Padampur	Block Office Premises	06683-223443
12	Sohela	Block Office Premises	06685-220210

## 2.8 Demography:

### Households

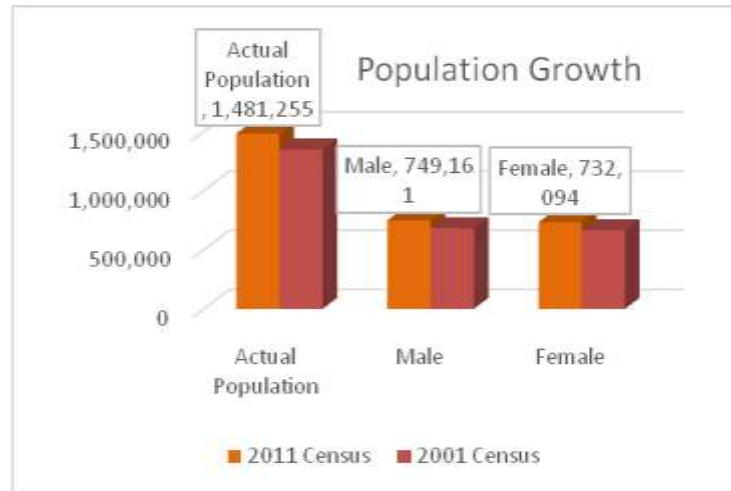
As per the census of 2011, the total number of households of the district is 370308 among them 336130 HHs are living in Rural areas & 34178 HHs are living at urban areas. Out of total HHs 76327 HHs is belongs to SC & 69925 HHs belongs to ST Households. (Refer Table 1.2 of Volume II)

### Population, decadal growth and Population Estimation

In 2011, Bargarh had a population of 14, 81,255 of which males and females were 7, 49,161 and 7, 32,094 respectively. In 2001 census total population was 1,346,336 of which 681, 500 were males and 664,836 were females. There was a growth of 10.02 percent in the population of Bargarh as per 2011 census. There is an increase of 9.93% male and 10.12 female in its population as compared to that in 2001 census. The data released by census India 2011

shows that density of population is 254 people per sq. km. whereas the density of state is 270 people per sq. km. The district administers 5,837 square kilometres of area. (Refer Table 1.3 of Volume II)

Figure-2.1



### Rural- Urban Population Distribution

#### Bargarh District Urban Population 2011

The total population of Bargarh as per 2011 census was 14,81,255. Out of which 10.13 percent live in urban area that is 1,50,110 where males are 76,558 and females are 73,552.

#### Bargarh District Rural Population 2011

As per 2011 census, 89.87 % of population live in rural areas that are 13,31,145 where males and females are 6,72,603 and 6,58,542 respectively. The sex ratio of rural area is 979 females per 1000 males.

**Table 2-2 Rural- Urban Population Distribution**

Description	Rural	Urban
Population (%)	89.87%	11.15%
Total Population	13,31,145	1,50,110
Male Population	6,72,603	76,558
Female Population	6,58,542	73,552
Sex Ratio	979	961
Child Sex Ratio (0-6)	959	927
Child Population (0-6)	1,46,333	15,537
Male Child(0-6)	74,709	8,062
Female Child(0-6)	71,624	7,475

Child Percentage (0-6)	10.99%	10.35%
Male Child Percentage	11.11%	10.53%
Female Child Percentage	10.88%	10.16%
Literates	8,79,695	1,14,361
Male Literates	5,00,749	62,346
Female Literates	3,78,946	52,015
Average Literacy rate	74.25%	84.98%
Male Literacy rate	83.75%	91.02%
Female Literacy rate	64.57%	78.72%

### Social Composition

The district accommodated 20.17 percent of SC population, 19.98 percent ST population as against the state average of 17.1 and 22.8 percent respectively. It also shows that female population is marginally higher among ST where as it are lower among SC and other community. However, household size among Scheduled Caster is higher but not significant. **(Refer Table 1.3 of Volume II)**

### Religion wise distribution of Population

The Census data shows Hinduism is professed by the majority of population in the district. Out of 14,81,255 population, little over 14.59 lakh (98.5%) have returned themselves as followers of Hindu religion, 11,744 (0.79%) as Christians, 7,527(0.51%) as followers of Islam, 652 (0.04%) as Sikh, 125 (0.01%) as Jain and 161 (0.01%) as Buddhist. In addition, over 1981 (0.13%) have reported professing other religions and faiths including tribal religions, different from six main religions in the district. **(Refer Table 1.4 of Volume II)**

### Age Group

Age structure is one of the most important characteristics of population composition. Almost all population characteristics vary significantly with age. Age statistics form an important component in disaster risk analysis, as most of the analysis is based on age structure of the population. 11.00 percent of the population fall under 0-5 years (childhood). **(Refer Table 1.6 of Volume II)**

### Sex Ratio

With regard to Sex Ratio in Bargarh, the number of females stood at 977 per 1000 males in 2011. The sex ratio of the state is 979 as per the reports of Census Directorate 2011.

### Bargarh Child Population 2011

There were a total of **1, 56,185** children between the ages of 0-6 in 2011 Census out of which males and females were **80,246** and **75,939** respectively where as in 2001 census total children was **1, 74,490**. Child Sex Ratio as per census **2011** was **946** compared to **957** of census **2001**.

In **2011**, Children under 0-6 formed **10.56** percent compared to **12.96** percent of **2001**. There was a net change of -2.4 percent in comparison to the previous census of India.

**Table 2-3 Population Distribution**

Description	2011 Census	2001 Census
Actual Population	14,81,255	13,46,336
Male	7,49,161	6,81,500
Female	7,32,094	6,64,836
Population Growth	10.02%	11.53%
Area Sq. Km	5,837	5,837
Density/Km	254	231
Proportion to Odsha Population	3.53%	3.66%
Sex Ratio (Per 1000)	977	976
Child Sex Ratio (0-6 Age)	946	957
Average Literacy rate	74.62	63.99
Male Literacy rate	83.68	77.41
Female Literacy rate	65.38	50.26
Total Child Population (0-6 Age)	1,62,922	1,74,490
Male Population (0-6 Age)	83,263	89,156
Female Population (0-6 Age)	79,655	85,334
Literates	9,83,783	7,49,820
Male Literates	5,57,217	4,58,534
Female Literates	4,26,566	2,91,286
Child Proportion (0-6 Age)	11.00%	12.96%
Boys Proportion (0-6 Age)	11.11%	13.08%
Girls Proportion (0-6 Age)	10.88%	12.84%

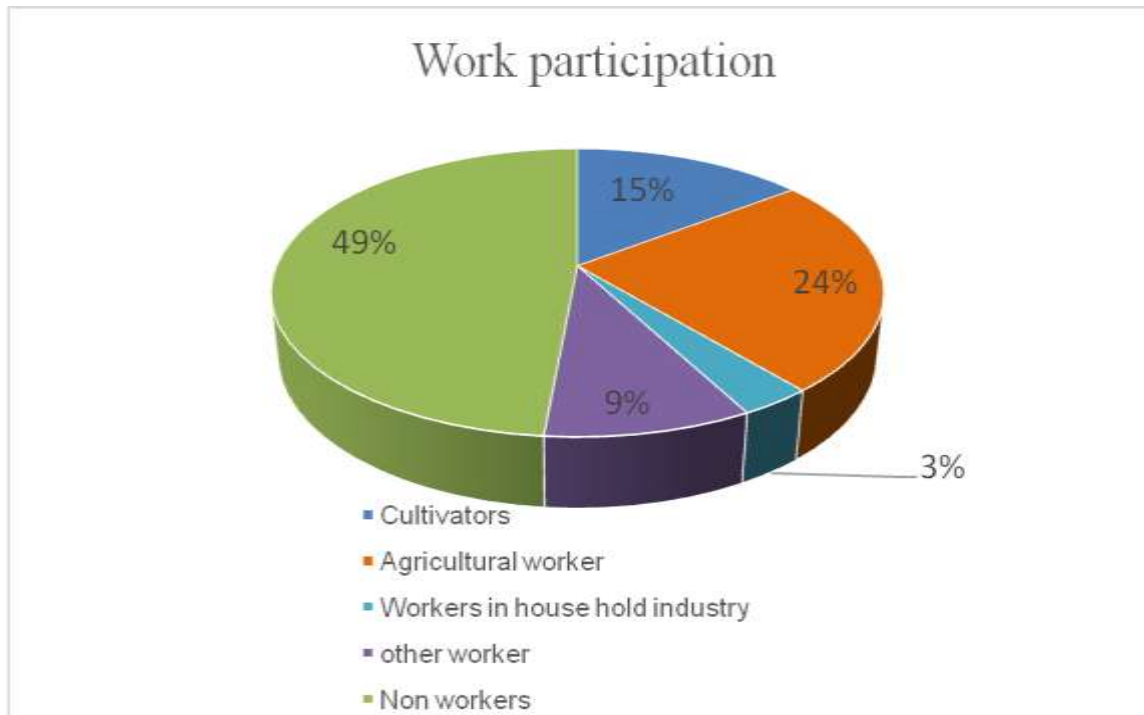
### Literacy

Average literacy rate of Bargarh as per 2011 census is 74.62 Gender- wise, male and female literacy was 83.68 and 65.38 respectively. **(Refer Table 1.8 of Volume II)**

### Work participation gender wise

Total population of the district as per 2011 Population Census is 14, 81,255 (M 7, 49,161 and F 7,32,094). Out of which number of Main and Marginal workers are 762092 (Male 473305, Female 288787) and Non- workers 719163 (Male 275856 and Female 443307). Out of 51% Main and Marginal workers there are 15% Cultivators, 24% Agricultural Labourers, 3% Household industry workers and 9% other workers. (Refer Table 1.9.1 & 1.9.2 of Volume II)

Figure-2.2



## 2.9 Socio-Economic Profile:

### Land Utilization Pattern in the District

Of the total geographical area (583200 Hct.) of the district, 3, 48,747 hectare is cultivated area constituting 59.79% of the geographical area. The forest shares about 14% of the geographical area. This district is mainly an agrarian district with its cultivable area comprising above 60% of the total geographical area. Forest extends over an area of about 71, 937 ha accounting for above 14% of the geographical area of the district. The detailed land utilization pattern of the district has been presented in the table No-1.10 of Volume-II.

### Land Holding Pattern

The Agriculture department data shows that, the district had 2,30,508 farmers & 14937 Households are landless. Out of total farmers, 36.42% (83960), 29.38% (67732), 20.09% (46306), 12.45% (28700) and 1.65% (3810) are marginal, small, Semi-medium, medium and big

farmers. Further average size of holding by size class is 1.62 ha. in the district. Though there is no official data on share cropper but the Agriculture data from DDA reveals there are 6400 otherwise operated holdings in the district. **(Refer Table 1.11 of Volume II)**

#### Housing:

Total 343571 Nos. of Households are living in rural areas of the district. Among them 347 is homeless HHs. Total Nos. houses are 221276, out of this 127253 are Kaccha, 47746 houses are Semi Pacca & 46277 are Pacca Houses. **(Refer Table 1.12 of Volume II)**

#### Agriculture:

During 2016-17, the net shown area was **348747** hect. against the **363624** hect. Cultivable area areas and **583200** hect. Geographical area of the district. **(Refer Table 1.13 of Volume II)**

#### Production

The total production of paddy in the district is 12524750 Qntls. Pulses, Oil seeds, Vegetables and Sugarcane were 639970 Qntls., 165000 Qntls., 485000 Qntls., and 20475 Qntls. respectively. **(Refer Table 1.14 of Volume II)**

#### Irrigation:

Irrigation potential created in the district is 216030 hect. Total 4 nos. of Large & medium projects are available, having Ayacut area of 91474 hect. 843 nos. of lift irrigation points (River) & 13104 nos. of lift irrigation points (Deep Bore wells) are created in the district for irrigation purpose. Total 61.94% of cultivated area of district is irrigated. **(Refer Table 1.15 of Volume II).**

#### Storage & Market Facility:

Total 197 Storage Godowns & 58 Mandies are present under Bargarh & Padampur subdivisions. **(Refer Table 1.16 of Volume II)**

#### Primary Agricultural Cooperative Societies:

Total 57 PACs are present under the Assistant Registrar of Cooperative Societies, Bargarh & Padampur Circle. The Nos. of Farmers is 202887. **(Refer Table 1.17 of Volume II)**

## Agriculture allied Sectors

### *Livestock*

Livestock census reveals that there are 91578 Milch animals & 62945 Draught animals in the district. Average number of cows both hybrid and indigenous per household of the district is 8 cows for each 33 households. The cows rearing can be promoted for increasing milk production and generating additional income to farm families from sale of milk. There is a need to take appropriate steps to increase cow population so that on an average each household will have two cows. This will provide additional income to the farmers. The total fodder requirement per day is 30905 quintals. **(Refer Table 1.18 of Volume II).**

### *Fishery*

The district accommodated 1643 fisherman households with 5586 populations. There were 3 nos of private & Govt. fish farms covering 11.28 hect areas where 500 farmers are involve the fish farming. Fisherman community used 435 boats in Pisciculture operation. **(Refer Table 1.19 & 1.19.1 of Volume II).**

### *Horticulture*

In the district, 739 farmers have taken 592.52 ha. Horticulture plantation under NHM & MGNREGS programme for both household's consumption and business purposes. Among this **(Refer Table 1.20 of Volume II).**

## Industries and mining

During the year 2015-16, numbers of major industries, MSME, Handicraft and Handloom were 1, 6893 and 33186 respectively in the district. These industries have engaged 84982 persons which play a critical role to meet the employment needs of people of the district. Out of which 19771, 2308 and 11107 are the handloom, handicraft & cottage industries artisans. **(Refer Table 1.22 & 1.23 of Volume II).**

## Education

Education is the prime agency which builds the capacity of a community to withstand in any type of disaster. In Bargarh, 1249 Villages/ Habitations are having 1701 nos. Of primary School within the village itself whereas 1097 Villages/ Habitations having ME and High Schools within 5 KMs. The district had 991, 839 & 337 Primary, ME and High schools respectively. Total



Number of teachers is 8142. During last year, number of students enrolled at the age group of 6 to 14 years was 221288. **(Refer Table 1.25, 1.26 & 1.27 of Volume II)**

### Migration

Bargarh is a less migration prone district. Out of 12 blocks, People from only 3 blocks migrate to nearby districts or state and works in bricks knell from August to January. 170 labourers from 36 households have migrated during 2015-16. Among the total migrants, 81 migrants are female. **(Refer Table 1.28 of Volume II)**

### Health

The district health vulnerability snapshot shows Tuberculosis is one the major diseases in the district followed by Malaria, Pneumonia, Diarrhea, TB and Jaundice. Villages frequently affected by such diseases and cases of reported deaths. The district had 212 sub centres, 46 PHCs, 15 CHCs, 1 Ayurvedic Hospital, 1 SDHs, 24 MHUs, 16 Ambulance, and 3 blood banks across the district. To run such medical establishments, 103 doctors, 338 paramedical staff, 324 ANMs and 1462 ASHA are extending their services in the district. In health indicator dimensions, the district has ensured Institutional delivery by 89.88%, immunization by 73.73%. But the district had an Infant Mortality Rate (IMR) of 69% & 627 child death case reported in 2017-18 and Maternal Mortality of 34 during 2017-18. **(Refer Table 1.29, 1.30, 1.31 & 1.32 of Volume II)**

### Electricity Facility:

In the district only 4 villages are declared as Fully Electrified out of total villages 1204 and other 1200 villages are Partially Electrified. The Fully Electrified villages are Garvana of Bheden Block, Latakera of Barpali Block, Badipali GO of Bijepur Block and Badabrahmani of Rajaborasambar Block. **(Refer Table 1.33 of Volume II)**

### Drinking water and Sanitation

Safe drinking water facilities are available in 402 villages of the district. The district has installed 15066 functional tube wells and 20 sanitary wells to ensure portable water to rural population. Besides, 402 PWS projects are functional in 419 villages which cover about 273214 households. But, 38 villages are affected by fluoride. In additional to this, 35 villages are having drinking water crisis during summer season. **(Refer Table 1.34 & 1.34.1 of Volume II)**

In sanitation dimension, 151444 households are covered under IHHL which also includes 24 ODF villages. **(Refer Table 1.35 of Volume II)**

### Food Security

Under NFSA, 338871 families and 1167102 members are identified as the Priority households. To meet the food grain requirement of the beneficiaries covered under NFSA, the district had an allotment of 6335.18 Qntl of wheat and 61659.90 Qntl of rice. To ensure timely delivery of food grain, the district has 268 PDS retail outlay. Besides, the district has 6 major storage points with 725100 Qntl. storage capacities. These storage points are being managed by CWC, OSWC and RMC. **(Refer Table 1.36 of Volume II)**

### Social Security

In Bargarh, 140989 persons have covered under various social security schemes. Among them, 105447 (46304 male and 59143 female) have covered under Old age Pensions, 28222 under Widows Pension and 7320 (3606 male and 3714 female) under Disability Pensions. **(Refer Table 1.37 of Volume II)**

### 2.10 Critical infrastructures:

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

### Anganwadi Centers

2899 AWC are operational in the district from which 1331 AWCs are having their own building which constitutes 45.91% of the total AWCs. In these AWCs, 121277 pre-school children have enrolled. Besides, 22 children are found Severely Malnourished and referred. AWCs are also providing support to 22392 pregnant women and lactating mothers. **(Refer Table 1.38 of Volume II)**

### Hospitals and Health Centers

There were one district headquarter hospital, 2 sub-divisional/other hospital, 14 CHC, 48 PHC, 24 Mobile Health Unit, 39 Ayurvedic and homoeopathic dispensaries and 204 Health Sub-centres in the district.

### Veterinary Hospitals

During 2018, Bargarh district had 1 Veterinary hospital and 18 Veterinary dispensaries, 120 Livestock Aid Centre, 25 Doctors, 79 LIs, 32 Gomitra to provide veterinary service to the farmers. Besides 2 Hatchery, 3 nos. Of Fodder Farm, 111 Artificial Insemina, 10 BAIF Cattle Development Centre are functional in the district under “Kalyani” Programme. Besides 253

MPCS (Co-operatives), 12 nos. Of Mobile Veterinary Units and 30 Nos. Of ILDC (under JK Trust) are extending services to the people at various levels. **(Refer Table 1.42 of Volume II)**

### Road and Railway network

As on 2018, 100 Kms of 2 National highways (NH-6 & NH-201), 175.835 Kms of 3 nos. Of State highways, 77.592 kms major district roads are connected in the district. Besides, 35 kms of single railway line & 23 kms of double railway line with 4 railway stations are providing convenient communication facilities in the district. **(Refer Table 1.44 & 1.45 of Volume II)**

### Banks and Post offices

There were 99 nos., 36nos. and 16 nos. of Scheduled Commercial Banks, Regional Rural Banks and Cooperative Banks in the district. **(Refer Table 1.47 of Volume II)**

### Police and Fire Stations

The district had 16 police stations and 11 fire and disaster response service centres in the district. **(Refer Table 1.47 of Volume II)**

### Cyclone and Flood Shelters

The district has 3 flood shelters (. But, the district also used schools and BNRGSK building as temporary flood shelters.

Sl. No.	District	Block	GP	Village	MCS/ MFS	Under Scheme
1	Bargarh	Bheden	Gondtutum	Gondtutum	MFS	CMRF (By RD dept-post Phailin)
2	Bargarh	Ambabhona	Bhainatura	Ganthiapali	MFS	CMRF (By RD dept-post Phailin)
3	Bargarh	Ambabhona	Kapasira	Antaradi	MFS	CMRF (By RD dept-post Phailin)



Multi-purpose Flood Shelter, Ganthiapali, Ambhabona Block



Multi-purpose Flood Shelter, Antaradi,  
Ambhabona Block



Multi-purpose Flood Shelter, Gandturing,  
Bheden Block

\*\*\*\*\*

## CHAPTER-3 HAZARD, VULNERABILITY AND RISK ASSESSMENT

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

### 3.1 Multi-hazard Profile of the District:

In the recent past the District has faced drought during 2010, 2011, 2015, 2016 & 2017 and Flood / Heavy rain during 2011 and 2014. During 2014, Ambabhona block has received more than 300 mm of rainfall in a single day. Besides the district also experienced Pest Attack (BPH) during the year 2017 in which the entire district suffered a lot due to damage of standing paddy crop.

Besides, drought has become a perennial and recurring phenomenon in this region and the major cause of concern is that the frequency of drought is increasing rapidly in the current years so is the magnitude i.e. in every alternate year one can expect a drought like situation with a greater enormity. Almost 70% area of the district is prone to drought. More than 60 pc of the cultivable area is rain fed and as agriculture is the major source of livelihood, failure and erratic behavior of monsoon over consecutive years has had serious adverse impact on the socio-economic condition of the people living in these areas leading to drastic crop and livestock losses, large-scale migration, distress sale of household assets, starvation, malnutrition, acute drinking water shortage, school dropouts, child labour etc. These things have been highlighted in different Medias drawing national and international attention. Meager irrigation facilities, sloppy and undulating terrain, severely eroded and unproductive agricultural land, skewed land distribution, subsistence agriculture, depleted ground water resource and less diversified livelihood system has further compounded the problem. The inter play of climatic and non-climatic factors in this region is becoming more and more complex, there by intensifying the impact of drought on the community.

While the district is reeling under the grip of drought since long time, it has been recently experiencing other disasters like flash flood, lightning, fire accident and heat wave. Poor drinking

water, health and sanitation facilities in the remote villages often leads to the outbreak of epidemics like diarrhea, malaria etc. Poor natural resource base, huge population pressure, inadequate infrastructure and less adaptive capacity of the community are increasing their exposure to these natural hazards. Due to the global climate change the occurrence of natural hazards will be more frequent, the poor community will become more vulnerable and the resultant impact will be more devastating. The disastrous effects of natural hazards cannot be eliminated completely but the miseries can be minimised to a reasonable extent by adoption of appropriate management practices. Since long, disaster management strategies basically focus on the relief, rehabilitation, reconstruction and restoration aspects i.e. crisis management. This approach sometime found ineffective because response is untimely, insufficient, poorly coordinated and poorly targeted to disaster affected groups or areas, hence often increasing the societal vulnerability to hazards.

### 3.2 Matrix of Past Disasters in Bargarh district:

In between 2010 to 2016 numbers of natural disaster have been reported in the past affecting the lives and livelihood of about 14 lakh people of Bargarh district. The district is frequently affected by drought in every alternative year. As agriculture is the mainstay of economy of the district, frequent drought occurrence severely affect the lives and livelihood of the people of the district.

**Table 3-1 List of Past Disasters**

Sl No.	Hazards	Last Severior Occurrence	Nos. of Block affected	Nos of GP affected	Nos. of village affected	Causality
1	Drought, 2010	2010	6	92	418	0
2	Drought, 2011	2011	9	158	797	0
3	Flood/ heavy rain, 2011	2011	6	76	407	0
4	Flood/ heavy rain, 2014	2014	12	124	493	10
5	Drought, 2015	2015	11	181	943	0
6	Drought, 2016	2016	3			0
7	Drought, 2017	2017	10	182	924	0
8	Pest attack, 2017	2017	11	179	635	0
9	Earth quake	-	-	-	-	-
10	Heat wave	2010	All Block	-	-	11
11	Heat wave	2012	All Block	-	-	9
12	Heat wave	2015	All Block	-	-	3

### 3.2.1 Major Disasters/ Incidents during 2007-2017

This section described the disaster situation of the district during 2007 to 2017. Bargarh district experienced various types of disasters. Though the district is reeling under the grip of drought since long time, it has been recently experiencing other disasters like flash flood, lightning, fire accident and heat wave. Poor drinking water, health and sanitation facilities in the remote villages often leads to the outbreak of epidemics like diarrhea, malaria etc. Various disasters took life of 171 persons during last 11 years. Among all disasters; drought, lightning, fire accidents, sunstroke, flood and epidemic (TB, Pneumonia & Malaria) are prominent. A summary table showing types and disaster and their impact is given below.

**Table 3-2 Major Disasters/ Incidents during 2007-2017**

Sl	Disaster/ Incident	No. of incidents during (2007-2017)	No of Block	No of ULBs	No of GP	No of Villages	Affected HH/ Population	No. of Deaths	Livestock Loss	Houses Damaged	Damage to Infrastructure				Damage and loss of Crop Area (in Ha.)	Sand Cast (In Ha.)
											School/ AWC Buildings	Hospitals	Km. in Km.	Critical Infrastruct		
<b>Disasters as approved under SDRF/ NDRF Guidelines</b>																
1	Flood	2	12	1	125	493		8		10211						362.45
2	Drought	5	11		181	943	1.4244 3 lakh	0							145246	-
3	Fire		12	0	0			13								
4	Hail Storm	2	2			2		2								
5	Cyclone															
6	Earth Quake															

7	Tsunami															
8	Landslide															
9	Avalanche															
10	Cloud Burst															
11	Pest Attack															
12	Cold Wave/ Frost															
<b>State Specific Disasters as per Notification No.1936 Dt. 01.06.2015</b>																
13	Lightning							122								
14	Heat wave							38								
15	Whirlwind															
16	Tornado															
17	Heavy Rain															
18	Boat Accidents (Other		1			1		2								



	than during Flood)														
19	Drowning (Other than during Flood)						15								
20	Snake Bite (Other than during Flood)						42								
<b>Other Disasters</b>															
21	Animal Menace														
22	Building Collapse						3								
23	Stampede														
24	Epidemics		12			23895	617								
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															

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

**3.2.2 Major Disasters/ Incidents in the District during 2017**

During 2017, 43 death cases were reported in the district. On specific disaster dimensions, Snake Bite caused major adversity followed by Lightening, Drowning and Sunstroke.

**Table 3-3 Major Disasters/ Incidents in the District during 2017**

SI	Disaster/ Incident	No. of incidents during (2017)	No of Block	No of ULBs	No of GP	No of Villages	Affected HH/ Population	No. of Deaths	Livestock Loss	Houses Damaged	Damage to Infrastructure				Damage and loss of Crop Area (in Ha.)	Sand Cast (In Ha.)
											School/ AWC Buildings	Hospitals	Road in Km.	Other Critical Infrastructure		
1	Lightening							14								
2	Sunstroke							3								
3	Snake Bite							15								
4	Drowning							11								
5	Fire Accident	26	12					0	0	62						

### 3.3 Vulnerability and Risk Assessment related to disasters:

#### 3.3.1 Flood prone area of the district

Mahanadi, Ong, Jeera and Danta, though important ecological features of the district are prone to possible flood hazards. Ambabhona, Bheden, Padampur, Gaislet and Bargarh blocks are particularly flood prone. During monsoon, the river Mahandi & backwater of Hirakud Dam project is the principal source of flood in the district. River Ong carries considerable volume of water during the rains for which it affects Gaislet & Padampur block. Ong and Jeera along with their tributaries caused flood in Bargarh district. In 2014, 125 GP & 493 villages are affected in flood. List is enclosed in 3.3 of Volume-II.

**Table 3-4 Flood vulnerable areas of the district**

Sl no	Block	Name of the GP	Name of village	River
1	Ambabhona	Ambabhona	Budhipali	Back water of Hirakud Dam project
			Ludupali	
			Kasipali	
		Banjipali	Badmal	
			Kusumuda	
		Bhaintora	Chikili	
			Beniapali	
			Ganthipali	
		Kapasira	Antaradi	
			Ghugurapali	
		Lakhanpur	Lakhanpur	
Uttam	Paruavadi			
Dunguri	Dunguri			
2	Attabira	Kultakura		Mahanadi
3	Bheden	Dalab, Deshbhatli, Mahulpali, Manpur, Luhakhandi, Bheden, Sunalarambha		Mahanadi Danta & Jeera
4	Padampur	Charpali, Mahulapli, Dangaghat, Jamla Bheunria		Ong
5	Gaisilet	Sandhibahal, Talpali		Ong
6	Bargarh	Bargarh municipality	Beheratikira & Bali tikra	Jeera

### Roads exposed to Flood:

Table 3-5 Flood vulnerable areas of the district

Sl. No.	Block Name	Gram Panchayat	Road exposed to Flood/Land Slide	Road Type	Length in Km	Flood Causing Agent
			(From -----To)			
1	Jharbandh	Kumir	Saramsili	Earthen Road, WBM & PMGSY	3	Aung River
2			Lergaon		4	
3			Kumir		5	
4			Chiroli		3	
5	Bijepur	Laumunda	Cherengamunda to Satbandh	Earthen	1.5	Nalla
6	Amabhona	Bhainatora	Ganthiapali to Chikhili	Earthen Road, WBM & PMGSY	2	Mahanadi River
7		Bhainatora	Beniapali to Barangakot		2	Mahanadi River
8		Kapasira	Kapasira to Antaradi		2	Mahanadi River
9	Barpali	Kanbar	From Julat to Barpali	GP-PS Road (BT)	6.5	Nallah at Julat Jore
10	Paikmal	Lakhamara	Lakhamara	Morum Road		Ang River
11		Chadapali	Chadapali	Morum Road		Ang River
12	Rajborasambar	Kansar	PDM to Gaisilat Road Near Kumudinala Duimuhani Bridge	RD Road	200 Mtr	Heavy Rain

### Boat operation

The district had 19 Boat Operating Points (*Ghats*) which functions during rainy season in six blocks of the district. Few among the *Ghats* connect to Jharsguda, Sonapur and Nuapada

districts where about 300 people set their journey every day. All boats operate in the districts are non-mechanised. Details of Boat Operating Points are presented below.

**Table 3-6 Boat Operation Points**

Sl. No.	Name of the Block	Sl. No.	Name of the Gram Panchayat	Name of the Ferry Ghat	Nos. of boat motor Boat engaged
1	Ambabhona	1	Bhainatora	Barangakota	
		2	Uttam	Damdei	
		3	Kapasira	Antaradi	
2	Bheden	1	Ainalpali	Talgan	
				Bargan	
		2	Chichinda	Chichinda	
		3	Luhakhandi	Pudapali	
				Acchandapali	
		4	Mahulpali	Mahulpali	
				Bhutload	
				Brahmana Turum	
		5	Manpur	Kamgon	
3	Gaisilet	1	Raisalpadar	Raisalpadar	
		2	Jamutpali	Jamutpali	
4	Rajborasambar	1	Palsapali	Jamarla	1 (country Boat)
		2	Charpali	Charpali	1 (country Boat)
5	Paikmal	1	Chhetgaon	Chhetgaon	
		2	Sareikela	Sambalpuri	
6	Barpali	1	Patkulunda	Patkulunda	

### 3.3.2 Whirl wind

Whirlwinds occur rarely in the district particularly during summer season. A bird eyes to occurrence of Whirlwinds showed that there had been a heavy blow of Whirl Wind occurred in the year 2016 between 19-03-2016 to 03-06-2016 (5 times) at 10 villages of Attabira Block uprooting many Big trees and massive damage to crops. The electric polls were falling on the rail track causing disruption on Attabira- Bargarh route. Almost all houses in the village is built in Bamboo

and Nada, the whirl wind uprooting all their upper part of house and causing homeless to many people. **List is annexed in 3.4 of Volume-II.**

### 3.3.3 Heat Waves

Heat Wave is defined as a condition of increased atmospheric temperature that leads to physiological stress, which sometimes can claim human life. Quantitatively Heat Wave can be defined as any increase from the normal temperature. Again, depending on the upper deviation from the normal temperature it can be moderate Heat Wave or Severe Heat Wave. If the maximum temperature of any place continues to be 45° C for consecutive two days, it is called as Heat Wave condition. Physiologically human body can tolerate environmental temperature of 37° C. Whenever the environmental temperature increases above 37° C., the human body starts gaining heat from the atmosphere. In the case of humidity being high along with high temperature, a person can suffer from heat stress disorders even with the temperature at 37° or 38° C.<sup>1</sup> Higher daily peak temperatures and longer, more intense Heat Waves are becoming increasingly frequent globally due to climate change.

Bargarh district as whole is reeling under a blistering heat wave. During the last 10 years, 35 persons have died due to sunstroke in the district.

### 3.4 Drinking Water Crisis:

In Bargarh, 35 villages are having drinking water crisis during summer season. Besides, 38 villages are affected by fluoride which is one of the prime concerns of the district.

**Table 3-7 Drinking Water Crisis**

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	Ambabhonra	Nil	Nil	4	1203	0	0	
2	Attabira	Nil	Nil	0	0	0	0	
3	Bargarh	Nil	Nil	5	1509	2	1740	
4	Barpali	Nil	Nil	1	350	6	6780	
5	Bhatli	Nil	Nil	0	0	0		

6	<b>Bheden</b>	Nil	Nil	1	563	2	1353	
7	<b>Bijepur</b>	Nil	Nil	3	809	12	7291	
8	<b>Gaisilet</b>	Nil	Nil	17	5603	12	10645	
9	<b>Jharbandh</b>	Nil	Nil	0	0	0	0	
10	<b>Padampur</b>	Nil	Nil	1	368	2	1255	
11	<b>Paikmal</b>	Nil	Nil	3	803	2	1367	
12	<b>Sohella</b>	Nil	Nil	0	0	0	0	
	<b>Total</b>			<b>35</b>	<b>11208</b>	<b>38</b>	<b>30431</b>	

Block wise village list is at Table No. 3.5 of Volume II of the DDMP

### 3.5 Fire Accident:

Accident of fire cases have been emerged in the district during summer. Linear housing pattern and high temperature increases the trend of fire accidents in the district. 13 persons are died in last 10 years in this incident.

### 3.6 Events/ Festivals/ Functions organized in the district:

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

**Table 3-8 Event/ Festival/ Function**

Sl. No.	Name of the Event/ Festival/ Function	Place (Block & Gram Panchayat)	Duration of the event (in No. of days)	Month (as per English Calendar)	Strength of population gathering (Approx.)	Remarks(other vulnerabilities associated with the place/ event, if any to the mentioned)
1	<b>Dhanu Jatra</b>	Bargarh	11 days	December- January	5,00,000 – 7,00,000	



2	<b>Nrusimha Chaturdasi Jatra</b>	Paikmal, Bargarh	4 day	April-May	50,000 – 1,00,000	
3	<b>Sithalasasthi</b>	Barpali	7 day	May-June	50,000 – 70,000	
4	<b>Ratha Yatra</b>	Bhatli	2 day	July	50,000 – 80,000	
5	<b>Papanga Mahotsav</b>	Papanga, Bheden	4 days	April	50,000 – 60,000	
6	<b>Durgapuja</b>	Sohela	10 days	September-October	50,000 – 80,000	
7	<b>Dussehra</b>	District Headquarter, Bargarh	7 days	September-October	20,000 – 30,000	

### 3.7 Lightning:

Lightning has evolved as a one of the major disaster in the district. Since last 10 years, 108 death cases were reported in 97 lightning events. Information of such 90 villages are presented below which would help to create awareness in those villages to protect the people from the dangers of lightning.

### 3.8 Drought:

Drought is a recurring and single most insidious phenomenon in Bargarh district of Odisha. The recurrent drought in the district is mostly responsible for its ‘chronic backwardness’. Since a significant proportion of cultivated land in Bargarh is under rain fed agriculture, the variability in date of onset of effective monsoon, higher initial and conditional probability of dry weeks are crucial factors for increasing drought vulnerability and risk in the region. The long-term normal rainfall in the district is also gradually declining. On the other hand, the increasing frequency of occurrence of the hazard is one of the major factors behind the rising level of drought vulnerability in the region, which is mainly due to “wide variability of rainfall from season to season”, not as a result of deficiency of annual rainfall. Moreover, one of the prime reasons for increasing drought frequency and vulnerability in the study region is the neglect of the traditional water harvesting structures and poor development of irrigation facilities. Numbers of villages affected due to drought are 418, 797, 943, 193 & 924 in 2010, 2011, 2015, 2016 & 2017 respectively. More than 50% villages of each block have been affected from 2010 to 2017. Drought hits to its maximum

(36% of the cultivable area) extend during 2015, in which all the blocks (Except Bheden) severely affected. Summary of the drought affected villages/areas is portrayed below.

**Table 3-9 Drought Vulnerability**

Sl. No.	Name of the Block	Year-2010		Year – 2011		Year- 2015			Year- 2017		
		Annual Rainfall=1044		Annual Rainfall=1272.65		Annual Rainfall=1010.59			Annual Rainfall=983.95		
		GP	Village	GP	Village	GP	Village	Agricultural Crop Area lost (in Hect.)	GP/NAC	Village/Ward	Agricultural Crop Area lost (in Hect.)
1	Bargarh	0	0	5	16	10	27	7997.08	9	25	4165.65
2	Barpali	5	13	5	13	16	46	8453.01	15 / (1)	48 / (2)	3915.128
3	Bhatli	0	0	16	80	16	81	12282.2	16	81	10671.81
4	Ambabhona	0	0	0	0	11	80	6937.6	15	83	5999.04
5	Attabira	0	0	0	0	2	7	392.57	0	0	0
6	Paikmal	8	33	20	113	22	128	24103.48	22	114	12445.19
7	Rajborasambar	15	83	14	83+1 ULB	21	150	18631.48	22 / (1)	150 / (1)	16958.05
8	Jharbandh	0	0	26	128	14	83	18430.6	14	83	4462.00
9	Sohela	21	85	24	110	26	128	19152.45	26	128	13873.60
10	Bijepur	23	102	19	103	24	110	14610	24	109	13536.40
11	Gaislet	19	97	14	83	19	103	14256	19	103	5291.00
<b>Total</b>		<b>92</b>	<b>418</b>	<b>150</b>	<b>798</b>	<b>181</b>	<b>943</b>	<b>145246.477</b>	<b>182 / (2)</b>	<b>924 / (3)</b>	<b>87152.22</b>

**NB: Detailed list of drought prone Villages is at 3.6 of Volume II of the DDMP**

### 3.9 Road Accidents:

The district has 67 nos. and 21 nos. Of Traffic Congestion Areas & Accident Prone Areas respectively in various stretches of State and National highways. Caution points and villages/habitations adjoining to such accident prone areas are summarized below.

Table 3-10 Habitations adjacent to accident prone areas

Sl. No.	Stretch of Road (From - to)	Length in Kms.	No. of Traffic Congestion Areas	No. of Accident Prone Areas	Name of the habitations adjacent to accident Prone areas
<b>State Highway</b>					
1	Sohela- Nuapada road 0/00KM to 101.125	101.125	21	0	
2	Godbhaga- Turum road 0/000KM to 39 .917	39.917	10	0	
3	Bargarh- Bhatli-Ambabhona road 0/00KM to 35/200	35.2	2	3	Gangei & Samardhara
<b>Major District Road</b>					
4	Sohela-Barpali-Binka road 0/00KM to 33/342km	33.342	2	2	Sarandapali Chhak Sikridi Chhak
5	Patnagarh -Padampur road 21/160km to 38/610	17.45	2	2	Dhaita Jhankar pali
6	Padampur -Jagdampur road 0/000km to 26/800km	26.8	1	2	Laakhmara Sambalpuri
<b>Other District Road</b>					
7	Bargarh Railway station road 0/00km to 1/600 km	1.6	0	0	
8	Bargarh- Bijepur road 0/000km to 25/200km	25.2	2	3	Birmal Chhak Gandpali Chhak Sailpali Chhak
9	Sohela-Grinjal road 0/000km to 4/770km	4.77	0	0	
10	Samardhara-Lakhanpur-Dunguri road 0/000km to 25/600	25.6	0	1	Lakhanpur
11	Mahulpali-Bheden road 0/000km to 16/37km	16.371	3	2	Baghapali Bheden
12	Bheden- Remunda road 0/ 000 to 10/359	10.359	2	0	
13	Bijepur-Dublabahal road 28/500kmt to 52/900	24.46	2	3	Gehnsali Nallah Punipathar Chowk Gyan Chowk

14	Diptipur-Gaisilet road 0/000 to 19/400	19.4	1	2	Telmahul Narrow Culvert
15	S.P office to panchayat collage road (ULB road) 0/000km to 2/5000	2.5	0	0	
16	NH-6 to Gobindpali via-Oriental hotel road (ULB road) 0/000 to 1/500	1.5	0	0	
17	Sweeper colony to Reserve police line bridge road (ULB Road) 0/000 to 3/000 km	1.5	0	0	
18	Gandhi chowk to Ambapali Ambedkar chowk via- Thana chowk 0/000 to 3/000km Chetana dresses to bandutiki	3	3	0	
19	Chetana dresses to bandutikira chowk 0/000km to 1/000km	1	1	0	
20	Telephone Exchange to Gobindpali chowk via- Kalimandir chowk 0/000 km to 1/500 km	1.5	1	0	
21	Vikash School to haldipali road (old NH) 0/000km to 7/000 km	7	3	0	
22	Bargarh-Bheden Road 0/00km to 24/000km	24	5	1	
23	Ambabhona- Ruchida road 0/000km to 12/300km	12.3	0	0	
24	Padampur to Loisingha via Gisilet road 0/00km to 36/000km	36	1	0	
25	Paikmal Jharbandh- Dava Road 0/000 km to 38/000 km	38	5	0	

### 3.10 Cultural Heritage Sites and Precincts:

#### Includes:

- Archaeological sites and remains
- Monuments and sites of historic, artistic, religious and cultural significance
- Historic precincts, towns, cities and villages that have significance as an ensemble may be categorized as cultural landscapes
- Traditional and vernacular buildings that represent a significant cultural practice or tradition.

Sl. No.	Cultural Heritage site/precinct	Address/Location	Category (Centrally Protected Monument/ State Protected/ UNESCO World Heritage Site/ Unprotected Monument)	Name & Contact details of the Controlling/ Supervising Authority at the district level	Remarks (if Any)
1	Muchualinda Boudha Vihar	Ganiapali, Gaisilet, Bargarh	Unprotected Monument		
2	Six Asta Sambha Temples a) Balunkeswar Temple b) Kedarnath Temple c) Nilakantheswar Temple d) Baidyanath Temple e) Visweswar Temple f) Swapneswar Temple	Gaisima, Bargarh Ambabhona Nilji, Bhatli Deogaon, Bargarh Saranda, Attabira Sorna, Bheden	Religious site		
3	Debrigarh fort	Ambabhona	Unprotected Monument		
4	Barabakhara Fort	Karla, Ambabhona	Unprotected Monument		
5	Sahid Madho Singhs house	Ghess, Sohela	Protected Monument	Tourist Officer	
6	Papanga Hill Fort	Papanga, Bheden	Protected Monument	Tourist Officer	
7	Basekela Garh	Bheden	Unprotected Monument		
8	Bindhyabasini Temple	Chichinda, Bheden	Protected Monument	Tourist Officer	
9	Debdarha Temple	Padampur	Unprotected Monument		

10	Nrusingha Nath Temple	Paikmal	Protected Monument	Executive Officer Nrusinghanath Temple & Tourist Officer	
11	Borasambar Palace	Padampur	Unprotected Monument		
12	Dadhi Bamana Temple	Bhatli	Protected Monument	Sub-Collector Bargarh	
13	Chandipali Temple	Ambabhona	Unprotected Monument		
14	Barpali ( Tie & Die )	Barpali			
15	Jagannath Mandir	Bhtigaon, Barpali	Protected Monument	Tourist Officer	

### 3.11. Museums:

Type-

- Archaeological Museum
- Art and Craft Museum
- Art Museum
- Educational Museum
- Multi-Purpose Museum
- Personal Museum
- Science Museum

Sl. No.	Name of the Museum	Location and Address	Type	Category/ Controlling Body (ASI/ Central Government/ State Government/ Private/ Public Trust/ Privately Managed/ University/ College)	Name & Contact details of the Controlling Authority/ Owner	Remarks (if any)
01	Bargarh District Museum	Bargarh	Archaeological Museum	State Govt.	District Culture Officer, Bargarh	
02	Nrusingha Nath Temple Museum	Paikmal	Archaeological Museum	State Govt.	Executive Officer Nrusinghanath Temple	

### 3.12 Important Libraries:

Sl. No.	Name of the Library	Location and Address	Category/ Controlling Body (Central Government/ State Government/ District Administration/ Private/ Public Trust/ Privately managed/ University/ College)	Name & Contact details of the Controlling Authority	Remarks (if any)
01	District Library Bargarh	Zilla Sanskruti Bhawan, Bargarh	District Administration	District Culture Officer Bargarh	
02	Gandhi Smruti Pathagara	Bargarh	Privately Managed		
03	Aragami Yubaka Sangha	Bargarh	Privately Managed		

### 3.13 Earthquake Vulnerability:

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

- The Bargarh District is coming under Zone-II (low damage risk zone)/
- About 5% of the District is coming under Zone- III (Moderate damage risk zone)/
- Parts of Ambahona & Attabira Blocks under Hirakud Dam of the district is coming under Zone- III (Moderate damage risk zone) and the other are under Zone-II (low damage risk zone)/

**N.B. Earthquake Vulnerability Map is in Volume II**

### 3.14 Fire and Life Safety of High Rise Buildings (buildings having a height of more than 15 meter)

Sl. No.	Name of the ULB/ Block	No. of High Rise Buildings	No. of High Rise Buildings where Fire & Life Safety Audit has been carried out in last 2 years.	Remarks
1	Bargarh	13	01	

## 3.11 List of High Rise Building in Bargarh

Sl. No	Name of the High Rise Building	Location/ Area	Name, Address, Contact Details of the Owner	Whether Fire & Life Safety Audit Under Taken (Yes/ No.)	If Yes then the Year and the Name of the Agency	Vulnerable Population
1	Kishori Nursing Home	Ward No-18, Bhatli Chowk, Bargarh	Pyarilal Tripathy At- Ward No-18, Bhatli Chowk Mob:- 9437050332	No		
2	Vikash Multi Specialist Hospital	Barahaguda, Bargarh	D. Murali Krishna At/Po- Barahaguda Mob:- 9437052465 Email- vikashhospitalbgh@gmail.com	Yes	2018 By Odisha Fire Service	
3	Purohit Nursing Home	Gandhi Chowk, Bargarh	Dr. Ram Krishna Purohit At- Near Private Bus Stand Gandhi Chowk Mob:- 9437054403	No		
4	Badri Prasad Apartment	Bargarh	President At/Po- Bargarh Mob:- 7008714401	No		
5	Furniture City	Bargarh	Manoj Kumar Agarwalla At/Po- Nadipada, Ward No-01, Bargarh Mob:-9861241455	No		
6	Shree Kunja Height	Bargarh	Hari Prasad Agarwalla At/Po- Bargarh Mob:- 9437058842	No		
7	Maa Shyama Inclub	Kali Mandir Chowk, Bargarh	Hari Prasad Agarwalla At/Po- Bargarh Mob:- 9437058842	No		
8	Gajanan Complex	Kali Mandir Road, Bargarh	Anil Agarwal At/Po- Bargarh Mob:-9437055752	No		
9	Govt. Hospital DHH	Bargarh	Bibhuti Bhusan Meher (I/C) At/Po- Bargarh Mob:- 9438645205	No		



10	BSNL Exchange Office	Bargarh	Radhacharan Ratha (SDO) At/Po- Bargarh Ph:- 06646-230000	No		
11	Phulandevi New City	Bargarh	Akash Ku Agarwalla At/Po- Bargarh Mob:- 9583127755	No		
12	N. B. Royal Complex	Bargarh	Abhijit Mohanty At/Po- Bargarh Mob:-9437027277	No		
13	Sai Nath Villa	Bargarh	Akhil Ahamad At/Po- Bargarh Mob:-9437027277	No		

### 3.15 Forest Fire:

#### Forest Fire Incidents:

Sl. No.	Name of the Division	Range	No. of Fire Incidents Reported during last-----5years	Area Affected in Ha.	Loss of life/property if any
1					

#### Forest fire vulnerability:

Sl. No.	Name of the Division	Range	Area (in Sq. Km)	Total Notified Forest Area (in Sq. Km)	High Risk Zone (Area in Sq. Km)	No. of Villages/habitations inside/adjacent to the High Risk Zone	Medium Risk Zone (Area in Sq. Km)	No. of Villages/habitations inside/adjacent to the Medium Risk Zone	Low Risk Zone (Area in Sq. Km)	No. of Villages/habitations inside/adjacent to the Low Risk Zone

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

### 3.16 Embankments:

#### Irrigation Division Wise Embankments in the District:

Sl. No.	Division	Name of the Embankment	Type (Capital Embankment/ Other Agricultural/ Test Relief/ Saline)	Length (in Km.)
		<b>NO</b>		

#### Division wise list of Vulnerable Points:

Sl. No.	Name of the Division	Name of the Embankment/ River	Location of the Vulnerable Point	Affected Length (in Mtr.)	Name of the Block	Name of the Villages to be affected
1						
2						
3						

### 3.17 Dam- Burst Scenario: (For large Dams)

Sl. No.	Name of the Dam	Location & Water body	Type (Major/ Medium/ Minor)	Storage Capacity	Dam Break Model / Risk Map for Dam break developed (Yes/No)	Pre and Post Monsoon Inspection of Structural Measures done (Yes/No)	No. of Villages to be affected/ needs to be evacuated in case of a possible scenario (District & Block Wise)	Remarks
1.	Khandijharan MIP							
2.	Kumbho MIP							
3.	Magaranalla MIP							
4.	Padampurnalla MIP							
5.	Talkhole MIP							

**Contingency Planning for Dam bursts scenario:**

**1. For Dam - A**

Sl. No.	District	Block	Name of the Village	Evacuation Route for the village/s	No. of HHs	Population	Safe Shelter Identified	Remarks

**2. For Dam - B**

Sl. No.	District	Block	Name of the Village	Evacuation Route for the village/s	No. of HHs	Population	Safe Shelter Identified	Remarks

**3. Formation and Subsequent Bursting of Landslide Dams:**

Sl. No.	Land Slide Area/ Location Vulnerable for formation of land slide Dams	No. of Villages likely to be affected	Population to be affected
1			
2			

\*\*\*\*

## CHAPTER-4 INSTITUTIONAL ARRANGEMENT

### 4.1 National Disaster Management Authority (NDMA):

The National Disaster Management Authority (NDMA) was constituted under the Sub-section (1) of Section (3) of National Disaster Management Act 2005. NDMA is the apex body for Disaster Management in the country headed by the Hon'ble Prime Minister of India to lay down policies, plans and guidelines to manage disaster and coordinating their enforcement and implementation for ensuring timely and effective response to disaster.

The Chairperson of the NDMA is the Hon'ble Prime Minister of India (*ex-officio*) and others members not exceeding than nine may be nominated by him. The Chairperson may designate one of the members to be the Vice-Chairperson.

#### 4.1.1 National Executive Committee (NEC)

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

The Union Home Secretary is the Chairpersons (*ex-officio*) of NEC. The Secretaries to the Government of India in the ministries/departments having administrative control of the agriculture, defense, drinking water supply, environment and forest, finance (expenditure), health, power, rural development, water resources and the Chief of the Integrated Defence Staff of the Chiefs of Staff Committee as members of NEC.

**Please refer annexure of Volume –II for Central Government Notification on constitution of NEC**

### 4.2 State Disaster Management Authority (SDMA):

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

The State Disaster Management Authority shall:-

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

***(Please refer annexure of Volume –II for Odisha Government Notification on reconstitution of SDMA)***

#### **4.2.1 State Executive Committee (SEC)**

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

The State Executive Committee shall:-

- a) Coordinate and monitor the implementation of the National Policy, National Plan and State Plan.
- b) Examine the vulnerability of different parts of the State to different forms of disaster and specify measures to be taken for their prevention and mitigation.

- c) Lay down guidelines for preparation of disaster management plans by the departments of the Government of the State and the District authorities and monitor the implementation of the plans.
- d) Evaluate preparedness at all government and non-government levels to respond to any threatening disaster situation or disaster and give all directions where necessary for enhancing such preparedness.

***(Please refer annexure of Volume –II for Odisha Government Notification on constitution of SEC)***

#### **4.3 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.

#### **4.4 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.

#### **4.5 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 28<sup>th</sup> 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.

#### 4.6 State Level Committee on Natural Calamity (SLCNC):

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

The Function of the SLCNC is –

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

***(Please refer annexure of Volume –II for Odisha Government Notification on reconstitution of SLCNC)***

#### 4.7 District Disaster Management Authority (DDMA):

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

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

- a) The Collector or District Magistrate or Deputy Commissioner of the District is the Chairperson (*ex-officio*) of DDMA.

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

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

**(Please refer annexure of Volume –II for Odisha Government Notification on constitution of DDMA)**

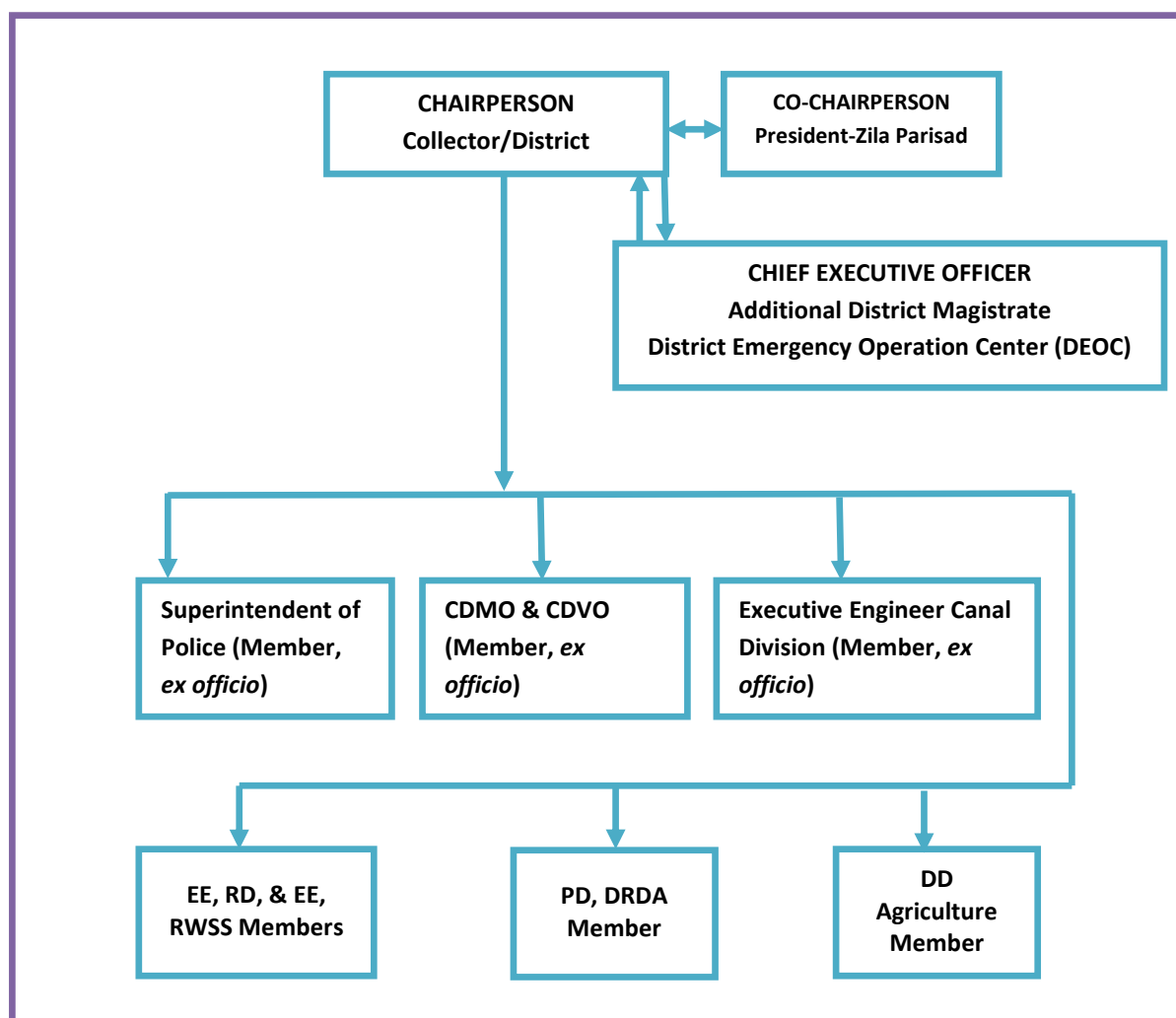
**Table 4-1 Structure of District Disaster Management Authority**

Sl No.	Name of the Officer	Designation	Position in DDMA	Contact No.
1	Shri Indramani Tripathy, OAS	District Magistrate Collector	Chairperson, <i>ex-officio</i>	943800044
2	Mrs. Mukta Sahu	President, Zilla Parishad	Co- Chairperson, <i>Ex-officio</i>	8455880139
3	Sri. B. Jugal Kishore Kumar, IPS	Superintendent of Police	Member, <i>ex-officio</i>	9438916490 06646- 234480
4	Dr. Sadhu Charan Das	Chief District Medical Officer	Member, <i>ex-officio</i>	9439982261
5	Sri Tapiram Majhi, OAS	Addl. District Magistrate	Chief Executive Officer, <i>ex-officio</i>	9937630010
6	Sri. Krutibash Rout	Project Director, DRDA	Member, <i>ex-officio</i>	9437333757
7	Sri. Dinabandhu Gandhi	Dy Director, Agriculture	Member, <i>ex-officio</i>	7853882080



8	Sri. Nirakar Bishi	Executive Engineer, Bargarh Canal Division	Member, ex-officio	9437077036
9	Sri. Ramesh Ch. Karan	Executive Engineer, LI	Member, ex-officio	9437077988
10	Sri. Baikunthanath Sarangi	Executive Engineer, R.W.D	Member	9437255307
11	Sri. B. Panigrahi	Executive Engineer, RWSS	Member	9438419947
12	Sri. Dasarathi Bhoi	District Emergency Officer	Member Secretary	9437417534

Figure 4-1 Organ gram of District Disaster Management Authority



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

The District Disaster Management Authority (DDMA) shall:-

- a) Prepare Disaster Management Plan including District Response Plan of the District.
- b) Coordinate and Monitor the implementation of the National DM Policy, State DM Policy, State DM Plan and District DM Plan.
- c) Ensure that vulnerable areas of the districts are identified and prevention and mitigation measures are being undertaken by the departments of the Government both at district level and at local level.
- d) Ensure that guidelines for Prevention and Mitigation measures, Preparedness and Response as lay down by NDMA and SDMA are being followed by all departments of Government both at district and local level.
- e) Monitor the implementation of Disaster Management Plans prepared by the departments of the Government at the district levels.
- f) Lay down guidelines to be followed by different Government departments both at district level and local level for integrating disaster prevention and mitigation measures in their development plans and projects and provides necessary technical assistance therefor;
- g) Review the state of capability for responding to any disaster or threatening disaster like situation in the district and give directions to the relevant departments or authorities at the district level for their up gradation.
- h) Review the preparedness measures and give directions to the concerned departments at the district level for bringing the preparedness measures to the levels required for responding effectively to any disaster.
- i) Organize, coordinate and facilitate specialized training programmes and awareness programmes for different level of officers, employees, voluntary rescue workers and community members for prevention and mitigation of disaster with support of governmental and non-governmental organization and local authorities.
- j) Set up, maintain, review and upgrade mechanism for early warning and dissemination of proper information to public.
- k) Review development plans prepared by the departments of the government at the district level, statutory authorities with a view to make necessary provisions therein for prevention of disaster or mitigation.

- l) Examine construction in any area in the district and ensure standards for prevention of disaster or mitigation laid down for such construction to be followed by the concerned departments and authorities.
- m) Identify buildings and places which could be used as relief centres 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.

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

- **Information Management Team:**

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

- **Food & Social Security Team:**

PD (DRDA), Sub-Collector, Bargarh/ Padampur/ All Tahasildar, All BDOs, DSWO, DWO, Civil Supply Officer, District Panchayat Officer, District Labour Officer

- **Water Management Team:**

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

- **Livelihood Team:**

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

- **Forest & Environment Team:**  
DFO, Bargarh/ NGOs
- **Rescue & Evacuation Team:**  
SP, All Sub Collector, Dist. Fire Officer, ODRAF team
- **Emergency Health Management Team:**  
CDMO, Red Cross, Representative Private Hospital, CDVO, NGO Coordination Cell
- **Relief Management Team:**  
ADM, Sub-Collector, Bargarh/ Padampur/ All BDOs, All Tahasildars, Addl SP, NGOs/INGOs
- **Infrastructure Management Team:**  
EE (R&B), EE (RD), EE (WESCO), APD (Technical), DRDA, EE (NHAI), District Panchayat Officer, NGOs/ INGOs

#### 4.8 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 4-2 Structure of District Level Committee on Natural Calamity**

Sl No.	Name of the Member	Designation	Position in DLCNC	Contact No.
1	Shri Indramani Tripathy	District Magistrate and Collector	Chairperson	943800044
2	Sri. B. Jugal Kishore Kumar	Addl. Superintendent of Police	Member	9438916490 06646-234480
3	Smt. Snehangini Chhuria	Hon'ble MLA, Attabira Minister Handloom & Textile	Member	9937523948
4	Sri. Susanta Singh	Hon'ble MLA, Minister Energy, Labour & ESI	Member	9437655477
5	Sri. Prasanna Acharya	Hon'ble MP, Rajyasabha	Member	7684905313
6	Dr. Prabhas Kumar Singh	Hon'ble MP, Loksabha	Member	9437141963, 8270355542
7	Sri. Pradip Purohit	Hon'ble MLA, Padampur	Member	9437535846

8	Sri Debesh Acharya	Hon'ble MLA, Bargarh	Member	9337333272
9	Smt. Rita Sahu	Hon'ble MLA, Bijepur	Member	7894671766
10	Smt. Mukta Sahu	President, Zilla Parishad	Member	8455880139
11	Sri. Tapi Ram Majhi	Addl. District Magistrate	Member	9937630010
12	Sri. Krutibash Rout	Project Director, DRDA	Member	9437333757
13	Sri. Nirakar Bishi	Executive Engineer, Bargarh Canal Division	Member	9437077036
14	Sri. Pravash Rath	Executive Engineer, Barpali Canal Division	Member	9437165166
15	Sri. Debendra Nanda	Sub-Collector, Bargarh	Member	9437190990
16	Sri. Daulat Chandrakar	Sub-Collector, Padampur	Member	9438163905
17	Dr. Sadhu Charan Das	Chief District Medical Officer	Member	9439982261
18	Dr. Tarun Ku. Sahu	Chief District Veterinary Officer	Member	9437117861
19	Sri. Baikunthanath Sarangi	Executive Engineer, R.W.D	Member	9437255307
20	Sri. B. Panigrahi	Executive Engineer, RWS&S	Member	9438419947
21	Sri. Dasarathi Bhoi	District Emergency Officer	Member Secretary	9437417534
22	Sri. Ramesh Ch. Karan	Executive Engineer, LI	Member	9437077988

### The functions of the Committee

The functions of the committee shall be

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

### 4.9 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

Boarder 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 4-3 Location of National Disaster Response Forces**

Sl No.	Battalion Location	State	Manpower drawn from	Contact Person	Fax No.	Mobile No.	Unit Control Room No.	E-Mail
1	01 Bn, NDRF, Guwahati	Assam	BSF	Sh. S. K. Shastri	0361-2849080	9401307887	0361-2840284	<a href="mailto:assam01-ndrf@nic.in">assam01-ndrf@nic.in</a>
2	02 Bn, NDRF, Kolkata	West Bengal	BSF	Sh. NitishUpadhyay	033-25875032	9434742836	033-25875032	<a href="mailto:wb02-ndrf@nic.in">wb02-ndrf@nic.in</a>
3	03 Bn, NDRF, Munduli	Odisha	CISF	Sh. M.K.Yadav	0671-2879711	9439103170	0671-2879711	<a href="mailto:ori03-ndrf@nic.in">ori03-ndrf@nic.in</a>
4	04 Bn, NDRF, Arakkonam	Tamil Nadu	CISF	Ms.RekhaNambiyar	04177-246594	9442105169	04177-246594	<a href="mailto:tn04-ndrf@nic.in">tn04-ndrf@nic.in</a>
5	05 Bn, NDRF, Pune	Maharashtra	CRPF	Sh. Anupam Srivastava	02114-247008	9423506765	02114-247000	<a href="mailto:rb-5th@cisf.gov.in">rb-5th@cisf.gov.in</a>
6	06 Bn, NDRF, Gandhinagar	Gujrat	CRPF	Sh.R.SJoon	079-23201551	9428826445	079-23201551	<a href="mailto:guj06-ndrf@nic.in">guj06-ndrf@nic.in</a>
7	07 Bn, NDRF, Ghaziabad	Uttar Pradesh	ITBP	--	0164 - 2246570		0164-2246193	<a href="mailto:pun07-ndrf@nic.in">pun07-ndrf@nic.in</a>
8	08 Bn, NDRF, Bhatinda	Punjab	ITBP	Sh. P.K.Srivastava	0120 - 27666012	9968610014	0120-2766618	<a href="mailto:up08-ndrf@nic.in">up08-ndrf@nic.in</a>

9	09,Bn,NDRF, Patna	Bihar	BSF	Shri Vijay Sinha	06115-253939	7762884 444	06115-253939	<a href="mailto:patna-ndrf@nic.in">patna-ndrf@nic.in</a>
10	10 Bn, NDRF, Vijayawada	Andhra Pradesh	CRP F	Sh. Parshant Dar	0863-229305 0	7382299 621	0863-229305 0	<a href="mailto:rb-10th@cisf.gov.in">rb-10th@cisf.gov.in</a>
11	11Bn, NDRF, Varanasi	Uttar Pradesh	SSB	Sh. A.K.Singh	0542 - 25011 01	9455511 107	0542-250110 1	<a href="mailto:up-11ndrf@gov.in">up-11ndrf@gov.in</a>
12	12 Bn, NDRF, Itanagar	Arunachal Pradesh	SSB	Sh. AngomKiran Chand Singh	03621-242940	9485236 141	0360-227710 6	<a href="mailto:bn12.ndrf@gov.in">bn12.ndrf@gov.in</a>

#### 4.10 Odisha Disaster Rapid Action Force (ODRAF):

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

**Table 4-4 Location of Odisha Disaster Rapid Action Force**

Unit	Contact Details of designated Officer	Mobile/ Phone No.	Email ID
Cuttack (OSAP 6 <sup>th</sup> Battalion)	Shri Lingaraj Parida, OPS Commandant	98610-39267 (M) 0671-2442148 (O) 0671- 2442442 (R)	<a href="mailto:comdt6thbn.orpol@nic.in">comdt6thbn.orpol@nic.in</a>
	I/C ODRAF: Dy Sub Sk.R.Tulla Writer: K.B.Panda	94385 -03808 (M) 94385-82460 (M)	
Jharsuguda (OSAP 2 <sup>nd</sup> )	Md. Zaheed, OPS Commandant	94371-76264 (M) 06645-270096 (O) 06645-270038 (R)	<a href="mailto:comdt2ndbn.orpol@nic.in">comdt2ndbn.orpol@nic.in</a>

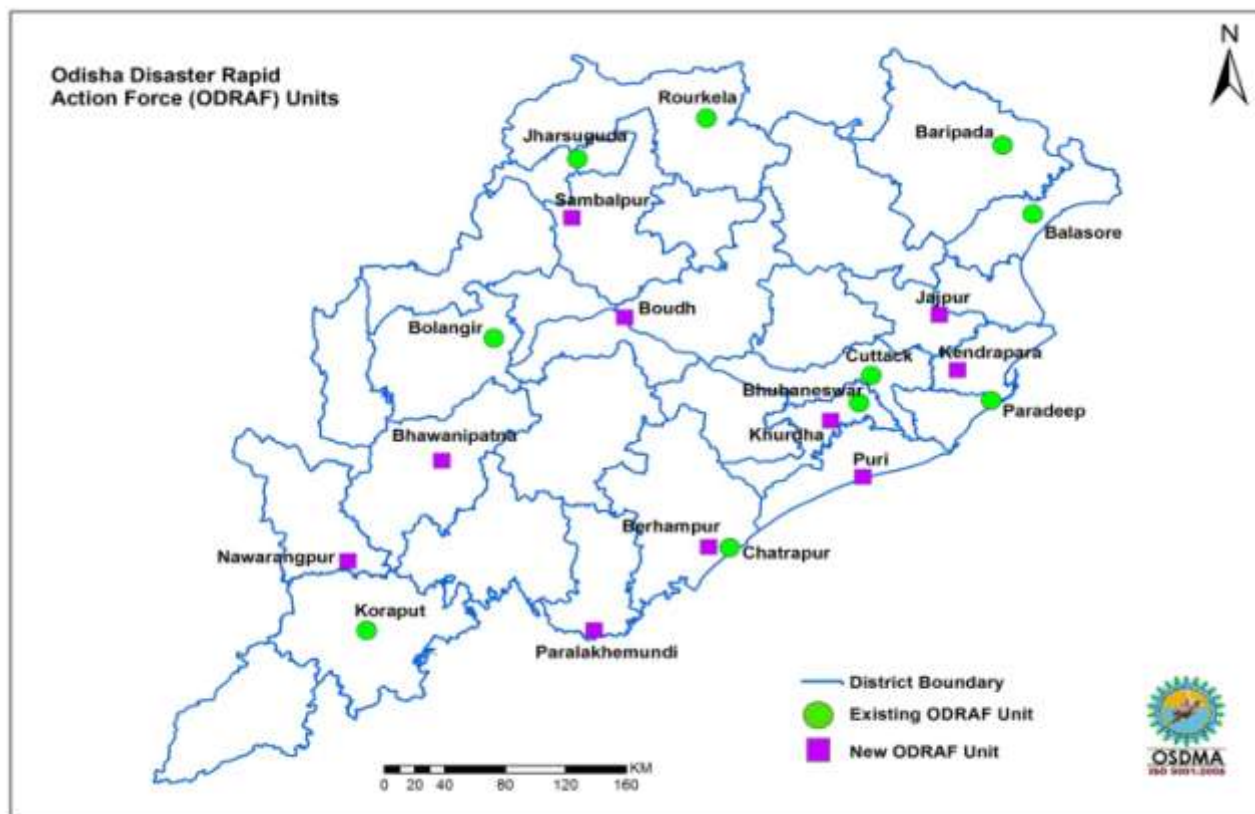
Battalion)	I/C ODRAF: Dy Sub C.Rana Writer: T.B.Gurung	88953-70538 (M) 90404-13176 (M)	
Koraput (OSAP 3 <sup>rd</sup> Battalion)	Shri B.M.Rao, OPS Commandant	94372-15519 (M) 06852-251344 (O) 06852-151335 (R)	<a href="mailto:comdt3rdbn.orpol@nic.in">comdt3rdbn.orpol@nic.in</a>
	I/C ODRAF: Dy. Sub R.Ch.Hati Writer: R.K.Naik	99384-06905 (M) 94390-66456 (M)	
Rourkela (OSAP 4 <sup>th</sup> Battalion)	Shri K.Gauda, OPS Commandant	94373-58292 (M) 0661-2600434 (O) 0661-2600980 (R)	<a href="mailto:comdt4thbn.orpol@nic.in">comdt4thbn.orpol@nic.in</a>
	I/C ODRAF Dy Sub. A.Behera Writer Bijaya Sahoo	94374-19436 (M) 94384-25112 (M)	
OSAP 5th Battalion, Baripada	Shri Awinash Kumar, IPS Commandant	94381-53308	<a href="mailto:comdt5thbn.orpol@nic.in">comdt5thbn.orpol@nic.in</a>
	I/C ODRAF AC J.R.Nayak Writer T. K.Mohant	94372- 03557 94380-54976	
OSAP 7th Battalion, Bhubaneswar	Shri Biren Ku. Sasmal, OPS 1 Commandant	94370-81266	<a href="mailto:comdt7thbn.orpol@nic.in">comdt7thbn.orpol@nic.in</a>
	I/C ODRAF ACP D.K.Dehuri Writer Sadananda Jena	94371-85548 98615-78306	
OSAP 8th Battalion, Chatrapur	Shri B.N.Mishra Commandant	94370-87055	<a href="mailto:comdt8thbn.orpol@nic.in">comdt8thbn.orpol@nic.in</a>
	I/C ODRAF SI(A) C.R.Bisoi Writer L.Bijaya Kumar	82800-33508 94373-22432	
APR Balasore District	Shri Nithi Sekhar,IPS SP, Balasore	94381-53309 Spbls.orpol@nic.in	<a href="mailto:spbls.orpol@nic.in">spbls.orpol@nic.in</a>
	I/C ODRAF Sgt.P.K.Ransingh Writer M. Behera	94393-79619 94380-49083	
APR Bargarh District	Shri Asis Kumar Singh. IPS SP, Bargarh	88950-46814 Spbgr.orpol@nic.in	<a href="mailto:spbgr.orpol@nic.in">spbgr.orpol@nic.in</a>
	I/C ODRAF AC N.K.Patel Writer M.P.Xosla	94374-74571 99379-99404	
APR, Jagatsinghpur District	Shri J.N.Pankaj,IPS SP, Jagatsinghpur	94371-02020 Spjsp.orpol@nic.in	<a href="mailto:spjsp.orpol@nic.in">spjsp.orpol@nic.in</a>
	I/C ODRAFDSI P.K.Routray Writer P.K.Bhuyan	94384-36188 83388-15172	



**Location of New Odisha Disaster Rapid Action Force with contact details**

<b>Unit</b>	<b>In Charge</b>	<b>Telephone/ Mobile</b>	<b>Email</b>
<b>Dhenkenal (OSAP 1<sup>st</sup> Bn)</b>	Shri Bijaya Prakash Babu, OPS Deputy Commandant	9438509006 (M) 06762- 226229 (O) 06762226291 (CR) Fax: 06762226291	<a href="mailto:comdt1stbn.orphol@nic.in">comdt1stbn.orphol@ nic.in</a>
<b>Koraput (1<sup>st</sup> India Reserve Bn.)</b>	Shri P. Manmoth Rao, OPS Commandant	9437463489 (M) 06852-252167 (O) 06852-211320 (CR)	<a href="mailto:comdt1stirbn.orphol@nic.in">comdt1stirbn.orphol @nic.in</a>
<b>Gunupur (2<sup>nd</sup> India Reserve Bn.)</b>	Shri Bibhuti Pattnaik, OPS Commandant	9437090541 (M) 0658-725110 (O) 0685- 725110 (CR)	<a href="mailto:comdt2ndirbn.orphol@nic.in">comdt2ndirbn.orphol @nic.in</a>
<b>Jajpur (3<sup>rd</sup> India Reserve Bn.)</b>	Shri S.N.Jemadar, OPS Commandant	9437355225 (M) 0672-6244602 (O) 0672- 6244610 (CR) Fax: 0672- 6244610	<a href="mailto:comdt3rdirbn.orphol@nic.in">comdt3rdirbn.orphol @nic.in</a>
<b>Deogarh (4<sup>th</sup> India Reserve Bn.)</b>	Shri Baikuntha Bihari Rout, OPS Commandant	9438800008 (M) 0664-3242130 (O)	<a href="mailto:comdt4thirbn.orphol@nic.in">comdt4thirbn.orphol @nic.in</a>
<b>Boudh (5<sup>th</sup> India Reserve Bn.)</b>	Shri Jamesh Kumar Indrasingh, OPS Commandant	9437232275 (M) 9437232275 (M)	<a href="mailto:comdt5thirbn.orphol@nic.in">comdt5thirbn.orphol @nic.in</a>
<b>Bargarh (6<sup>th</sup> India Reserve Bn.)</b>	Shri Naba Kishor Das, OPS Commandant	8895856633 (M)	<a href="mailto:comdt6thirbn.orphol@nic.in">comdt6thirbn.orphol @nic.in</a>
<b>Koraput (7<sup>th</sup> Spl. India Reserve Bn.)</b>	Shri S.N.Bastia Commandant	8895066309 (M) 06852-259112 (CR) Fax:O6852-229007	<a href="mailto:comdt7thsplirbn.orphol@nic.in">comdt7thsplirbn.or pol@nic.in</a>
<b>Phulbani (8<sup>th</sup> Spl. India Reserve Bn.)</b>	Shri A.K.tripathy, OPS Commandant	9437200980 (M) 0684-2253017 (O)	<a href="mailto:comdt8thsplirbn.orphol@nic.in">comdt8thsplirbn.or pol@nic.in</a>

Map 4-1 Location of ODRAF Units



#### 4.11 Other Disaster Response Teams in the district:

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

**Table 4-5 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	Sri. D. Marandi, R I of Police	Commandant Home Guard	9437977249		-
2	Home Guards					399
3	National Service Scheme (NSS)	Miss. Meena Kumari Meher	District Coordinator			1000

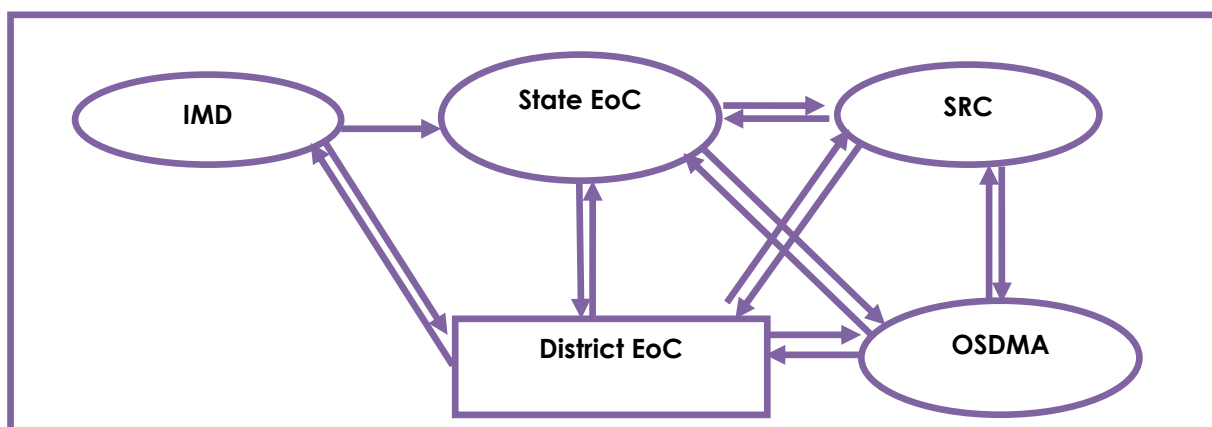
4	National Cadet Crops (NCC)	Sri. Pandav Behera	Chief Commandant		-	500
5	Nehru Yuva Kendra (NYK)	Sri. Marianus Bilund	District Coordinator	9437992855	7978623491	24
6	Red Cross	Sri. Prafulla Kumar Behera	Secretary India Red cross Society	06646-232112	9438640418	60

**4.12 Emergency Communication System:**

**4.12.1 State Emergency Operation Center (SEOC)**

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

**Figure 4-2 Information flow chart from SEOC to Districts**



**4.12.2 District Emergency Operation Centers (DEOC)**

The District Emergency Operation Centre (DEOC) is functioning at District Emergency Section Collectorate, Bargarh. The DEOC is headed by the Collector and District Magistrate, Bargarh. Deputy Collector, Emergency functions as the officer-in-charge and looks after the day to day operation of DEOC under the guidance of Addl. District Magistrate, Bargarh. DEO

is assisted by a District Project Officer (DPO) and other ministerial staff. 1077 disaster helpline number is active in the district. The helpline is under the supervision of DEO, Bargarh. During any natural disaster it functions round the clock (24x7) for the purpose of receiving warnings and other information and in normal times it works in official hours from 10.00 am to 5 pm. It also receives all messages /instructions from the state control room and passes them on to the officer in -charge, who, if required, directs them further to sub-divisional control room and block control room. The control rooms at the sub divisional, block headquarters receive all information regarding any emergency situation in their respective areas from the DEOC and also convey any information pertaining to filed status to the DEOC and other officials /non official organizations as the case may be. All the information so collected is transmitted by the DEOC to SEOC daily through appropriate channel in the performa prescribed by the state government time to time.

**Figure 4-6 Equipment provided to DEOC and their operational status**

SL No	Name of the Hardware Item	Number of Items available	Name & Model	Machine /Eq No.	Features/ specification	
					Serviceable	Un-serviceable
1	Desktop	1	COMPAQ, HP PC	1N14380 IDQ	-	Permanently out of order
		1	Colour Monitor	15 ' SVGA Colour monitor SL No. IN434 WA580	Serviceable	Permanently out of order
		1	DESKTOP COMPUTER, MONITOR & UPS	3cTB2BS CN OG 335H 64180	Serviceable	-
		1	Lenovo think Center Desktop	M73 Core 13	Serviceable	-
2	UPS	1	1KVA SUN UPS	SL No. 0409143	-	Out of order
		1	UPS	8BO82IR24276		Out of order
		1	Luminous 1 Kvt. Line Interactive UPS			Serviceable
3	Fax	1	Panasonic Plain Paper FAX Machine	KXFP342 <u>4HBBB</u> 031027	-	Un-serviceable
		1	Canon FAX-140	F-152800	-	Un-serviceable

4	Printer	1	HP LASER JET 11500	SGBB05669	-	Out of order
		1	HP Laser jet 1136 MFP	CE849A SL No. CNJ8FCW5ZI	Serviceable	
5	Scanner	1	HP Scan jet 4070	SL No. CN43TVLIW2	-	Out of order
		1	HP Scan jet 200 flat Bed scanner	L2734-80006	Serviceable	
6	Television	1	53 CM Flat Screen L.G Colour T.V	CE ZA 4051 E 008117 1N	Serviceable	-
7	HF Radio Communication System	1	Ahuja Megaphone	A-755427	Serviceable	
8	UHF/VHF Radio Communication Systems	1	VHF walkie Talkie(Handset, with two charger	477HBN0041 477HBN0075	Serviceable	-
9	Satellite phone	1	Isatphone2-EN	IC8944A- ISATPHONE2 Product code - 136080	Serviceable	-
10	VASAT Data /VoIP System	1	Germin, GPS, Etrex Vista	Sl. No. 12208055	Serviceable	-
11	Short Code (1070/1077)	1	AT -103	AEON TELECRONICS PVT. LTD, Bangalor	Serviceable	-
12	Others machine	1	Jeekay SIREN	104260	Serviceable	-
		1	3 Kg Fire Extinguisher	33250	-	Un-serviceable
		1	Maintainance free (BOSCH) Battery	SL No 09554955D268	-	Un-serviceable
		1	MICRO Diesel Generator	One	Serviceable	-
		1	Whit Display Board	One	-	Un-

					serviceable
1	Pin Fixing Board	one	-	-	Un-serviceable
1	Speaker headphone & microphones	-	-	-	Un-serviceable
1	GALVANIZED IRON TRUNK	One	Serviceable	-	-
5	Life Buoy	five	Serviceable	-	-
5	Life Jacket	five	Serviceable	-	-
1	MS Rack	one	Serviceable	-	-
2	Inflatable Tower light	two	Serviceable	-	-
2	45 Kg Fire Extinguisher	two	Serviceable	-	-
2	Power Saw	No.189068299 No.169068330	Serviceable	-	-
2	Gloves Gum boot	two	Serviceable	-	-
1	Canon power short	Sl.No.674230585 2	Serviceable	-	-
1	Proview 1.8 KVA digital inverter	SN PRP 18E08E00643 12VOH 135 AH BATTERY SL. 1011141101425			Permanently out of order

Figure 4-3 Information flow chart from DEOC to Villages with early warning

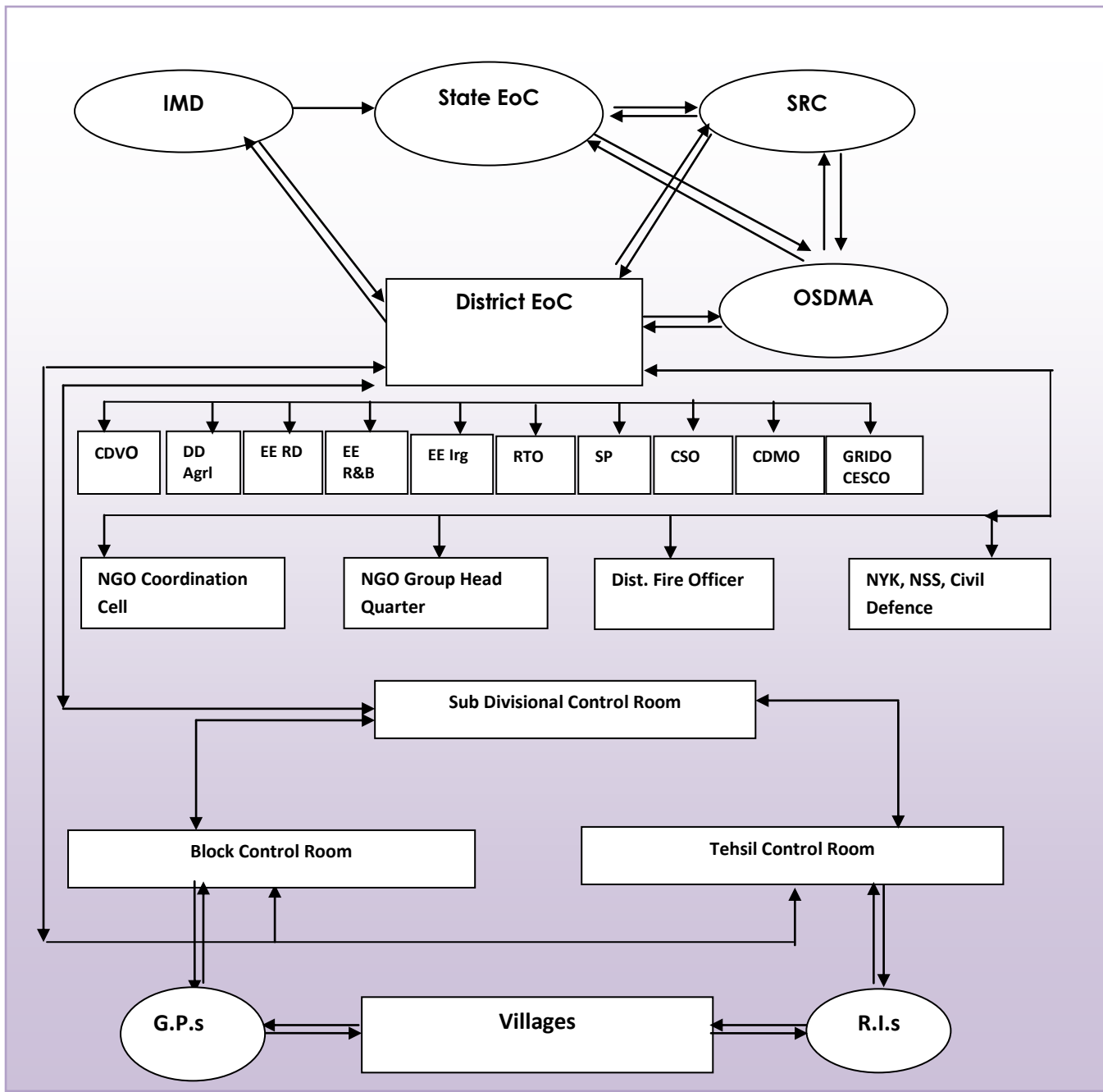


Table 4-7 Contact details of Heads of the Department at district level

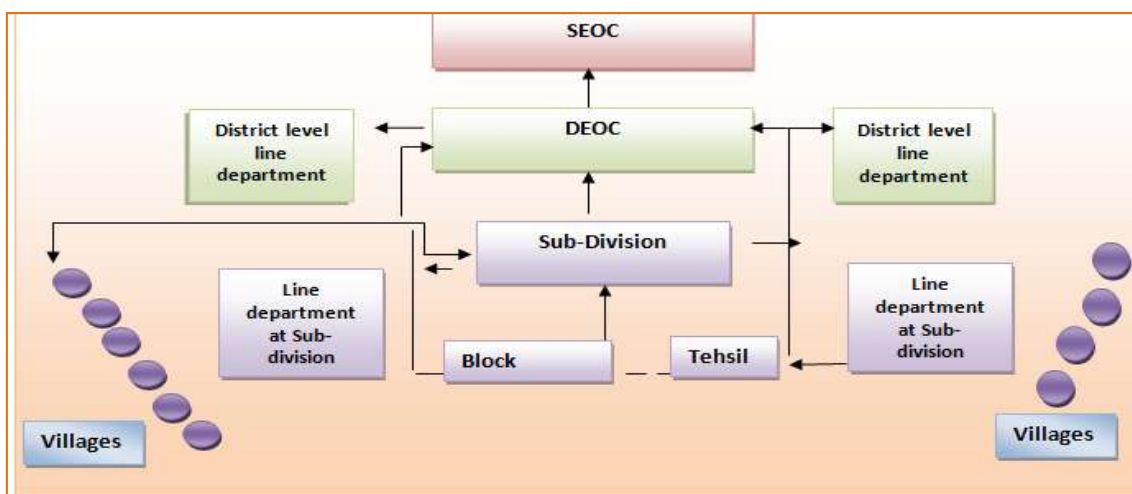
Designation	Name of the officer/	Telephone number Office / Res		Mobile/Cell No.
<b>Emergency Toll Free Number:1077 (Bargarh) / 06646-232112</b>				
Collector & Dist. Magistrate	Sri Indramani Tripathy, OAS (SAG)	232340 (O) 232840 (fax)	230041 (Res) 231300 (fax)	9438000044

Supdt. of Police	B. Jugal Kishore Kumar, IPS	234480 233150-fax	234343	9438916490
A.D.M.	Sri Tapiram Majhi, OAS(S)	235040	247122	9937630010
P.D.,DRDA	Sri Krutibash Rout, OAS (S)	234499	235041	9437333757
President, Zilla Parishad	Smt. Mukta Sahu	234784		8455880139
Vice-President, Zilla Parishad	Sri. Madan Deep	234783		9938043061
Sub-Collector, Bargarh	Sri Debendra Kumar Nanda	234345	234346 230246 (Fax)	9437190990
Sub-Collector, Padampur	Sri. Daulat Chandrakar	06683-223401	223402	9438163905
P.D. Watershed & Dy. Dir, Soil	Sri Gopindra Bhoi	246549		9438092922
C.S.O.	Srikara Majhi	246041		9438200033
D.P.C., SSA	Sri Susanta Chopdar	246608		9438335081
D.E.O.	Sri. Prakash Kumar Joshi	233466		8763400508
	A.D.E.O., Bargarh	9438292362		9439393154
D.W.O.	Sri. Bharat Bhusan Biswal	230956		9439777774
D.S.W.O.	Smt. Nalini Balabantray	247009 / 247209		8280003327
D.I. P.R.O	Smt. Kalyani Das	246481		9437247757
CDMO	Dr. Sadhu Charan Das	232804		9439982249
SDMO, Padampur	Dr. Rajat Sahu	06683-233253		9439982262
Food Inspector (o/o- CDMO)	Rohiteswar Dash	234741		9437175693
CDVO	Dr. Tarun Kumar Sahu	233253		9437117861
DD, Agriculture	Dinabandhu Gandhi	230454		7853882080
DAO, Bargarh	Sri Binod Bihari Lakra	233354		8658795959
Asst. Director, Horticulture, Bargarh/Padampur	Sri Susil Seth	246247		9437082948
R.T.O.	Keshab Ch.Naik	232697		8763597323
Asst. Dir, Statistics,	Bhimsen Barla	230648		9437348097
DIO, NIC	Sri Raja Rammohan Majhi	234093		9439643312
D.R.C.S.	Sri. Hidden Naik	231183		9438184850
ARCS, Bargarh	Dibakar Bhoi	233183		8114316664
ARCS, Padampur	Lingaraj Nayak	223455		8895965909
EE, PWD	Sri G.P Gantayat	234819		94372- 16406



EE,PHD, Sambalpur	H. Behera	2412135 2412335-fax	9437114661
EE, RD, Bargarh	Baikunthanath Sarangi	230137	9437255306
EE,RD, Padampur	Ramgopal Baliveda		9437255302
SE, WESCO	Sri Bimalendu Prasad Padhi		9437057387
EE,BED , WESCO, Bargarh	Sri Bibhuti Bhusan Satpathy	233072	9437057949
EE,BWED, WESCO, Bargarh	Sri Subhendu Dash	247264	9437057971
EE, LI	Ramesh Ch. Karan		9437077988
EE, Investigation Divn. Ong Dam	Kulamani Seth	06683-223442	9437154714
EE, RWSS	B. Panigarhi	233220	9438419947
EE, MI, Padampur	S K Pattanaik	223418	9437053279

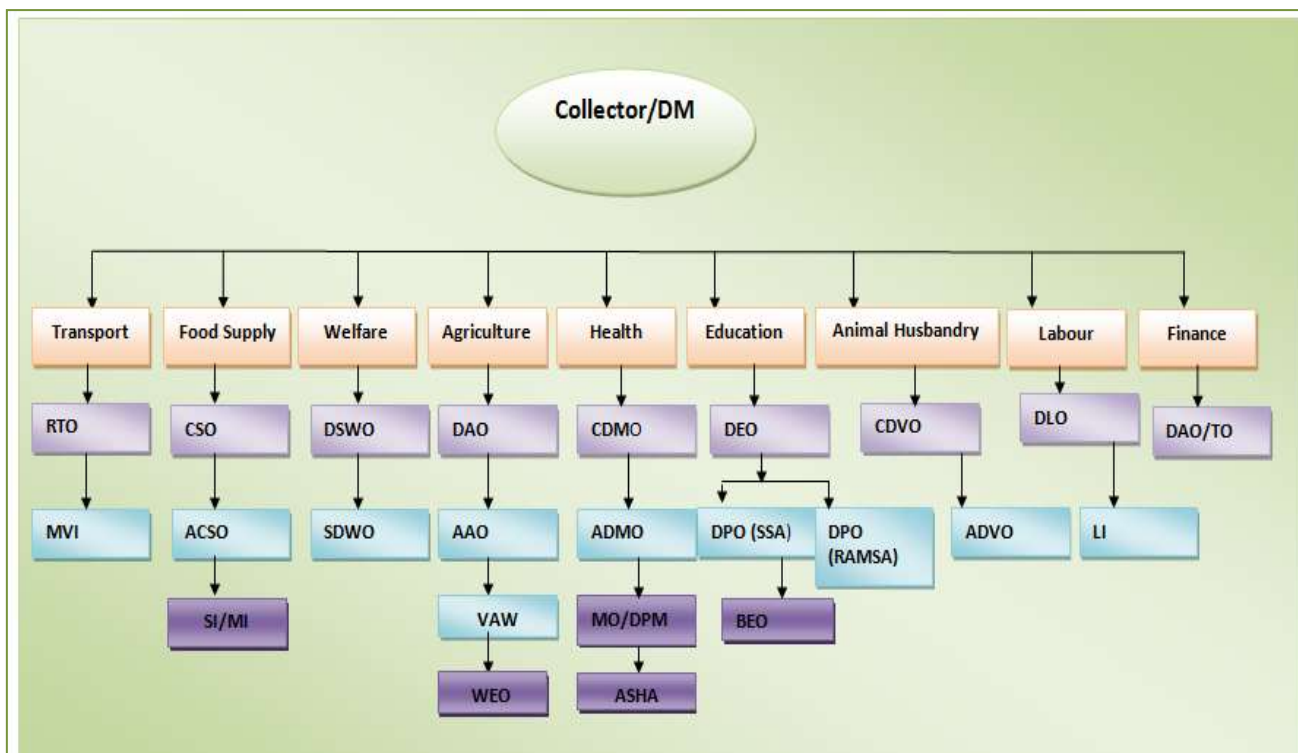
Figure 4-4 Information flow chart from Villages (DEOC) without early warning



4.12.3 Block Emergency Operation Center (BEOC)

Block Emergency Operation Centres operate at Block and Tahasil level work round the clock during summer and rainy season to tackle the heat waves and flood situation (June to October) at block/ tahasil level These emergency centres are headed by the concerned the head of the office. BDOs are assisted by Extension Officers. Similarly Tahasildar are supported by Revenue Inspectors and other staff. Such Emergency Operation Centres follow the Standard Operating Procedure (SoP) prescribed by the Govt. from time to time. **Name and Contact details of important line departments at the Block are annexed in Volume-II.**

Figure 4-5 Coordination structure at the District level and down the line



**4.13 GO-NGO Coordination before and after disaster in the district:**

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

**Table 4-8 Action Points in Go-NGO Coordination**

Area	Action Points	Responsibility
Geographic spread of NGOs	Develop a database of NGOs at all levels working on disaster management focusing on geographic outreach and thematic capacities of the organisations.	DDMAs with the help of NGOs
Volume of support	Compile statistics on quantum of support	DDMA

provided by NGOs	provided by NGOs at all levels, both international and national.	
Coordination	Establishing inter agency mechanisms for coordination and networking activities (information and knowledge management, training and capacity building, collaborative advocacy, quality and accountability) at all levels.	DDMA
Accessibility	Establish protocols for cooperation and ensure access to the affected areas with support from government agencies at respective levels like NDRF and SDRF that have good logistics base to reach inaccessible areas.	DDMA, NGOs, CBOs
Hazard and vulnerability based planning	Conduct community centric hazard and vulnerability analysis at all levels, and develop disaster management plans in accordance.	DDMA, NGOs
Community participation	Ensure community participation in assessment, planning, implementation and monitoring of activities at all levels	DDMA, NGOs, CBOs
Mainstreaming of Disability Issues in DM	Support the most vulnerable groups through mitigation activities as well as disaster preparedness and response, with a particular focus on the special needs of the Persons with Disabilities (PWDs).	DDMA, NGOs)
Gender Mainstreaming	Make women's as well as men's concerns and experiences an integral dimension in the design, implementation, monitoring and evaluation of policies and programs such that inequalities between men and women are not perpetuated through the routine operations of DM.	DDMA

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

#### 4.14 Role of Corporate Sector in the district relating to Disaster Management:

Historically, the corporate sector has been supporting disaster relief and rehabilitation activities. However, the involvement of corporate entities in disaster risk reduction activities is not significant in Bargarh district. PPP between the Government and private sector would also be encouraged to leverage the strengths of the latter in disaster management. The DDMA would need to network with the corporate entities to strengthen and formalise their role in the DM process for ensuring safety of the communities. The role of corporate sector for awareness generation and local capacity building would be also important and efforts would be made to involve corporate sector in this effort. Besides, the media plays a critical role in information

and knowledge dissemination in all phases of DM. The versatile potential of both electronic and print media needs to be fully utilised. Effective partnership with the media will be worked out in the field of community awareness, early warning and dissemination, and education regarding various disasters. The use of vernacular media would be harnessed for community education, awareness and preparedness at the local level. The DIPRO in consultation with the DDMA would take appropriate steps in this direction.

#### **4.15 Public Private Partnership: Public & Private Emergency service facilities available in the district:**

Private Ambulance Services are available in the district which operates in a Public Private Partnership mode. Seven numbers of private firms are operating ambulance services in the district to provide emergency transportation services to the people at a price decided by the district administration from time to time.

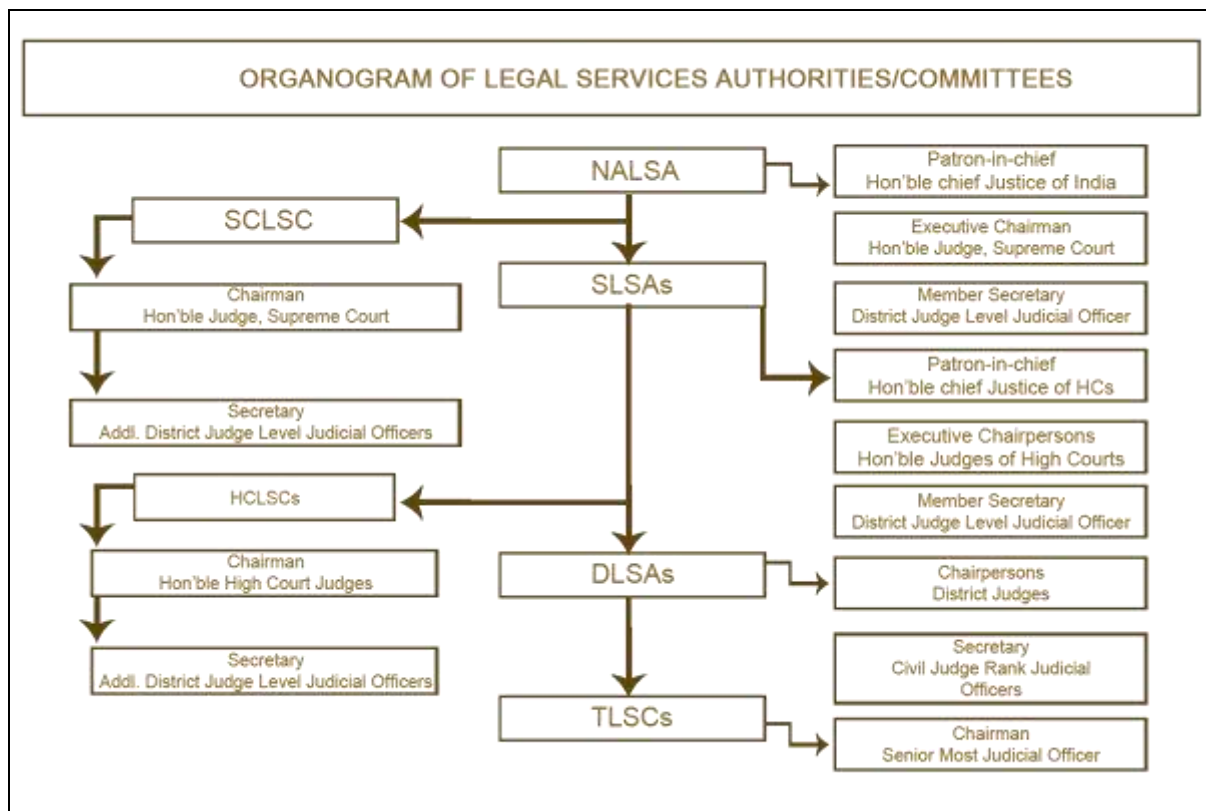
#### **4.16 National Legal Services Authority (NALSA):**

The National Legal Services Authority (NALSA) has been constituted under the Legal Services Authorities Act, 1987 to provide free Legal Services to the weaker sections of the society. The Chief Justice of India is the Patron-in-Chief and the senior most Hon'ble Judge, Supreme Court of India is the Executive Chairman of the Authority.

Public awareness, equal opportunity and deliverable justice are the cornerstones on which the edifice of NALSA is based. The principal objective of NALSA is to provide free and competent legal services to the weaker sections of the society and to ensure that opportunities for securing justice are not denied to any citizen by reason of economic or other disabilities, and to organize Lok Adalats for amicable settlement of disputes. Apart from the abovementioned, functions of NALSA include spreading legal literacy and awareness, undertaking social justice litigations etc.

With the aim of reaching out to the diverse milieu of people belonging to different socio-economic, cultural and political backgrounds, NALSA identifies specific categories of the marginalized and excluded groups from the diverse populace of the country and formulates various schemes for the implementation of preventive and strategic legal service programmes to be undertaken and implemented by the Legal Services Authorities at the various levels. In carrying out all these responsibilities, NALSA works in close coordination with the various

State Legal Services Authorities, District Legal Services Authorities and other agencies for a regular exchange of relevant information, monitoring and updating on the implementation and progress of the various schemes in vogue and fostering a strategic and coordinated approach to ensure smooth and streamlined functioning of the various agencies and stakeholders.



**4.17 Odisha State Legal Services Authority (SALSA):**

Odisha State Legal Services Authority is a Statutory Body established under the Legal Services Authorities Act, 1987. Hon'ble Chief Justice of High Court of Odisha is the Patron-in-Chief of the Odisha Legal Services Authority and the Sr. Judge of the High Court of Orissa is the Executive Chairman of the Odisha Legal Services Authority. To look after the legal services pertaining to the High Court, there is High Court Legal Services Committee, which is chaired by a sitting Judge of the High Court and the Registrar (Judicial), Orissa High Court is functioning as the Secretary of High Court Legal Services Committee. The State Legal Services Authority monitors and guides the District Legal Services Authorities and Taluk Legal Services Committees in achieving the aims and objectives of the Act. There are 30 District Legal Services Authorities in the State of Odisha and 81 Taluk Legal Services Committees functioning under them. The District Legal Services Authorities are headed by District & Sessions Judges. An officer in the cadre of Senior Civil Judge functions as the

Secretary of the District Legal Services Authority. The Taluk Legal Services Committees are headed by the senior most judicial officer posted at the station as the Chairman.

The general public who need any legal help / legal aid can directly contact the concerned Taluk Legal Services Committee / District Legal Services Authority, the High Court Legal Services Committee and the State Legal Services Authority, as the case may be, for their legal needs. Added to it, Front Offices have also been established in the premises of the District Legal Services Authority and Taluk Legal Services Committee manned by advocate retainers to offer legal advice to the beneficiaries and the general public as well and also to assist them in different Legal Services Activities.

The State Legal Services Authority has 15 Members which include the Hon'ble Chairman of High Court Legal Services Committee, Principal Secretaries in the Depts. of Law and Finance, Director-General and Inspector-General of Police, Advocate General, District Judges of Cuttack and Khurda at Bhubaneswar. Apart from that the State Authority has 5 nominated Members namely Hon'ble Minister, Law, Orissa, a Senior Advocate of Orissa High Court, an M.P., an M.L.A., and an eminent social worker who have experience in the field of Law, Finance, Social Service or Administration and who are engaged in the upliftment of the weaker sections of the society, including Schedule Castes, Schedule Tribes, Women, Children, rural and Urban Labour and who are interested in the implementation of the Legal Service Schemes.

#### **4.18 Other identified Safe temporary shelters in the district:**

The district has 3 flood and cyclone shelters. The BNRGSK and schools buildings could be used as safe temporary shelters.

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## CHAPTER-5 PREVENTION & MITIGATION MEASURES

### 5.1 Measure to be taken up:

Prevention, Mitigation, and Preparedness is the channel through which fatuous works to decrease a community's vulnerability to natural disasters such as landslides, floods, mudslides, epidemics, and earthquakes, catastrophic rain or snow, and prepares them to respond rapidly and effectively to natural disasters. In this way, the initiative also seeks to ensure that communities are empowered in the learning process. There are a variety of activities in each category, including: building community awareness, the provision of communications equipment (two-way radios), and mitigation projects, such as flood retaining walls.

The disaster management activities attempt to integrate several interrelated components in an orderly and coordinated manner. This includes activities before and pre-disaster, during and after the occurrence of the disaster. There is growing realisation universally to operationalise and formulation of appropriate legal and institutional frame work to deal with the disaster. The different activities involved in the process are:

- a) Reduce the risks associated with disaster through timely measure, short terms and long term activities.
- b) Provide required assistance to communities during and after disaster.
- c) Ensure repaid, sustained recovery and rehabilitation after the occurrence of disaster.

### 5.2 Prevention & Preparedness Plan

- Control room at District functions for immediate reporting and during the disaster.
- For prevention of drought different water bodies have been created under MGNREGS.
- For prevention of cyclone, flood and fire, Pucca houses have been allotted to BPL families under IAY & Mo Kudia schemes.
- In Mo Kudia, there is provision for household affected due to Fire, Flood, Riots, and Elephant Menace.
- Under 3<sup>rd</sup> SFC grant there is a united fund available at GP, PS & ZP level for immediate repair and reconstruction of GP/PS roads and building.
- Under NRLM a number of GPLF has been formed & depending on the demands, CISF ranging from 5-25 lakhs are being provided. The GPLF are in tune are allowed to lend to SHGs to meet the immediate need of social need, consumption & economic activity arising during natural climates.



### 5.3 Disaster Specific Prevention Plan

Disaster prevention, thus, takes place at two different levels, structural and non-structural. Non-structural preparedness measures include:

- Administrative and Regulatory Legislation
- Insurance Schemes
- Information, Education and Training
- Community Participation
- Community Action Groups
- Responding to Warning Systems
- Institution Building
- Creation of Public Awareness

Structural Preparedness Measures are proactive and reactive measures. These are used to arrest the adverse impact of disasters. These measures would vary from disaster to disaster.

#### 5.3.1 Earthquake

As per the Sustainable Environment and Ecological Development Society, Earthquake preparedness or vulnerability minimization would focus on:

- Identification of weak structures
- Assessment of houses in earthquake-prone areas that do not comply with building norms
- Monitoring the compliance of renovations with the Building Codes
- Adherence to Building Byelaws and Structural Engineering
- Upgradation of Design Specifications
- Skills for retrofitting and reinforcement of old and weak structures
- Qualified advice to make sure houses are secured to its foundations
- Repair deep plaster cracks in ceilings and foundations. Get advice from experts if there are signs of structural defects
- Use of Seismic Bands at Plinth (Base) and Lintel (Beam) levels
- Secure falling and blocking objects
- Removal of heavy items of furniture to the floor
- Moving of heavy items such as pictures and mirrors away from places where people sit
- Storage of heavy objects, breakable items such as bottled foods, glass etc. in low, closed cabinets with latches
- Storage of chemical products and flammable products in closed cupboards with latches at the bottom shelves
- Development of a Household Emergency Plan (What to do at the time of an earthquake, where to hide, what not to do)

- Elaboration of an evacuation plan for your family
- Identification of safe places within your home, school or workplace
- Procurement of household insurance policy for damage cover
- Preparation of an Emergency Survival Kit
- Emergency telephone numbers (doctor, hospital, police etc.)
- Learning and training others on life saving skills like first aid, search and rescue etc.
- Chalking out plans for helping Public Works Department (PWD) at the time of disaster
- Construction of seismically strong infrastructure

### 5.3.2 Drought

For drought, preparedness measures would include:

- Practice of alternate cropping techniques, compensatory cropping schemes and crop diversification
- Practice of fodder cultivation
- Use of drought resistant crops
- Provision of grain and water banks
- Resources to rain water harvesting
- Drought proofing schemes like MGNREGS
- Spread of awareness on use of traditional irrigation methods
- Unkeep of storage space
- Maintenance of buffer stocks
- Provision of Emergency Health Centres
- Setting up of Pani Panchayats
- Construction of dams and check dams
- Watershed management
- Levelling and other soil conservation techniques
- Reducing deforestation and fire wood cutting
- Checking of migration and providing alternate employment for people
- Proper selection of crops for drought affected areas
- Promotion of insurance schemes
- Setting up seed banks, water banks and grain banks

Table- 5-1

## Block wise irrigation potential to be created through different sources in Bargarh by 2018-19

Unit in Ha.

Sl. No.	Name of the Block	Megalift Irrigation			Minor (Flow)			CLIPs, MRL & Deep Bore Well by OLIC			Dug Well, Bore Well & Firm Pond by Agriculture Deptt.			Year-wise Potential to be Created up to 2019			
		2016-17	2017-18	2018-19	2016-17	2017-18	2018-19	2016-17	2017-18	2018-19	2016-17	2017-18	2018-19	2016-17	2017-18	2018-19	Total
1	Ambabhona	0	4620	0	105	0	0	320	320	196	665	665	665	1090	5605	861	7556
2	Attabira	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	Bargarh	0	0	0	0	0	0	1600	1600	602	85	85	85	1685	1685	687	4057
4	Barpali	0	0	0	0	0	0	950	950	560	454	454	454	1404	1404	1014	3822
5	Bhatli	0	0	0	140	0	245	1568	1568	720	311	311	311	2019	1879	1276	5174
6	Bheden	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	Bihepur	0	0	0	42	2000	543	1310	1310	600	828	828	828	2180	4138	1971	8289
8	Gaislet	0	1300	0	231	0	0	712	712	600	868	868	868	1811	2880	1468	6159
9	Jharbandh	0	0	0	0	400	0	570	570	520	643	643	643	1213	1613	1163	3989
10	Padampur	0	0	0	622	83	0	1070	1070	840	688	688	688	2380	1841	1528	5749
11	Paikmal	0	0	0	220	671	0	860	860	920	162	162	162	1242	1693	1082	4017
12	Sohela	0	0	0	85	0	0	1670	1670	880	393	393	393	2148	2063	1273	5484
<b>Total</b>		<b>0</b>	<b>5920</b>	<b>0</b>	<b>1445</b>	<b>3154</b>	<b>788</b>	<b>10630</b>	<b>10630</b>	<b>6438</b>	<b>5097</b>	<b>5097</b>	<b>5097</b>	<b>17172</b>	<b>24801</b>	<b>12323</b>	<b>54296</b>

**Table- 5-2 Component wise Consolidated Budget under PMKSY & State Planed Scheme**

Block	Year	AIBP	HKKP		PDMC		WS		TOTAL	MGNREGA		SPSI			N A B A R D	SPSI & MGNRE GS	Total Budget
			Cont. of Field Channel	Micro Irri	Water Mgmt.	New WHS	Renov ation	PMKS Y	New	Renov ation	Irrigatio n Deptt	Other Deptt	E A P				
Bargarh	2016-17	0	1605.4	871.4	48.7	129.2	71	66.2	2792	15	4	7418.7	10.9	0	0	7448.6	10240.5
	2017-18	0	1605.4	871.4	48.7	129.2	71	66.2	2792	15	4	7418.7	10.9	0	0	7448.6	10240.5
	2018-19	0	1605.4	871.4	48.7	129.2	71	66.2	2792	15	4	7418.7	10.9	0	0	7448.6	10240.5
	2019-20	0	1605.4	871.4	48.7	129.2	71	66.2	2792	15	4	7418.7	10.9	0	0	7448.6	10240.5
	2020-21	0	1605.4	871.4	48.7	129.2	71	66.2	2792	15	4	7418.7	10.9	0	0	7448.6	10240.5
	Sub Total	0	8027	4357	243.7	646.1	355	331		75	20	37093.3	54.6	0	0		
	<b>Grand Total</b>	<b>0</b>	<b>12384</b>		<b>889.8</b>		<b>686</b>		<b>13959.8</b>	<b>95</b>		<b>37093</b>	<b>54.6</b>	<b>0</b>	<b>0</b>	<b>37242.9</b>	<b>51202.7</b>
Barpali	2016-17	0	1527.8	522.6	48.7	633	191	217.8	3140.9	15	4	5999.4	6.2	0	0	6024.6	9165.5
	2017-18	0	1527.8	522.6	48.7	633	191	217.8	3140.9	15	4	5999.4	6.2	0	0	6024.6	9165.5
	2018-19	0	1527.8	522.6	48.7	633	191	217.8	3140.9	15	4	5999.4	6.2	0	0	6024.6	9165.5
	2019-20	0	1527.8	522.6	48.7	633	191	217.8	3140.9	15	4	5999.4	6.2	0	0	6024.6	9165.5
	2020-21	0	1527.8	522.6	48.7	633	191	217.8	3140.9	15	4	5999.4	6.2	0	0	6024.6	9165.5
	Sub Total	0	7639	2613	243.7	3165	955	1089		75	20	29996.8	31	0	0		
	<b>Grand Total</b>	<b>0</b>	<b>10252</b>		<b>3408.7</b>		<b>2044</b>		<b>15704.7</b>	<b>95</b>		<b>29997</b>	<b>31</b>	<b>0</b>	<b>0</b>	<b>30122.8</b>	<b>45827.4</b>
Bheden	2016-17	0	518.3	1532	48.1	79.3	0	0	2177.7	15	4	4556.6	0	0	0	4575.6	6753.3
	2017-18	0	518.3	1532	48.1	79.3	0	0	2177.7	15	4	4556.6	0	0	0	4575.6	6753.3
	2018-19	0	518.3	1532	48.1	79.3	0	0	2177.7	15	4	4556.6	0	0	0	4575.6	6753.3
	2019-20	0	518.3	1532	48.1	79.3	0	0	2177.7	15	4	4556.6	0	0	0	4575.6	6753.3
	2020-21	0	518.3	1532	48.1	79.3	0	0	2177.7	15	4	4556.6	0	0	0	4575.6	6753.3
	Sub Total	0	2591.6	7660	240.3	396.5	0	0		75	20	22783	0	0	0		
	<b>Grand Total</b>	<b>0</b>	<b>10251.6</b>		<b>636.8</b>		<b>0</b>		<b>10888.4</b>	<b>95</b>		<b>22783</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>22878</b>	<b>33766.3</b>

<b>Bhatli</b>	2016-17	0	2544.6	442.6	48.7	237.7	152.4	59.2	3485.3	15	4	25.8	30	0	0	74.8	3560.1	
	2017-18	0	2544.6	442.6	48.7	237.7	152.4	59.2	3485.3	15	4	25.8	30	0	0	74.8	3560.1	
	2018-19	0	2544.6	442.6	48.7	237.7	152.4	59.2	3485.3	15	4	25.8	30	0	0	74.8	3560.1	
	2019-20	0	2544.6	442.6	48.7	237.7	152.4	59.2	3485.3	15	4	25.8	30	0	0	74.8	3560.1	
	2020-21	0	2544.6	442.6	48.7	237.7	152.4	59.2	3485.3	15	4	25.8	30	0	0	74.8	3560.1	
	Sub Total	0	12723	2213	243.7	1188.7	762.1	296			75	20	129	149.8	0	0		
	<b>Grand Total</b>	<b>0</b>	<b>14936</b>		<b>1432.4</b>		<b>1058</b>		<b>17426.5</b>	<b>95</b>			<b>129</b>	<b>149.8</b>	<b>0</b>	<b>0</b>	<b>373.8</b>	<b>17800.3</b>
<b>Attabira</b>	2016-17	0	764	1498.6	45.1	68.3	82	75.2	2533.2	15	4	1123.6	0	0	0	1142.6	3675.8	
	2017-18	0	764	1498.6	45.1	68.3	82	75.2	2533.2	15	4	1123.6	0	0	0	1142.6	3675.8	
	2018-19	0	764	1498.6	45.1	68.3	82	75.2	2533.2	15	4	1123.6	0	0	0	1142.6	3675.8	
	2019-20	0	764	1498.6	45.1	68.3	82	75.2	2533.2	15	4	1123.6	0	0	0	1142.6	3675.8	
	2020-21	0	764	1498.6	45.1	68.3	82	75.2	2533.2	15	4	1123.6	0	0	0	1142.6	3675.8	
	Sub Total	0	3820	7493	225.7	341.3	410	375.9			75	20	5618.1	0	0	0		
	<b>Grand Total</b>	<b>0</b>	<b>11313</b>		<b>567.1</b>		<b>785.9</b>		<b>12665.9</b>	<b>95</b>			<b>5618.1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5713.1</b>	<b>18379</b>
<b>Ambabhona</b>	2016-17	0	944.8	1040	51.3	847.4	150.2	125.6	3159.2	33	8	3.6	1232.7	0	0	1277.3	4436.5	
	2017-18	0	944.8	1040	51.3	847.4	150.2	125.6	3159.2	33	8	3.6	1232.7	0	0	1277.3	4436.5	
	2018-19	0	944.8	1040	51.3	847.4	150.2	125.6	3159.2	33	8	3.6	1232.7	0	0	1277.3	4436.5	
	2019-20	0	944.8	1040	51.3	847.4	150.2	125.6	3159.2	33	8	3.6	1232.7	0	0	1277.3	4436.5	
	2020-21	0	944.8	1040	51.3	847.4	150.2	125.6	3159.2	33	8	3.6	1232.7	0	0	1277.3	4436.5	
	Sub Total	0	4724	5200	256.3	4236.9	750.8	628.2			165	40	18	6163.5	0	0		
	<b>Grand Total</b>	<b>0</b>	<b>9924</b>		<b>4493.2</b>		<b>1379</b>		<b>15796.2</b>	<b>205</b>			<b>18</b>	<b>6163.5</b>	<b>0</b>	<b>0</b>	<b>6386.5</b>	<b>22182.7</b>
<b>Sohela</b>	2016-17	0	2744.4	1006.4	75.1	84.9	51.4	511.9	4474.2	96	20	0	31.8	0	0	147.8	4621.9	
	2017-18	0	2744.4	1006.4	75.1	84.9	51.4	511.9	4474.2	96	20	0	31.8	0	0	147.8	4621.9	
	2018-19	0	2744.4	1006.4	75.1	84.9	51.4	511.9	4474.2	96	20	0	31.8	0	0	147.8	4621.9	
	2019-20	0	2744.4	1006.4	75.1	84.9	51.4	511.9	4474.2	96	20	0	31.8	0	0	147.8	4621.9	
	2020-21	0	2744.4	1006.4	75.1	84.9	51.4	511.9	4474.2	96	20	0	31.8	0	0	147.8	4621.9	
	Sub Total	0	13722.1	5032.2	375.6	424.4	257	2559.5			480	100	0	158.8	0	0		

	<b>Grand Total</b>	<b>0</b>	<b>18754.2</b>		<b>800</b>		<b>2817</b>		<b>22370.8</b>	<b>580</b>		<b>0</b>	<b>158.8</b>	<b>0</b>	<b>0</b>	<b>738.8</b>	<b>23109.6</b>
<b>Bijepur</b>	2016-17	0	2115.6	965.4	81	1006.1	182.9	73.5	4424.5	15	4	439	19.3	0	0	477.3	4901.8
	2017-18	0	2115.6	965.4	81	1006.1	182.9	73.5	4424.5	15	4	439	19.3	0	0	477.3	4901.8
	2018-19	0	2115.6	965.4	81	1006.1	182.9	73.5	4424.5	15	4	439	19.3	0	0	477.3	4901.8
	2019-20	0	2115.6	965.4	81	1006.1	182.9	73.5	4424.5	15	4	439	19.3	0	0	477.3	4901.8
	2020-21	0	2115.6	965.4	81	1006.1	182.9	73.5	4424.5	15	4	439	19.3	0	0	477.3	4901.8
	Sub Total	0	10578	4826.8	404.8	5030.7	914.5	367.5		75	20	2194.9	96.6	0	0		
	<b>Grand Total</b>	<b>0</b>	<b>15404.8</b>		<b>5435.5</b>		<b>1282</b>		<b>22122.3</b>	<b>95</b>		<b>2194.9</b>	<b>96.6</b>	<b>0</b>	<b>0</b>	<b>2386.5</b>	<b>24508.8</b>
<b>Gaisilet</b>	2016-17	0	1882	908.8	73	2190.7	322.1	85.5	5462.1	93	12	0	329.3	0	0	434.3	5896.4
	2017-18	0	1882	908.8	73	2190.7	322.1	85.5	5462.1	93	12	0	329.3	0	0	434.3	5896.4
	2018-19	0	1882	908.8	73	2190.7	322.1	85.5	5462.1	93	12	0	329.3	0	0	434.3	5896.4
	2019-20	0	1882	908.8	73	2190.7	322.1	85.5	5462.1	93	12	0	329.3	0	0	434.3	5896.4
	2020-21	0	1882	908.8	73	2190.7	322.1	85.5	5462.1	93	12	0	329.3	0	0	434.3	5896.4
	Sub Total	0	9410	4544	365.1	10953.7	1610.5	427.4		465	60	0	1646.4	0	0		
	<b>Grand Total</b>	<b>0</b>	<b>13954</b>		<b>11319</b>		<b>2038</b>		<b>27310.7</b>	<b>525</b>		<b>0</b>	<b>1646.4</b>	<b>0</b>	<b>0</b>	<b>2171.4</b>	<b>29482.1</b>
<b>Padampur</b>	2016-17	0	2646.6	1146.1	86.2	827.3	211.8	156.9	5074.9	57	12	10	17.9	0	0	96.9	5171.7
	2017-18	0	2646.6	1146.1	86.2	827.3	211.8	156.9	5074.9	57	12	10	17.9	0	0	96.9	5171.7
	2018-19	0	2646.6	1146.1	86.2	827.3	211.8	156.9	5074.9	57	12	10	17.9	0	0	96.9	5171.7
	2019-20	0	2646.6	1146.1	86.2	827.3	211.8	156.9	5074.9	57	12	10	17.9	0	0	96.9	5171.7
	2020-21	0	2646.6	1146.1	86.2	827.3	211.8	156.9	5074.9	57	12	10	17.9	0	0	96.9	5171.7
	Sub Total	0	13233	5730.6	431	4136.4	1059	784.4		285	60	50	89.3	0	0		
	<b>Grand Total</b>	<b>0</b>	<b>18963.6</b>		<b>4567.4</b>		<b>1843</b>		<b>25374.4</b>	<b>345</b>		<b>50</b>	<b>89.3</b>	<b>0</b>	<b>0</b>	<b>484.3</b>	<b>25858.7</b>
<b>Paikmal</b>	2016-17	2300	2703.4	1059.4	77.7	242.5	394	72.5	6849.4	15	4	863	8.6	0	0	890.6	7740
	2017-18	2300	2703.4	1059.4	77.7	242.5	394	72.5	6849.4	15	4	863	8.6	0	0	890.6	7740
	2018-19	2300	2703.4	1059.4	77.7	242.5	394	72.5	6849.4	15	4	863	8.6	0	0	890.6	7740
	2019-20	2300	2703.4	1059.4	77.7	242.5	394	72.5	6849.4	15	4	863	8.6	0	0	890.6	7740
	2020-21	2300	2703.4	1059.4	77.7	242.5	394	72.5	6849.4	15	4	863	8.6	0	0	890.6	7740

	Sub Total	11500	13517	5296.8	388.3	1212.3	1970	362.3		75	20	4314.9	43.2	0	0		
	<b>Grand Total</b>	<b>11500</b>	<b>18813.8</b>		<b>1600.7</b>		<b>2332</b>		<b>34246.8</b>	<b>95</b>		<b>4314.9</b>	<b>43.2</b>	<b>0</b>	<b>0</b>	<b>4453.1</b>	<b>38699.9</b>
<b>Jharbandh</b>	2016-17	8700	1704.2	711.2	77.5	653.3	370.4	41.2	12257.8	36	8	216.9	30.6	0	0	291.6	12549.3
	2017-18	8700	1704.2	711.2	77.5	653.3	370.4	41.2	12257.8	36	8	216.9	30.6	0	0	291.6	12549.3
	2018-19	8700	1704.2	711.2	77.5	653.3	370.4	41.2	12257.8	36	8	216.9	30.6	0	0	291.6	12549.3
	2019-20	8700	1704.2	711.2	77.5	653.3	370.4	41.2	12257.8	36	8	216.9	30.6	0	0	291.6	12549.3
	2020-21	8700	1704.2	711.2	77.5	653.3	370.4	41.2	12257.8	36	8	216.9	30.6	0	0	291.6	12549.3
	Sub Total	43500	8521	3556	387.4	3266.4	1852	206		180	40	1084.7	153.2	0	0		
	<b>Grand Total</b>	<b>43500</b>	<b>12077</b>		<b>3653.8</b>		<b>2058</b>		<b>61288.8</b>	<b>220</b>		<b>1084.7</b>	<b>153.2</b>	<b>0</b>	<b>0</b>	<b>1458</b>	<b>62746.7</b>
<b>District</b>	2016-17	11000	21701.1	11704.5	761.1	6999.7	2179.2	1485.4	55831	420	88	20656.5	1717.3	0	0	22881.8	78712.8
	2017-18	11000	21701.1	11704.5	761.1	6999.7	2179.2	1485.4	55831	420	88	20656.5	1717.3	0	0	22881.8	78712.8
	2018-19	11000	21701.1	11704.5	761.1	6999.7	2179.2	1485.4	55831	420	88	20656.5	1717.3	0	0	22881.8	78712.8
	2019-20	11000	21701.1	11704.5	761.1	6999.7	2179.2	1485.4	55831	420	88	20656.5	1717.3	0	0	22881.8	78712.8
	2020-21	11000	21701.1	11704.5	761.1	6999.7	2179.2	1485.4	55831	420	88	20656.5	1717.3	0	0	22881.8	78712.8
	Sub Total	55000	108505.7	58522.3	3805.5	34998.6	10896	7427.1	279155.1	2100	440	103283	8586.4	0	0		
	<b>Grand Total</b>	<b>55000</b>	<b>167028</b>		<b>38804</b>		<b>18323</b>		<b>279155</b>	<b>2540</b>		<b>103283</b>	<b>8586.4</b>	<b>0</b>	<b>0</b>	<b>114409</b>	<b>393564</b>

**Table- 5-3 Consolidated budget of Bargarh District for DIP**

**District: Bargarh**

Sl. No.	Component	Activity	Number/ Capacity (cum)	Newly Created Irrigation Potential (Ha.)	Comma nd Area (Ha.)	Period of Implement ation (5 Yrs)	Estimate d Cost (in Lakh)	1st yr	2nd yr	3rd yr	4th yr	5th yr
1	AIBP	Major Irrigation		0	0		0	0	0	0	0	0
2		Medium Irrigation	2	8930	8930	5	44137	8827.4	8827.4	8827.4	8827.4	8827.4
3		Surface Minor Irrigation	25	2007	3621		10863	2172.6	2172.6	2172.6	2172.6	2172.6
4.1		Lift Irrigation		0	0	5	0	0	0	0	0	0
4.2		A) Community Lift Irrigation Projects (New)	485/102820 0	920	920	5	7275	1455	1455	1455	1455	1455
4.3		B) RRR of Water Bodies (Lift Irrigation)	0	0	0	5	0	0	0	0	0	0
4.4		i) Stabilisation of Ayacut	271/320565 .2	0	3024.2	5	2107	421.4	421.4	421.4	421.4	421.4
4.5		ii) Revival of Defunct Lift Irrigation Projects	76/214544	0	2024	5	1277	255.4	255.4	255.4	255.4	255.4
4.6		C) BKVY-Deep Bore well Secha Karyakram (BKVY- DBSK)		0	0	5	0	0	0	0	0	0
4.7		i) Conventional energy	12530/2656 360	12530	12530	5	48867	9773.4	9773.4	9773.4	9773.4	9773.4
4.8		ii) Renewable energy (Solar)	1290/27348 0	645	645	5	6702	1340.4	1340.4	1340.4	1340.4	1340.4
4.9		iii) Renovation of Collapsed Bore well	1170/62010 0	0	5850	5	1285	257	257	257	257	257
4.1		D) Micro River Lift Project E) Micro Irrigation System	1820/96460 0	1820	1820	5	4912.6	982.5	982.5	982.5	982.5	982.5



4.11		(Sprinkler Set for Bore well and Micro RL Projects)	15620/5342 400	0	31240	5	8290	1658	1658	1658	1658	1658
5	Har Khet Ko Pani	Ground Water Development		0	0		0	0	0	0	0	0
6		RRR of Water Bodies	245/316250 00	0	5022	5	27790.1	5558	5558	5558	5558	5558
7		Construction of field channels						0	0	0	0	0
7.1		Lined Field Channels	90	0	49830	5	49424.8	9885	9885	9885	9885	9885
7.2		Unlined Channels		0	510	5	63.8	12.8	12.8	12.8	12.8	12.8
8		Micro Irrigation (Check dam)	164/407131	0	4669	5	9033.8	1806.8	1806.8	1806.8	1806.8	1806.8
9	Per drop more crop	DPAP Drip	2150	0	865	5	752	150.4	150.4	150.4	150.4	150.4
10		DPAP Sprinkler	12500	0	4230	5	1600.2	320	320	320	320	320
11	(Micro Irrigation) Per drop	Non -DPAP Drip	1112	0	500	5	434.7	86.9	86.9	86.9	86.9	86.9
12		Non -DPAP Sprinkler	7500	0	3000	5	1018.6	203.7	203.7	203.7	203.7	203.7
13		Topping up of MGNREGA	2503	0	930	5	1023	204.6	204.6	204.6	204.6	204.6
14		Drought Proofing through check Dams/ WHS	500	0	20397.5	5	31898.8	6379.8	6379.8	6379.8	6379.8	6379.8
15	(Supplementary water Mgnt.	Secondary Storage Structures on Farm development	500	0	459	5	459	91.8	91.8	91.8	91.8	91.8
16		(distribution pipe / raised bed and furrow system etc.)	12502	0	4600	5	1617.8	323.6	323.6	323.6	323.6	323.6
17		Newly created WHS						0	0	0	0	0
17.1	Farm Ponds		3684	1225	1225	5	4353.5	870.7	870.7	870.7	870.7	870.7
17.2	Check Dams		259	0	2006.5	5	1383	276.6	276.6	276.6	276.6	276.6
17.3	Nallah Bunds		617	0	2092	5	1824.6	364.9	364.9	364.9	364.9	364.9
17.4	Percolation Tanks		758	0	2024.3	5	1334.5	266.9	266.9	266.9	266.9	266.9
17.5	Other Ground Water Recharge Structure		1074	0	3096.4	5	1989.5	397.9	397.9	397.9	397.9	397.9

	PMKSY											
17.6	Fishery ponds/ cattle pond		11	0	21.1	5	10.8	2.2	2.2	2.2	2.2	2.2
18	Watershed							0	0	0	0	0
			Renovated WHS									
18.1	Farm Ponds		840	0	1505.3	5	1239.6	247.9	247.9	247.9	247.9	247.9
18.2	Check Dams		151	0	1263.5	5	752	150.4	150.4	150.4	150.4	150.4
18.3	Nallah Bunds		80	0	376	5	350	70	70	70	70	70
18.4	Percolation Tanks		1686.5	0	4792.9	5	3055	611	611	611	611	611
18.5	Other Ground Water Recharge		561	0	2565.8	5	2030.5	406.1	406.1	406.1	406.1	406.1
	Structure											
18.6	Fishery ponds/ cattle pond		0	0	0	5	0	0	0	0	0	0
19			Newly Created					0	0	0	0	0
19.1	Water Conservation:		0	0	0	5	0	0	0	0	0	0
19.2	Water Harvesting:		355	261	261	5	1065	213	213	213	213	213
19.3	Creation of Irrigation canals and Drains		0	0	0	5	0	0	0	0	0	0
19.4	Providing Infrastructure for Irrigation Coverage		0	0	0	5	0	0	0	0	0	0
19.5	Land Development		1150	0	0	5	1035	207	207	207	207	207
20	MGNREGA		Renovation					0	0	0	0	0
20.1	Farm Ponds		0	0	0	5	0	0	0	0	0	0
20.2	Check Dams		0	0	0	5	0	0	0	0	0	0
20.3	Nallah Bunds		0	0	0	5	0	0	0	0	0	0

20.4	Percolation Tanks		0	0	0	5	0	0	0	0	0	0
20.5	Other Ground Water Recharge Structure		220	0	0	5	440	88	88	88	88	88
20.6	Fishery ponds/ cattle pond		0	0	0	5	0	0	0	0	0	0
<b>21</b>	<b>State Planned Scheme of Irrigation</b>							0	0	0	0	0
21.1	Major Irrigation		6	38563.7	38563.7	5	97416	19483.2	19483.2	19483.2	19483.2	19483.2
21.2	Medium Irrigation		3/47990000	905.2	905.2	5	5188.4	1037.7	1037.7	1037.7	1037.7	1037.7
21.3	Surface Minor Irrigation		11/9127990	4416	4416	5	678.2	135.6	135.6	135.6	135.6	135.6
22	Bore well		722	738.1	738.1	5	725.3	145.1	145.1	145.1	145.1	145.1
22.1	Dug well		51	21.1	21.1	5	40.3	8.1	8.1	8.1	8.1	8.1
22.2	Pump set		742	1316	0	5	151.8	30.4	30.4	30.4	30.4	30.4
23	Mega lift		4	5920	5920	5	7669	1533.8	1533.8	1533.8	1533.8	1533.8

Source District Irrigation Plan of Bargarh, Odisha – Year 2016

### 5.3.3 Floods

Flood preparedness measures would be more or less on the lines of cyclone preparedness. They would include:

- Reservoir construction
- Awareness on flood forecasts
- Construction of reservoirs, dams, alternate drainage sources etc.

### 5.3.4 Heat Waves

- a. Functioning of Control rooms at DHH, RWS&S and Veterinary.
- b. Drinking Water Supply for Human & Cattle population
- c. Dissemination of IEC materials as heat wave warning and propagation on DOs and DO NOTs.
- d. General condition of Health of people and possible measures at DHH, SDH, CHC, PHC
- e. General condition of cattle health and veterinary measures to be taken during heat wave condition.
- f. Adequacy of water through canals/MI projects/LI points/construction of cross bunds.
- g. Rescheduling of timing of education institutions / pre-schools.
- h. Rescheduling of working hours of labourers/workmen.
- i. Rescheduling of timing of passenger busses.
- j. Availability of heat relief measures at tourist places,
- k. Availability of water for animals in reserved & protected forests.
- l. Uninterrupted power supply to Hospitals, drinking water sources, veterinary hospitals and other establishments providing emergency services.

### Non-Structural Measures:

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

1. **Sensitization/Awareness Campaigns:** The District administration will reach out to the local residents and general public of the district with various level sensitization

programmes. Sensitization programmes will be conducted for schools, hospitals, colleges, communities etc. Awareness on multi hazards and dos and don'ts to solve it are most important and basic for a human being to save him/herself. Disaster strikes everywhere everyone irrespective of caste, creed, colour, people, and gender. The basic information shall be given in forms of booklets reading materials, audio-visual material etc. The broad objectives of such programmes will be as follows:

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

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

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

**Table 5-4 Proposed Sensitization Programme**

Sl. No.	Name of the Department/ Office	Activity/ Project	Starting Date	Date of completion	Cost	Funding source
1	Health	Awareness on Heat waves and Endemic disease	15 <sup>th</sup> March	30 <sup>th</sup> March	30,000	H&FW

2	Revenue	Awareness of officials on SDRF and NDRF norms	15 <sup>th</sup> March	30 <sup>th</sup> March	As per norms	DDMA
3	Education	Awareness of BEOs on School Safety Measures	1 <sup>st</sup> Sept	30 <sup>th</sup> Sept	30,000	DDMA
4	Agriculture	Awareness of famers on drought preparedness and mitigation measures	1 <sup>st</sup> Sept	30 <sup>th</sup> Sept	1,00,000	Agriculture Dept.
5	Veterinary	Awareness of officials and farmers on Disaster Mitigation measures in livestock sector	1 <sup>st</sup> May	15 <sup>th</sup> May	2,00,000	ARD Dept.
6	Forest	Awareness on forest fire at sub-divisional level	1 <sup>st</sup> May	15 <sup>th</sup> May	150000	DDMA

#### 5.4 Disaster Management Planning:

It is a known fact that drought, flood, road accident, heat waves, fire, lightning, are a major concern for the district as fire incidents have risen steeply in the last couple of decades. The first responder of any disaster anywhere is none other than the local people who are the victims too. Once a disaster has been occurred, many agencies like NGOs, Military and Para Military Agencies as well as the Government Agencies approach the area. But it takes time to start rescue and relief operations by these agencies due to poor accessibility and approachability to the disaster site and ignorance to the geographical situation of the affected area. Taking all these in to stoke, the district shall organize various planning exercises with the local bodies.

The strategy of planning will be as follows:

- The territory of each block can be taken as management unit for planning

- Every play school/school/college (Government/Private) in the district, irrespective of size, shall be a management unit
- Every Hospital with more than 10 bed shall have Disaster management plans
- All Cinema Halls, shopping centre, religious function centres etc. where gatherings are possible, will have Disaster management plans.
- Every Government office/building/department will have separate disaster management plan
- All industries in the district, irrespective of size and nature.

During 2017-18, the following planning would be taken up under thus non-structural measures.

**Table 5-5 Proposed Disaster Management Plan**

Sl. No.	Name of the Department/ Office	Activity/ Project	Starting Date	Date of Completion	Cost	Funding source
1	Health	Hospital Safety Plan (10 Nos.)	June	July	1,00,000	DDMA
2	Education	School Safety Plan (20 Nos.)	July	Aug	1,00,000	DDMA
4	Home	Plan for Mass Gathering (2)	July	Aug	10,000	DDMA
5	Home	Plan for Cinema Halls (2 Nos.), shopping centre (3 Nos.)	Aug	Sept	20,000	Concerned Cinema Halls, shopping centres
6	All Dept.	Departmental Disaster Management Plan	Sept	Nov	20,000	DDMA
7	All Dept.	Community Disaster Management Plan	May	June	5,00,000	DDMA

The primary objectives of the initiative shall be:

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

#### **5.5 Disaster Resource Inventory:**

In a scenario of total damage due to disasters like earthquake or tornado, all communication system disrupts and disaster managers become armless in fighting the calamity. To overcome such obstacle, Government of India has developed disaster management portals which facilitate the disaster managers and administrators to track down resource stocks in the country or at least in the neighbouring area. This Website, called **www.idrn.gov.nic.in**, basically intended to gather data from the government resources. Data are collected from local units and line departments and uploaded by the District Administration after verification and scrutiny. Each government department in the district shall take part in updating this portal regularly. They shall give information on fresh procurement of equipment's, manpower and technologies to the District Emergency Operation Centre, Bargarh in the prescribed format in every three month. Details of Departments IDRN data uploaded given below.

1. Fire Department
2. Police Department
3. Health Department
4. Forest Department
5. Electric Department



### 5.6 Enforcing Existing Codes and Laws:

Government have developed codes to monitor the construction practices in the district. Bureau of India Standards, National Building codes of India and subsequent amendments in various acts provides sufficient legal protection to the enforcing agencies for safe construction practices. The major government bodies undertaking construction and grant permission to the private must ensure that structural safety measures are followed well.

### 5.7 Mitigation Plan:



**Step 1:** From the start, communities should focus on the resources needed for a successful mitigation planning process. Essential steps include identifying and organizing interested members of the community as well as the technical expertise required during the planning process.

**Step 2:** Next, communities need to identify the characteristics and potential consequences of hazards. It is important to understand how much of the community can be affected by specific hazards and what the impacts would be on important community assets.

**Step 3:** Armed with an understanding of the risks posed by hazards, communities need to determine what their priorities should be and then look at possible ways to avoid or minimize the undesired effects. The result is a hazard mitigation plan and strategy for implementation.

**Step 4:** Communities can bring the plan to life in a variety of ways, ranging from implementing specific mitigation projects to changes in day-to-day organizational operations. To ensure the success of an ongoing program, it is critical that the plan remains relevant. Thus, it is important to conduct periodic evaluations and make revisions as needed.

### 5.8 Integration DRR Activities in various schemes:

Disaster Management Plan (DMP) refers to the measures used to reduce direct, indirect and intangible disaster losses. The measures may be technical, economic or social. DMP encompasses the two aspects of a disaster reduction strategy: “Migration and Preparedness”. Migration refers to measures aimed at reducing the risk, impact or effects of a disaster or threatening disaster situation, where as preparedness refers to the measures undertaken to ensure the readiness and ability of a society to forecast and take precautionary measures in advance of imminent threat, respond and cope with the effects of a disaster by organising and delivering timely and effective rescue, relief and other post-disaster assistance. ‘Mainstreaming DMP’ describes a process to fully incorporate the concerns of disaster preparedness, prevention and migration into development and post disaster recovery policy and practice. It means completely institutionalizing DMP within the development and recovery agenda.

Disaster risk can best be addressed through integrating into the developmental planning, programmes and processes. The mapping of hazards, identification of elements at risk and exposure data assists in quantifying risk. Thereafter risk reduction initiatives can be taken. Mainstreaming DMP is a prerequisite for safe and sustainable development.

Possible DRR activities which can be taken up under various schemes are reflected below,

**Table 5-6 Possible activities for DRR**

Sl. No.	Scheme	Possible Activities for DRR
1	MGNREGS	Drought and Flood protection measures Utilization of funds to reduce the vulnerability of Panchayat are as natural Hazards such as landslide, drought, forest fire, cloud burst, flash floods, earthquake etc.
2	IAY	Construction of fire proof and earthquake resistance house
3	GGY	Strengthen relief lines and drainage, restoration of power distribution station,
4	Finance Commission Assistance	1. Building capacity in the administrative machinery for better handling of disaster risk response and for preparation of District Disaster Management Plans (DMPs) as envisaged in the Disaster Management Act (2005). 2. Relief requirements of a severe calamity could not be met

		from state resources. 3. Special budgetary allocation on disaster preparedness and mitigation measures.
5	NRHM	Control of epidemics, immunization etc.
6	PMKSY	Protective irrigation to all agricultural farm and flood control measures, strength embankment of water bodies
7	JALNIDHI	Drought mitigation measures through creation of captive irrigation sources through shallow tube wells, bore wells, dug wells and river lift projects
8	NFSM (Rice)	1. Integration with the district plan and fixed targets for each identified pockets of the district. 2. Promotion and extension of improved technologies i.e., seed, Integrated Nutrient Management including micronutrients, soil amendments, Integrated Pest Management (IPM) and resource conservation technologies along with capacity building of farmers; 3. Supply of diesel pump sets during drought
9	RKVY	1. Preparation of agriculture plans for the districts and the States based on agro-climatic conditions, availability of technology and natural resources; 2. Development of structures for to mitigate various disaster related to agricultural, horticultural and veterinary
10	Biju KBK	Building rural infrastructure on Bijli, Sadak, Pani (e.g., critical roads and bridges, village electrification, minor irrigation projects, tanks, watershed and afforestation.
11	MPLAD/MLALAD	Guard wall to check soil erosion
12	Western Odisha Development Council (WODC)	Construction critical road & communication, minor irrigation, construction of check dams, installation of LIPs, water supply schemes etc.
13	National Afforestation Programme through FDA,s	Afforestation, control & prevention of forest fire and trench and structural measures to control soil erosion.
14	Minikit Programme, Enrichment of Crop	Promotion of perennial roots & slips for fodder development

	residue and Departmental Fodder farms	during drought.
15	Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY): / Biju Gram Jyoti Yojana (BGJY)	To provide access to un-electrified villages
16	Odisha Power Sector Improvement Projects	Projects like Disaster Response Centre, Disaster Resilient Power System , District Headquarter Projects for reliable and un-interrupted power supply to the consumers during natural shocks

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## CHAPTER-6 CLIMATE CHANGE

### Climate Change

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

Greenhouse gases (GHGs) are trace gases in the atmosphere that absorb and emit long wave radiation. They naturally blanket the earth and keep it at about 33° C warmer than it would be without these gases in the atmosphere. The table features the seven most important greenhouse gases as regulated under the Kyoto Protocol. The seven gases each have a different capacity to trap heat in the atmosphere, or a so-called “*global warming potential*” (GWP). They all belong to the group of long-lived greenhouse gases (LLGHGs), because they are chemically stable and persist in the atmosphere over time scales of a decade to centuries or longer, so that their emission has a long-term influence on climate. Some of the GHGs occur naturally (e.g. CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O) but increases in their atmospheric concentrations over the last 250 years are due largely to human activities. Other greenhouse gases are entirely the result of human activities (e.g. HFCs, PFCs, SF<sub>6</sub> and NF<sub>3</sub>).

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

### 1. Important Green house Gases: Carbon Dioxide (CO<sub>2</sub>)

Most important greenhouse gas (contributes ~64% to total radioactive forcing by long-lived GHGs). Half of CO<sub>2</sub> emitted by human activities is being absorbed in the biosphere and in the oceans. Rest remains in the atmosphere for hundreds to thousands of years

The most important anthropogenic GHG is carbon dioxide (CO<sub>2</sub>). It accounts for around 64% of total radioactive forcing due to LLGHGs. Carbon dioxide does not have a specific lifetime because it is continuously cycled between the atmosphere, oceans and land biosphere and its net removal from the atmosphere involves a range of processes with different time scales. CO<sub>2</sub> is primarily emitted as a result of burning of fossil fuels, deforestation and forest degradation and iron and steel production. Oceans and forests are the main sequesters of carbon i.e. sinks that can absorb CO<sub>2</sub> from the atmosphere. Carbon dioxide is the gas to which all other gases are compared when speaking of Global Warming Potential. Emissions of other greenhouse gases can be converted into *CO<sub>2</sub> equivalent emissions*.

Sl No	Name of the Industrie/Plant/Firm	Location	Quantity of Co2 emission (PPM)	Ranking as per CO2 Emission (in the district)	Other major pollutants emitted (PPM)	Action taken for cutting down émission

### 2. Important Green house Gases: Methane (CH<sub>4</sub>)

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

The second most significant anthropogenic GHG is methane (CH<sub>4</sub>) which contributes to approximately 18% of total radioactive forcing due to LLGHGs. Approximately 40% of methane is emitted into the atmosphere by natural sources (e.g. wetlands and termites). About 60% comes from human activities (e.g. cattle breeding, rice agriculture, fossil fuel exploitation, landfills and biomass burning). Methane is mostly removed from the atmosphere by chemical

reactions, persisting for about 12 years. Thus although methane is an important greenhouse gas, its effect is relatively short-lived.

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

### 3. Important Green house Gases: Nitrous Oxide (N<sub>2</sub>O)

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

Nitrous oxide is the third most significant GHG, contributing to about 6% of radioactive forcing due to LLGHGs. The primary human sources of N<sub>2</sub>O are fertilizer production and use in agriculture and various industrial processes. It is estimated that N<sub>2</sub>O stays in the atmosphere for an estimated 114 years. Its impact on climate, over a 100-year period, is 298 times greater than equal emissions of carbon dioxide. It also plays an important role in the destruction of the stratospheric ozone layer which protects us from the harmful ultraviolet rays of the sun.

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

### 4. Important Green house Gases: Fluorinated Gases

Global warming effect up to 23,000 times greater than carbon dioxide. Stay in the atmosphere up to 50,000 years. Three main groups: hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF<sub>6</sub>). Mainly developed as substitutes for ozone-depleting substances

Fluorinated gases are a family of man-made gases used in a range of industrial applications. Sources include refrigerants, air-conditioning, solvents, aluminium and magnesium production, etc. Many fluorinated gases have very high global warming potentials (GWPs) relative to other greenhouse gases. That means small atmospheric concentrations can have large effects on global temperatures. They can also have long atmospheric lifetimes, in some cases, lasting thousands of years. Fluorinated gases are removed from the atmosphere only when they are destroyed by sunlight in the far upper atmosphere. In general, fluorinated gases are the most potent and longest lasting type of greenhouse gases emitted by human activities. There are three main categories of fluorinated gases: hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF<sub>6</sub>).

EPA website

- Hydrofluorocarbons (HFCs) are the most common group of *F-gases*. They are used in various sectors and applications, such as refrigerants in refrigeration, air-conditioning and heat pump equipment; as blowing agents for foams; as solvents; and in fire extinguishers and aerosol sprays.
- Perfluorocarbons (PFCs) are typically used in the electronics sector (for example for plasma cleaning of silicon wafers) as well as in the cosmetic and pharmaceutical industry. In the past PFCs were also used in fire extinguishers and can still be found in older fire protection systems.
- Sulphur hexafluoride (SF<sub>6</sub>) is used mainly as an insulating gas, in high voltage switchgear and in the production of magnesium and aluminium.

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

### 5. Important Green House Gases: Chlorofluorocarbons (CFCs) - Montreal Protocol

Chlorofluorocarbons (CFCs) an important Green House Gas contribute about 12% to radioactive forcing by long-lived GHGshas not been included in the Kyoto Protocol because they are already regulated under the Montreal Protocol on Substances that Deplete the Ozone



Layer which entered into force in 1989. The Montreal Protocol includes, for example, chlorofluorocarbons (CFCs) which contribute about 12% to total radiative forcing by LLGHGs. CFCs can stay in the atmosphere for more than 1,000 years. CFCs have a global warming potential (GWP) that ranges between 4,750 and 14,400 (over 100 years time span). CFCs are used in the manufacture of aerosol sprays, blowing agents for foams and packing materials, as solvents, and as refrigerants.

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

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

WMO (2013). Greenhouse Gas Bulletin

### Green House Gas Sequestration

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

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

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

### Major Greenhouse Gases Contributors (Anthropogenic) to Climate Change

Greenhouse Gas	Human Source (Examples)	% of Total Global GHG Emissions (2010)
Carbon dioxide (CO <sub>2</sub> )	Fossil fuel combustion, land use changes, cement production, etc	76%
Methane (CH <sub>4</sub> )	Fossil fuel mining/distribution, livestock, rice agriculture, landfills, etc	16%
Nitrous oxide (N <sub>2</sub> O)	Agriculture (fertilisers) and associated land use change, etc	6%
Hydrofluorocarbons (e.g. HFCs)	Liquid coolants, etc	< 2%
Perfluorocarbons (e.g. PFCs)	Refrigerant, electronics industry and aluminium industry, etc	< 2%
Sulphur hexafluoride (SF <sub>6</sub> )	Insulator in electronics and magnesium industry, etc	< 2%
Nitrogen trifluoride (NF <sub>3</sub> )	Electronics and photovoltaic industries, etc	< 2%

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

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

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

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

**Further information:**

The 2°C target is not universally agreed. Small Island Developing States (SIDS) and Least Developed Countries (LDCs) have identified global warming of 1.5°C as warming above which there would be serious threats to their own development and, in some cases, survival.

Details of forest as a major Carbon sink (District)

Reserved Forest / Protected Forest (in Sq. KM)	Revenue / Village Forest (in Sq. KM)	Private Owned Forests	Others (If any)

**Sectors with High Mitigation Potential**

SI No	Sectors	Mitigation Options
1	Energy	<ul style="list-style-type: none"> <li>• Use of renewable heat and power (hydropower, solar, wind, geothermal and bioenergy)</li> <li>• Improved supply and distribution efficiency</li> <li>• Carbon capture storage (CCS)</li> <li>• Combined heat and power</li> </ul>
	Transport	<ul style="list-style-type: none"> <li>• More fuel efficient vehicles</li> <li>• Use of alternative energy sources (biofuels, cleaner diesel, etc.)</li> <li>• Better land-use and transport planning</li> <li>• Shift from individual transport to public transport systems</li> <li>• More efficient driving practices</li> <li>• Non-motorized transport (cycling, walking)</li> </ul>
	Industry	<ul style="list-style-type: none"> <li>• Process-specific technologies that improve efficiency and reduce emissions</li> <li>• Material recycling and substitution</li> <li>• Heat and power recovery/cogeneration</li> <li>• Control of greenhouse gas emissions</li> </ul>
	Agriculture	<ul style="list-style-type: none"> <li>• Manure and livestock management to reduce CH<sub>4</sub> emissions</li> </ul>

		<ul style="list-style-type: none"> <li>• Improved fertilizer application techniques to reduce N<sub>2</sub>O emissions</li> <li>• Improved crop and grazing land management to increase soil carbon storage</li> <li>• Restoration of cultivated peaty soils and degraded lands</li> <li>• Agro-forestry practices</li> </ul>
	Forestry	<ul style="list-style-type: none"> <li>• Reduced deforestation</li> <li>• Afforestation/reforestation</li> <li>• Forest management</li> <li>• Tree species improvement to increase biomass productivity and carbon sequestration</li> </ul>
	Waste	<ul style="list-style-type: none"> <li>• Landfill methane recovery</li> <li>• Waste incineration with energy recovery</li> <li>• Composting of organic waste</li> <li>• Controlled wastewater treatment</li> <li>• Recycling and waste minimization</li> <li>• Biocovers and biofilters to optimize CH<sub>4</sub> oxidation</li> </ul>

**Sector specific climate change Mitigation Projects:**

Sl No	Sector	Project Title	Period		Mitigation Targets
			From	To	

N.B.: Please fill in the below table with Project undertaken exclusively for Climate Change Mitigation

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## CHAPTER-7 SAFETY OF SCHOOLS AND CHILD CARE INSTITUTIONS

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

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

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

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

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

<b>State &amp; District Level</b>	<b>School Level:</b>
<ul style="list-style-type: none"> <li>• Policy for safety audits in all schools</li> <li>• 'Stability certificate' by Government-certified engineer.</li> <li>• Manual for fire safety procedures and other safety precautions</li> <li>• The National Building Code of India, 2005, to construct fire-safe buildings. (Revised 2016)</li> </ul>	<ul style="list-style-type: none"> <li>• Schools must take appropriate safety measures and an emergency response plan that delineates staff responsibilities, communication modes, and training and updating procedures for all members of the faculty, staff and students.</li> <li>• Fire insurance coverage should be made mandatory for all schools.</li> <li>• Ensuring that the kitchen in the precincts of the school has adequate safety mechanisms.</li> </ul>

**Ref. :** Fire Safety Measures in Schools (Section 3.1 p-23) / Training of School Teachers & Other Staff (Section 3.1 p-25) / School Building Specifications (Section 3.1 p-27) Clearance & Certificates (Section 3.1 p-29) SC. *Judgement on WP(C) 483/2004*

### **Guidelines on School Safety Policy, 2016- NDMA**

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

#### **Vision:**

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

#### **Approach and Objectives:**

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

#### **Applicability:**

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

**All hazard approach:**

- School Safety efforts needs to take cognizance of all kinds of hazards that may affect the wellbeing of children.
- Hazards include structural and non-structural factors.
- Structural factors include dilapidated buildings, poorly designed structures, faulty construction, poorly maintained infrastructure, loose building elements, etc.
- Non Structural factors include loosely placed heavy objects such as almirahs, infestation of the campus by snakes and any other pests, broken or no boundary walls, uneven flooring, blocked evacuation routes, poorly designed and placed furniture that may cause accidents and injury, inadequate sanitation facilities, etc.

**National Policy Instruments**

1. Constitution of India
2. National Policy on Children -2013
3. Disaster Management Act- 2005
4. National Policy on Disaster Management-2009
5. National Policy on Education (NPE)- 1968 Revised in 1992
6. Right to Education Act- 2009
7. National Building Code of India- 2005 (Revised 2016)
8. Honourable Supreme Court of India- Judgement of April 13<sup>th</sup> , 2009 on writ Petition (Civil) no. 483 of 2004

**Right to Education Act 2009:-**

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

**Key Action Areas**

**1. Institutional strengthening at the State & District levels**

- Co-opting senior officials of the Department of Education in SDMA and DDMA.
- Nomination of School Safety Focal Point Teacher & Sensitization of School Management Committee on DM.

**2. Planning for Safety**

- Structural Measures (including sitting, design and detailing for structural safety).
- Non structural Measures.
- Preparation & implementation of School Disaster Management Plan.
- Leveraging existing flagship programmes to make school campus safer.

**3. Capacity Building for safe Schools**

- Training for students and school staff
- Specialized training and skill building of Education officers, representatives of SCERT and DIET, SDMA, DDMA, etc on school safety
- Mock Drills

**4. Disaster Management in Core Curriculum**

**5. Regular monitoring of risk and revision of School Safety Plans (including Safety Audits & Availability of Emergency Equipment).**

**Basic Information**

**Category & type of schools**

Name of the Block	Government Schools				Government Aided schools		Private Schools	
	Elementary		Secondary		Elementary	Secondary	Elementary	Secondary
	Rural	Urban	Rural	Urban				



### Category & Type of Students

Name of the Block	Government Schools				Government Aided schools		Private Schools	
	Elementary		Secondary		Elementary	Secondary	Elementary	Secondary
	Rural	Urban	Rural	Urban				

### School Safety Advisory Committee (District)

1. Date of Formation
2. Institutional Architecture

Sl No	Name & Designation	Contact No.	Email ID	Remarks

### Details of School Safety in the District

Sl No	Activity	Total School	Achieved				
			Block 1	Block 2	Block 3	Block 4	Total
1	Schools having School Safety Advisory Committee ( <b>Number</b> )						
2	Schools having Scholl Disaster management Plan ( <b>Number</b> )						
3	Schools having conducted Safety Audits (Structural) ( <b>Number</b> )						
b	Safety Audits (Non-Structural) ( <b>Number</b> )						

4	Schools having conducted Annual Mock Drills ( <b>Number</b> )						
5	Schools Having Fire Extinguisher ( <b>Number</b> )						
6	Schools Adhering to safety norms in storing inflammable & Toxic Material ( <b>Number</b> )						
7	Schools confirming safety standards as per local building bye-laws (Latest) ( <b>Number</b> )						
8	Schools having issued Recognition certificate under sub Rule(4)-Rule 15 of RTE rules 2010 (only to schools that comply with Structural safety norms) ( <b>Number</b> )						
9	Schools where students & teachers undergo regular training on School Safety & Disaster Preparedness ( <b>Number</b> )						
10	Schools where disaster management is being taught as part of the curriculum ( <b>Number</b> )						

Action	By Whom	When / frequency
<b>1. Strengthening Institutional Commitment to Safe Learning Environment for Children</b>		
i. Issue of guidelines and instructions relating to School Safety and monitor compliance by the State	Ministry of Human Resource Development	As and when required
<b>1. Monitoring School Safety</b>		
i. Monitor implementation of National School Safety Policy Guidelines	MHRD & NDMA	Yearly

**National Level**

Action	By Whom	When / frequency
<b>Strengthening Institutional Commitment to Safe Learning Environment for Children</b>		
Co-opt senior officials of the Department of Education at the state level as part of SDMA	SDMA	Immediate, one time
Form a School Safety Advisory Committee at the state level to advise the Education Department on the subject.	SDMA / Department of Education	Immediate, one time
Focus on educational infrastructure and supportive action thereof, within State Disaster Management Plans	SDMA	Yearly
Advise DDMA's to constitute Advisory Committee on School Safety at the district level	SDMA	Immediate, one time
<b>Planning For Safety</b>		
Prepare district-wise inventory of schools to be made safer	SDMA / Department of Education	Immediate, one time
Mainstream Disaster Risk Reduction related works under SSA / RMSA	SPD- SSA / RMSA	Yearly
Ensure school safety concerns are included in the State Disaster Management Plans	SDMA / Department of Education	Yearly
Review District Disaster Management Plans to make sure school safety is given due attention	SDMA	Yearly
<b>Implementation Of Safety Actions</b>		
Appoint a panel of technical agencies to advise schools on local adaptations in school design and national and state norms on school safety	Department of Education / SSA	Immediate, one time
<b>Capacity Building For School Safety</b>		
Develop Action plan with Health Department, SDRF / Red Cross for training for students and school staff, on different natural hazards, dos and don'ts of different disasters, first aid etc	SDMA / SEO/ SPD-SSA	Immediate, one time
Develop child friendly IEC material in the vernacular for developing the understanding of children on various hazards and dos and don'ts of response	SDMA / Department of Education	Yearly
Develop child friendly teaching material on school safety issues.	SCERT/ State Boards of Education	Yearly
Conduct Training of Trainers from BRC / URC / CRC for training teachers on school safety	SCERT / DEO	Yearly
Conduct Training of Trainers from BRC / URC / CRC for training teachers on psycho-social support	SCERT	Yearly
<b>Monitoring School Safety</b>		
Monitor Implementation of National School Safety Policy Guidelines at the state level	SDMA / Department of Education	Yearly

Action	By whom	When / frequency
<b>Strengthening institutional commitment to safe learning environment for children</b>		
Co-opt senior officials of the Department of Education at the district level as part of DDMA	District collector / DDMA	Immediate, one time
Ensure District Disaster Management Plans include a focus on educational infrastructure and supportive action thereof, within the district	District collector / DDMA	Yearly
Constitute a school safety advisory committee at the district level	District collector / DDMA	Immediate, one time
Establish a mechanism for monitoring safety parameters in all schools on a regular basis. Any existing monitoring formats shall essentially include parameters on school safety.	DEO	Immediate, one time
<b>Planning for safety</b>		
Ensure school safety concerns are included in the DDMP	DDMA	Yearly
Prepare design of child friendly spaces for emergencies in advance	DDMA	Yearly
Ensure all new schools include safety features	DEO	Immediate, one time
Prepare block-wise inventory of schools to be made safer (including physical condition of schools assessed through rapid visual screening or any other methodology for all relevant hazards )	DDMA	Immediate, one time
<b>Implementation of safety actions</b>		
Appoint technical agencies to advise schools on local adaptations in school design based on local conditions, in line with national and state norms on school safety at the district level	DEO	Immediate, one time
Ensure that all existing as well as new schools conform to safety standards as per the National Building Code and any other norms prescribed by the state government	DDMA	Immediate, on-going
Issue 'Recognition Certificate' under sub-rule (4) 15 of Right of Children to Free and Compulsory Education Rules, 2010 to only those schools that comply with safety norms	DEO	Immediate, on-going
Review progress on non-structural safety measures in schools	DEO	Immediate, on-

Action	By whom	When / frequency
<b>Capacity building for school safety</b>		
Training of all teachers / designates of the school through the Block Resource Centres / Urban Resource Centres / Cluster Resource Centres.	DEO	Quarterly
DIETs should also directly train teachers on safety aspects as part of their pre-service and in-service training programmes.	DEO / DIET	Quarterly
Train school safety focal point teachers on school safety concept and various activities related to execution of their responsibilities as the school safety focal point teachers.	BRC / URC / CRC	Quarterly
Training of teachers on psycho-social support for children affected by disasters	BRC / URC / CRC	Half yearly
Capacity building of SMC on different aspects of school safety in case of an imminent disaster, e.g. Sanitation and hygiene needs; first aid; handling fires etc.	BRC / URC / CRC	Quarterly
<b>Monitoring school safety</b>		
Evolve a mechanism for monitoring safety parameters in all schools on a regular basis. Any existing monitoring formats shall essentially include parameters on school safety.	DEO	Quarterly
Issue instructions to Block Education Officer or any other official as appropriate, for overseeing and facilitating school safety at the block level.	DEO / Department of Education	Immediate, one time

### TYPES OF CHILD CARE INSTITUTIONS AS PER THE JJ ACT-2015

Sl No.	Types	Institutions
1.	Section 50, JJ Act	Meant for care, treatment, education, training and rehabilitation of children in need of care and protection. Children's Homes are established by the State Government in every district or group of districts either by itself or through voluntary or non-governmental organizations.
2.	Open shelter Section 43, JJ Act	Meant for vulnerable children (homeless, street children, drug addicts, beggars etc.) in urban/semi-urban areas. It is a short-term community-based facility for children in need of residential support that protects them from abuse. Open shelter is established by the State Government either by itself or through voluntary or non-governmental organizations
3.	Observation Home Section 47, JJ Act	Meant for temporary reception, care and rehabilitation of children in conflict with law during pendency of any inquiry. Observation home is established by State Government in every district or group of districts either by itself or through voluntary or non-governmental organizations.

4.	Special Home Section 48, JJ Act	Meant for reception and rehabilitation of juvenile in conflict with law. Special home is established by State Government in every district or group of districts either by itself or through voluntary or non-governmental organizations
5.	Place of Safety Section 49, JJ Act	Any place or institution, other than a police lock-up or jail that can temporarily receive and take care of children alleged or found to be in conflict with law. The institution is meant for a person above the age of 18 years or a child between 16 to 18 years of age who is accused of or convicted for committing a heinous crime. Place of safety is set up by state government either separately or attached to an observation home or special home, with separate arrangement and facilities for children or persons during the process of inquiry and those convicted of committing an offence. Section 49 (1) of JJ Act 2015, contains provision for setting up at least one place of safety in a state by the state government.
6.	Home for Special Needs Children Sections 50 (2), 53 (ii) & (iii), JJ Act 2015)	For children with special needs (infected/affected by HIV/AIDS, drug addicts and mentally/physically challenged), either in the form of a specialized unit within an existing home or a specialized shelter home for the purpose. The JJ Act 2015 states that 'the State government shall designate any Children's Home as a home fit for children with special needs delivering specialised services, depending on requirement'.
7.	Fit Facility (Section 51 (1), JJ Act 2015, and Rules 23 (13) & 27, JJ Rules 2016)	Refers to facility being run by a Governmental organisation or a voluntary or non-governmental organisation registered under any law for the time being in force to be fit to temporarily take the responsibility of a child for a specific purpose. It also includes facilities
8.	Specialized Adoption Agency (Section 65, JJ Act 2015)	An institution established by the State Government or by a voluntary/non governmental organisation for housing orphans, abandoned and surrendered children, placed there by order of the CWC, for the purpose of adoption.

Details of Child Care Institutions in Bargarh District

Sl No.	Name and Address of the Organization	Boys	Girls	Total No of Children	Name and Contact no. of the Shift-in-Charge	Fire Safety Equipments (Fire Extinguisher, Alarm)	Staff Training on Fire Safety Equipment	Nearby open space for evacuation	Alternative Shelters
1	Diptipur Hostels, Diptipur, Padampur	18	60	78	Asha Suna, Contact No-9938200863	No	Yes	Yes	Yes
2	Happy Home, Tora, Bargarh	18	0	18	S. Jayraj, Contact No-8987425627	Yes	Yes	Yes	Yes
3	Bimaladevi Anathashram, Bargarh	12	18	30	Sushil Agrawal, Contact No-8984562738	No	Yes	Yes	Yes
4	Gopandhu Sevasadan, Gopalpali, Janked, Gaisilat	18	12	30	Bhagabana Sahu, Contact No-9777753841	No	Yes	Yes	Yes
5	Kasturaba Gandhi Matru Niketan, Paikmal	33	86	119	Nirmala Kumar Giri, Contact No-958355559	Yes	Yes	Yes	Yes
6	Shrikrishnanda Anathashram	29	0	29	Sadananda Karan, Contact No-9937646305	No	Yes	Yes	Yes
7	Mera Upaya Sevashram, Paikaml	14	3	17	Jyotish Sricha, Contact No-9971821667	No	Yes	Yes	Yes
8	Good News India, Dream Centre (Happy and Holy Home, Tora,	13	32	45	Simon Nanda, Contact No-7873079007	No	Yes	Yes	Yes
	<b>Total</b>	<b>155</b>	<b>211</b>	<b>366</b>					

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## CHAPTER-8 CAPACITY BUILDING MEASURES

### Approach

Developing a DDMP without building capacity or raising awareness amongst stakeholders can be detrimental to the development of a successful and sustainable plan. It helps the target group to acquire a set of pre-designed knowledge, skill and attitude which would result in changes in the behaviour to tide over the identified deficiencies. A systematic approach to capacity building would there begin with analyzing the areas of shortfall from desired behaviour of the target group under a certain situation. This analysis would then lead to a designed input which would fulfil the target group and help them to move towards a desired behaviour. 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.

### 8.1 Capacity Building of Govt. Officials, PRI Members etc.:

A series of training programmes will be organized for specialized groups like, district DDMTs, sub division and community level office bearers, head masters and principals, doctors and engineers, architects and masons and builders and contractors etc. All walks of people will be trained. This can even be on construction of buildings and other structures earth quake resistant.

- District will identify sensitization as one of the best tools to create awareness programme and preparation of Community Based Disaster Management planning. In this respect the DDMA will organize a series of programmes for the community people, school and NGOs.
- There are organizations like Civil Defence, NYK, NCC, NSS etc. which have thousands of volunteers from each nook and corners of the district. The district will train their volunteers and the wardens of these bodies in the district, thus people from



various corners will be trained and sensitized in disaster management and this can make a magnifying result.

- For better sustainability of disaster management, the DDMA will think of training Civil Defence & Home Guard, NYK, NCC and NSS volunteers at the cost of the district administration and they shall be given certificate of training, identity cards as disaster managers.
- Training programmes will be organized with NGOs/CBOs in the district or they shall be funded for organizing such programmes. Corporate sponsors/Banks shall be contacted to hold such massive training programmes.

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

**Table 8-1 Capacity Building Plan**

Sl. No	Name of the Course/ Training Programme	Participants	Duration of the Training Programme	Month of Organization	To be Organized by
1	Orientation training programme on disaster management	ADM, Sub-Collector All BDOs, Tahasildars, Head of line departments, Police & Fire Dept. etc.	½ day	March	DDMA/ Collector
2	Training programme on heat wave preparedness	All BDOs/ EE RWS &S, CDMO, CDVO, NGOs, etc.	1 day	March	DDMA/ Collector
3	Hospital preparedness and mass causality management including hospital management plan	Doctors and Hospital Administrators		March	CDMO

4	Training programme on treating heat wave related health issues	Doctors and Paramedical Staff/ ANMs	1 day	March	CDMO
5	Mass Casualty Management.	Para Medics/Police/ RPF/Home Guard/Fire and Civil Defense/ Railway Officials			DDMA
6	Earth quake resistant construction	Asst. Engineers & JEs	1 day	Feb	DDMA
7	Post disaster damage assessment	AEs of all Blocks and line departments	1 day	Sept	DDMA
8	GIS mapping of Utilities	Block Computer Programmers, Line Department MIS officials	1 day	Sept	PD,DRDA/ PD Watershed/ MMDA
9	Public health in emergencies- safe drinking water and sanitation	All BDOs, Block and district level officials of PHED/ RWS & S Dept.	1 day	March	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	Oct	DEO
11	Role of PRIs and ULBs in disaster management.	Members of ZP and ULBs, Chairman & Vice Chairman of PS.	1 day	Nov	DDMA/ Collector

12	Block level training programmes on role of PRIs in disaster management	Sarapanchas & PS members	1 day	Nov	BDO
13	Role of NGOs/VOs/CBOs in disaster management.	District and block level NGOs/ VOs involved with district administration in disaster management	1 day	Dec	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	July	District Culture Officer/ DIPRO
15	Search & rescue and safe evacuation.	Civil Defense Volunteers, NSS, NYK Volunteers, NCC	5 days	July	SP/ Asst. Commandant of the nearest ODRAF unit.
16	Training of Masons on earthquake resistant construction.	Selected masons	5 days	Nov	PD, DRDA/
					EE, R&B
17	Role of Media in Disaster Management	Media Personal	1 day	Dec	DIPRO
18	Training of POs, NSS on Social Services during Disaster	POs of NSS	1 days	Oct	DDMA
19	Drought Prevention and Mitigation	Progressive Farmers	3 days	June/Sept	DDA

20	Convergence and Livelihood Security: Post Disaster Strategies	Officials of the Line Dept.	3 days	Sept	PD, DRDA/DDA/DDMA
22	Mainstreaming DRR and CCA in Development Planning	All BDOs, Tahasildars, Head of line departments	2 Days	Feb	DDP/DDMA
23	Training and Mock drill of VDMC member	VDMC members and	3 days	June	DDMA
24	Training of SMC-cum-Shelter Management Committee	SMC members and GP functionaries	1 days	June	DDMA

### 8.2 Table top Exercise:

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

### 8.3 District/ Block level Mock Drills:

Periodic mock drills will be organized involving district and block level officials/ institutions to assess the capacity and preparedness to face certain disasters. Issues faces during Mock Drill and recommendation will be incorporated in updating of DDMP. DDMP, 2017 recommends following mock drill during 2017-18.

Table 8-2 Proposed Mock Drills

Sl.	Type of Mock Drill	Officials/ Institutions to be involved	Month/ Date
1	Industrial Accidents/ Industry Specific Mock drills	ACC Cement Factory, Bardol, Bargarh/Key Officials of line department	March/ Sept
2	Fire Accident	Fire Service, School. Colleges, ODRAF	April
3	Public Gathering	Police, Fire	September
4	Flood	ODRAF/ Flood Shelter	June

#### 8.4 Disaster Management Education (School Safety and School Disaster Preparedness):

All educational Institutions (Both Govt. and Private) which are functioning in the districts may include organizing awareness generation programmes in schools and colleges and conducting basic mock drills for fire and other disasters. For the purpose, DDMP, 2017 proposed the following programme under Disaster management Education (School Safety and School Disaster Preparedness).

Table 8-3 Proposed School Safety and School Disaster Preparedness

Sl. No.	Name of the Programme	No. of Schools, Colleges and Other Educational institutions to be covered during the year	Time Line	Remarks
1	Awareness generation and mock drills for fire/ earth quake etc.	12	Sept-Oct	Major Colleges and High Schools at Sub-Divisional level
2	Preparation of School disaster management plan	10	July-Aug	Major Colleges and High Schools at Sub-Divisional level
3	District level Quiz/ painting/ debate competitions on DM	Based on the nomination received from the BEOs/DEO	Oct	District level

### 8.5 Community Capacity Building and Community Based Disaster Management:

The district has identified 1185 inhabited villages including 38 inaccessible pockets. During 2017-18, VDMC will be constituted and strengthened in 250 villages (20%). Nature of capacity building programme will be prioritised depending the type and intensity of disaster. Villages with multi-hazard vulnerability towards drought, flood, heat waves, and fire incidents will be selected in the first phase on phase manner. Utmost care will be given to include persons having prior experience as a member of the VDMC. Blocks wise numbers of villages and members to be covered under 2017-18 is as follows.

**Table 8-4 Proposed CBDM**

Sl. No.	Block Name	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	Attabira	20	200	1	1 <sup>st</sup> week of August	VDMC and rescue team will be constituted and trained
2	Bheden	25	250			
3	Bargarh	20	200	1	1 <sup>st</sup> week of August	
4	Barpali	20	200			
5	Bhatli	20	200	1	2 <sup>nd</sup> week of August	
6	Ambhabana	25	250			
7	Paikmal	20	200			
8	Padampur	20	200	1	3 <sup>rd</sup> week of August	
9	Gaisilet	20	200			
10	Bijepur	20	200			
11	Sohela	20	200	1	4 <sup>th</sup> week of August	
12	Jharbandha	20	200			
Total		250	2500	5		

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

The district has 3 flood Shelters. BNRGSK building and schools of the villages would also be used as a flood/cyclone shelters. Thus, School Management Committees and GP functionaries

(PRIs, PEO, GRS and GS) shall be entrusted to maintain the identified shelters at village. Task force shall be formed from the village youths.

**Table 8-5 Shelter level mock drills:**

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	School Management Committee-cum-Shelter Management Committee	380	10	Oct-Dec	NGO may be engaged to facilitate the process.

Sl. No.	Type	No. of Flood Shelters to be covered	No. of villages to be covered.	Month/ Date
1	Flood Mock drill at Flood Shelters	3	3	1 <sup>st</sup> week of June
2	Flood Mock drill at Schools	38	38	2 <sup>nd</sup> week of June

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## CHAPTER-9 PREPAREDNESS

### 9.1 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	Bargarh	Jharbandh	Bituminus Road & 135 K.M.	No	4
2	Bargarh	Bijepur	Bituminus Road & 25 K.M.	No	1
3	Bargarh	Bhukta	SH 45 km	No	2
4	Bargarh	Gaisilet	MDR - 70 KM	No	3

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

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
1	Jharbandh	Kumir via Jagdalpur	Bituminus & Partly Hilly Terrain	Jagdarpur to Sankunjari, Chiroli	Sankunjari, Chiroli	2000
2	Cherengamunda (Bijepur)	Satbandh	Earth & 1.5 K.M.	Heavy rain	1	591
3	Bhukta	Chikhili	9 km	Heavy rain	1	
4	Bhukta	Beniapali	8 km	Heavy rain	1	
5	Bhukta	Antaradi	5 km	Heavy rain	1	
6	Gaisilet	Changaria & Jankeda	PWD & 10 Km	Nil	2	1936



7	Lakhmara	Chardapali	Ang River Moorum Road	Cross the Ang river by Boat	Chardapali Changiria Gundichadihi Lahandipur Luhurakot	3153
8	Lakhmara	Saraikela	Ang River Moorum Road	Cross the Ang river by Boat	Saraikela Baitalbhata Sambalpur Sukulipahad	4911
9	PDM	Gaisilat	RD Road & 13 KM		Banupali & Sampia	

### 9.3 Resources available: Response force & Volunteers:

Sl. No	Response Force/	Capacity (In Nos.)	No. of trained person			Name of Nodal Person	Contact Details (Mobile/Phone)
			Search /Rescue	First Aid	Relief line Clearance		
1	NDRF	-		-		M.K. Yadav	09439103170
2	ODRAF	41 (50)		41		Ashish Kumar Singh, IPS	8895046814
3	Police	834 (Including 100 OAPF)		0		D. Marandi	9437977249
4	Home Guards	399		0		D. Marandi	9437977249
5	Civil Defense	0		0		-	-

6	NCC	500	0	Pandav Behera	
7	NSS	1000	0	Meena Kumari Meher	
8	NYK	24	0	Sri. Marianus Bilund	9437992855
9	Trained Task force	0			

#### 9.4 Preparedness at District level:

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

Task	Activity
District Emergency operation Centre (DEOC)	<ul style="list-style-type: none"> <li>➤ Test Check up of all communication Interfaces in regular interval</li> <li>➤ Proper manning of the Control Room as per Para-10 of the Odisha Relief Code</li> <li>➤ A dedicated vehicle must be earmarked for Control Room</li> </ul>
Upward & Downward Communication	<ul style="list-style-type: none"> <li>➤ Have a list of Nodal person with contact details</li> <li>➤ Establish regular linkages with all important stakeholders</li> <li>➤ Contact SEOC regularly</li> </ul>
Meeting of DDMA (Heads of the department & stakeholder)	<ul style="list-style-type: none"> <li>➤ DDMA must meet twice every year &amp; before any disaster</li> <li>➤ Fix time &amp; venue for regular Preparedness meeting to Assess preparedness of District /Department /Civil Society /Block Community /Family /Individual level regularly</li> <li>➤ Circulate the minutes of the meeting with clear-cut role &amp; responsibility</li> </ul>

Capacity Building	<ul style="list-style-type: none"> <li>➤ Identifying &amp; designating Nodal Officer for different Dept.</li> <li>➤ Capacity building &amp; skill upgradation of ODRAF/Fire services/ Police/Home Guard</li> <li>➤ Identify Volunteer like Civil Defense/Cyclone shelter Task Force/NCC/NSS/Scout &amp; Guide &amp; train them on Search &amp; Rescue, First aid, evacuation etc.</li> <li>➤ Take stake of required materials for search &amp; rescue, first aid, casualty management, evacuation, relief etc. &amp; update IDRN portal regularly</li> <li>➤ Assess preparedness through Mock drill at District, Block &amp; Community level</li> </ul>
Shelter Management	<ul style="list-style-type: none"> <li>➤ Take necessary steps for operation &amp; maintenance of shelters</li> <li>➤ Test Check of various Equipment at shelter level &amp; repair of the defective ones</li> <li>➤ Ensure regular meeting of Shelter committee</li> <li>➤ Assess Shelter level preparedness through Mock drill I</li> </ul>
Planning & Reporting	<ul style="list-style-type: none"> <li>➤ Collect &amp; transmit Rain fall data regularly</li> <li>➤ Collect &amp; transmit weather report regularly</li> <li>➤ Ensure preparation of Disaster Management Plans &amp; Safety plans at all levels</li> <li>➤ Capacity building of all Stake holders</li> <li>➤ Integrate the District plan with block &amp; Village disaster management Plans</li> <li>➤ Develop healthy media partnership</li> </ul>

### 9.5 Preparedness at Community Level:

Task	Activity
Early Warning Dissemination	<ul style="list-style-type: none"> <li>➤ Build regular linkages with BEOC &amp; DEOC</li> <li>➤ Test Check of various Equipment at shelter level &amp; repair of the defective ones</li> <li>➤ Keep updates from BEOC/DEOC</li> <li>➤ Monitor &amp; Transmit updates to BEOC</li> <li>➤ Supply required information to BEOC &amp; DEOC</li> </ul>
Ensuring Preparedness	<ul style="list-style-type: none"> <li>➤ Have a list of Nodal person deployed in the village with contact details</li> <li>➤ Identification of safer routes &amp; shelters</li> <li>➤ Identify possible ways to reach persons like Farmers/Fisherman/NTFP collectors etc. who ventures into fields, sea &amp; forest respectively</li> <li>➤ Build teams from among the task force on Search &amp; Rescue, First aid, Damage &amp; loss assessment</li> <li>➤ Assess preparedness at Family/Individual level</li> <li>➤ Test Check-up of equipment's</li> </ul>

	<ul style="list-style-type: none"> <li>➤ Understand Local dynamics exposed &amp; vulnerable to different disaster</li> <li>➤ local Social Economic &amp; weather conditions</li> <li>➤ Develop Village DM plan</li> <li>➤ List of emergency contact Nos. &amp; display it in Centre places.</li> <li>➤ Participate in the activities of Preparing village Disaster Management, developing Safety plans, Capacity building Programmes &amp; Mock Drills</li> </ul>
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### 9.6 Preparedness at Family Level:

Task	Activity
Warning Communication	<ul style="list-style-type: none"> <li>➤ List the minimum Important requirements Keep all the important Documents in a water proof polythene</li> <li>➤ Record the Safe &amp; alternative routes to shelter</li> <li>➤ Keep News update in Radio/TV</li> </ul>
Preparedness	<ul style="list-style-type: none"> <li>➤ 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 &amp; charger / radio</li> <li>➤ Family must have a “Ready to go First Aid Kit” containing Iodine/ Band aids/ Cotton/ Medicines/ ORS/ ointments/ scissor/ halogens etc.</li> <li>➤ Assess preparedness on a regular basis by checking Radio/Mobile/ Emergency Kit/First Aid Kit/Fuels &amp; Kerosene (as per need)</li> <li>➤ Replace the damaged outdated or expired materials with new ones.</li> </ul>
Capacity Building	<ul style="list-style-type: none"> <li>➤ Participate &amp; involve in the activities of village disaster Management plan, preparation of Safety plans, participate in Capacity building Programmes &amp; involve in Mock Drills</li> </ul>

### 9.7 Preparedness at Individual Level:

Task	Activity
Early Warning Dissemination	<ul style="list-style-type: none"> <li>➤ List &amp; keep a ready to go minimum Important requirements</li> <li>➤ Record the Safe &amp; alternative routes to shelter</li> <li>➤ Keep News update in Radio/TV</li> </ul>

Ensuring Preparedness	<ul style="list-style-type: none"> <li>➤ Every individual/children must have a Personal Identity information like a copy of Aadhar card/ Voter ID / School Identity Card &amp; Contact numbers of Preferably two who can be contacted in time of emergency</li> <li>➤ Family members especially kids must be sensitized about family gathering point during disaster &amp; crowded places</li> <li>➤ Assess preparedness on a regular basis by checking Radio/Mobile/ Emergency Kit/First Aid Kit/Fuels &amp; Kerosene (as per need)</li> </ul>
Capacity development	<ul style="list-style-type: none"> <li>➤ Participate &amp; involve in the activities of</li> <li>➤ Disaster Management</li> <li>➤ Safety plans</li> <li>➤ Capacity building Programmes</li> <li>➤ Mock Drills &amp; FAMEX</li> </ul>

### 9.8 Preparedness of Departments:

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

Name of the Department	Normal Time
Collector/ADM / Emergency Officer	<ul style="list-style-type: none"> <li>➤ Ensure regular meetings of District Disaster Management Authority</li> <li>➤ Develop &amp; update Disaster Management Plan, carry out Hazard analysis in the district</li> <li>➤ Identify safe alternate routes to cyclone shelters.</li> <li>➤ Keep a list of Contacts of EoCs, Nodal officer of different departments, Important stake holders, Village leaders, shelters</li> <li>➤ List of Relief lines &amp; storage places</li> <li>➤ List &amp; maintenance of SAR equipment</li> <li>➤ Capacity building of stakeholders &amp; volunteers</li> <li>➤ Asses preparedness through Mock Drills for different disasters at district department, block &amp; community level</li> <li>➤ Adopt sustainable mitigation measures</li> <li>➤ Integrate DM &amp; DRR features in development programmes</li> </ul>
CDMO	<ul style="list-style-type: none"> <li>➤ Disaster Management Plans &amp; Safety plans for Hospitals</li> <li>➤ Capacity building of Medical &amp; Para Medical Staffs</li> <li>➤ Assess preparedness through Mock Drills &amp; familiar exercises</li> <li>➤ Integrate department plans with plans with Village &amp; Block Plans and development programmes</li> <li>➤ Develop media partnership</li> <li>➤ Develop capacity of hospitals with advance equipment, proper manning &amp; disaster resilient infrastructures</li> </ul>

	<ul style="list-style-type: none"> <li>➤ Stock piling of Life saving drugs/ORS packets/Halogen tablets on receipt of warning from the Collector/DCR</li> <li>➤ Transmission of messages to all PHCs to stock medicines and keep the medical staff ready</li> <li>➤ Disease surveillance and transmission of reports to the higher authorities on a daily basis.</li> <li>➤ Vaccination.</li> <li>➤ To obtain and transmit information on natural calamities from the DCR</li> <li>➤ Advance inoculation programme in the flood/Cyclone prone areas.</li> <li>➤ Ensuring distribution of areas of operation among the mobile team.</li> <li>➤ Pre-distribution of basic medicines to the people who are likely to be affected</li> <li>➤ Shifting the patients who are in critical situation to the District Hospital</li> <li>➤ Awareness messages to stop the outbreak of epidemics</li> <li>➤ Conducting mock drills</li> </ul>
<p>Superintendent of Police (SP)</p>	<ul style="list-style-type: none"> <li>➤ Reception of Warning from the DCR</li> <li>➤ Communication establishment with District and Block/Tahasil Control rooms and departmental offices within the division.</li> <li>➤ Alerting the APR force for deployment at the time of calamity</li> <li>➤ To issue directive to police field functionaries to co-operate with Revenue Personnel in management of Relief operation.</li> </ul>
<p>EE- RWSS</p>	<ul style="list-style-type: none"> <li>➤ Review and update precautionary measures and procedures and review with staff the precautions that have been taken to protect equipment.</li> <li>➤ Within the affected block, all available personnel will be made available to the District Magistrate. If more personnel are required then out of station official or those on leave may be recalled.</li> <li>➤ Prepare plans for water distribution to all transit and relief camps, affected villages and cattle camps and ensure proper execution of these plans.</li> <li>➤ Inform people to store an emergency supply of drinking water</li> <li>➤ Investigation of alternate of water and its supply.</li> <li>➤ Standby diesel pumps or generators should be installed in damage-proof buildings.</li> <li>➤ A standby water supply should be available in the event of damage, saline intrusion or other pollution of the regular supply.</li> <li>➤ Establish procedures for the emergency distribution of water if existing supply is disrupted.</li> <li>➤ Make provisions to acquire tankers and establish other temporary means of distributing water on an emergency basis.</li> </ul>

	<ul style="list-style-type: none"> <li>➤ Make provision to acquire containers and storage tanks, required for storing water on an emergency basis.</li> <li>➤ Protect pump stations from water logging.</li> <li>➤ Repair sewage lines where damage is detected.</li> <li>➤ Repair water pipelines wherever damaged.</li> </ul>
EE- Irrigation	<ul style="list-style-type: none"> <li>➤ Check the wireless network and ensure that all the flood stations are connected.</li> <li>➤ Establish mechanisms for exchange of information with irrigation divisions</li> <li>➤ Inspect all the Bundhs, and check their height and slope.</li> <li>➤ Check the top of the Bundhs, and if they have been cleared of encumbrances / encroachments and if they are motorable</li> <li>➤ Check that all the Bundhs have been repaired/ reinforced, in particular those Bundhs which were damaged during the last floods.</li> <li>➤ Check the drainage system of the Bundhs and ensure that the seepage and rat holes, etc. have been closed.</li> <li>➤ Check that all the materials required for protecting Bundhs have been stored at different places, and a list of these places has been furnished to the district administration</li> <li>➤ Check that the Junior engineers and other staff have been assigned their beats, and all the</li> <li>➤ Arrangements for continuous vigilance over these Bundhs have been made.</li> <li>➤ Check that all rain gauge stations are functional, and arrangements have been made to report the readings.</li> <li>➤ Check the regulators and siphons. Check that they have been repaired and cleaned, increasing the flow of water.</li> <li>➤ Check all the anti-erosion works, necessary to maintain the Bundhs.</li> </ul>
DAO- Agriculture	<ul style="list-style-type: none"> <li>➤ Review and update precautionary measures and procedures.</li> <li>➤ Check available stocks of equipments and materials which are likely to be most needed during and after flood/disaster.</li> <li>➤ Stock agricultural equipments which may be required during and after flood.</li> <li>➤ Determine what damage, pests or disease may be expected, and what drugs and other</li> <li>➤ insecticide items will be required, in addition to requirements of setting up extension teams for crop protection, and accordingly ensure that extra supplies and materials, be obtained quickly.</li> <li>➤ All valuable equipments and instruments should be packed in protective coverings and stored in room the most damage-proof.</li> <li>➤ Ensure that certified seeds of required varieties are available in</li> </ul>

	<p>adequate quantities.</p> <ul style="list-style-type: none"> <li>➤ Develop a pest and disease monitoring system so that timely steps can be taken to reduce damage to crops.</li> <li>➤ A pests and disease monitoring system should be developed to ensure that a full picture or risks is maintained.</li> <li>➤ Plan for emergency accommodations for agriculture staff from outside the area.</li> <li>➤ Extension Officers should be unplugged when flood/disaster warning is received.</li> </ul>
EE- Rural Works	<ul style="list-style-type: none"> <li>➤ Govt. buildings should be inspected and necessary repairs to be got executed to with standing hazards affected.</li> <li>➤ Script for slides, pamphlets, and cultural programmers should be got prepared immediately.</li> <li>➤ Arrangements should be made to obtain poster and films by addressing the Director through the Collectors.</li> <li>➤ Public addresses equipment should be obtain kept ready.</li> <li>➤ The community Radio sets available in the coastal villages should be ascertained</li> <li>➤ The names of Hamlets where they are not available to be reported.</li> <li>➤ The public should be fully educated regarding the precautionary measures &amp; after cyclone through available media.</li> <li>➤ Specific duties should be assigned to the field staff.</li> <li>➤ The field staff should proceed to the place of work allotted and be ready to attend to cyclone duty.</li> </ul>
EE- Public Works	<ul style="list-style-type: none"> <li>➤ All personnel required for disaster management should work under the overall supervision and guidance of DM.</li> <li>➤ Review and update precautionary measures and procedures, and review with staff the precautions that have been taken to protect equipment.</li> <li>➤ Vehicles should be inspected, fuel tanks filled and batteries and electrical wiring covered as necessary.</li> <li>➤ Extra transport vehicles should be dispatched from headquarters and stationed at safe strategic spots along routes likely to be affected.</li> <li>➤ Heavy equipments, such as front-end loaders, should be moved to areas likely to be damaged and secured in a safe place.</li> <li>➤ Clean the area beneath bridges regularly for smooth flow of water excess.</li> <li>➤ Maintain all the highways and access roads, which are critical from the point of view of supplying relief.</li> <li>➤ Inspect all buildings and structures of the state government (including hospital buildings.) by a senior engineer and identify structures which are endangered by the impending disaster.</li> </ul>



	<ul style="list-style-type: none"> <li>➤ The designation of routes strategic to evacuation and relief should be identified and marked, in close coordination with police and District Control Room</li> <li>➤ Establish a priority listing of roads which will be opened first. Among the most important are the roads to hospitals and main trunk routes</li> <li>➤ Work under construction should be secured with ropes, sandbags and covered with tarpaulins if necessary.</li> <li>➤ Construct/ reinforce the connecting roads from villages to roads, canals and Bundhs and raise their level so that people can access the high ground.</li> <li>➤ Inspection of old buildings and suggesting retrofitting of weak buildings/ demolition of dangerous structures and evacuation of population.</li> <li>➤ Carry out route opening by removing debris on the road.</li> <li>➤ Begin clearing roads. Assemble casual labourers to work with experienced staff and divide them into work gangs.</li> </ul>
<p>DTO-Telecom</p>	<ul style="list-style-type: none"> <li>➤ Assess the different disaster scenarios and match the communications needs with the available resources.</li> <li>➤ Ensure that TSPs (private and public) invest in preventive measures that will ensure maximum robustness and preparedness of the telecom networks during emergencies.</li> <li>➤ Ensure that TSPs (private and public) develop detailed emergency plans for management of resources under their responsibility.</li> <li>➤ Conduct annual reviews of the ETP/SOP - Organize annual symposium on telecommunications availability during emergency.</li> <li>➤ Update the communications plan according to development and innovations in emergency telecommunications systems.</li> <li>➤ Disseminate information among the Public and the district administration on the availability of telecom services and equipment's for use during emergencies.</li> </ul>
<p>CDVO</p>	<ul style="list-style-type: none"> <li>➤ Call for emergency meeting to take stock of the situation. Develop a strategy and objectives. Review and update precautionary measures and procedure and review with staff the precautions that have been taken to protect equipments.</li> <li>➤ Prepare a list of water borne diseases that are preventable by vaccination.</li> <li>➤ Publicize the information about common diseases afflicting livestock and the precautions that need to be taken.</li> <li>➤ Assist the Revenue Department in preparing plans for cattle campus and cattle feeding centers.</li> <li>➤ Stock emergency medical equipments which may be required during and post disaster Surgical packs should be assembled and</li> </ul>

	<p>sterilized.</p> <ul style="list-style-type: none"> <li>➤ Enough stock of surgical packs should be sterilized to last for four to five days.</li> <li>➤ The sterilized surgical packs must be stored in protective cabinets to ensure that they do not get wet. Covering the stock with polythene is recommended as an added safety measure.</li> <li>➤ All valuable equipments and instruments should be packed in protective coverings and stored in room the most damage-proof.</li> <li>➤ All electrical equipments should be unplugged when disaster warning is received.</li> <li>➤ Organize vaccination campaigns in disaster prone villages before, during and after the disaster.</li> <li>➤ Prepare kits for veterinary diseases, which could be provided to veterinary doctors at the block level and extension officers at the village level. Kits can also be provided to the private veterinary doctors.</li> <li>➤ Arrange for emergency supplies of anesthetic drugs.</li> <li>➤ Check stocks of equipments and drugs which are likely to be most needed during and after disaster.</li> <li>➤ Fill department vehicles with fuel and park them in a protected area.</li> <li>➤ Fill hospital water storage tanks and encourage water savings. If no storage tanks exist water for drinking should be drawn in clean containers and protected.</li> <li>➤ Prepare an area of the hospital for receiving large number of livestock.</li> <li>➤ Develop emergency admission procedures (with adequate record keeping).</li> <li>➤ Establish cattle camps and additional veterinary aid centres at affected sites and designate an Officer In-charge for the camp.</li> <li>➤ Estimate the requirement of water, fodder and animal feed, for cattle camps and organize the same.</li> <li>➤ Ensure that adequate sanitary conditions through cleaning operations are maintained in order to avoid outbreak of any epidemic.</li> <li>➤ An injury and disease monitoring system should be developed, to ensure that a full picture of risk is maintained.</li> <li>➤ Plan for emergency accommodations for veterinary staff from outside the area.</li> </ul>
RTO/MVI	<ul style="list-style-type: none"> <li>➤ Prepare a list of vehicles- trucks, buses, jeeps, tractors, etc of government and private agencies in the district and provide the list to the District control room.</li> <li>➤ Provide requires vans and ambulances for mobile health and</li> </ul>

	<p>animal husbandry teams.</p> <ul style="list-style-type: none"> <li>➤ Provide trucks, buses, jeeps, tractors, etc for evacuation and supply chain management</li> <li>➤ Issue standing instructions to the State transport department for providing buses for evacuation and relief.</li> <li>➤ Recall important functionaries from leave; communicate to the staff to man their places of duties like the ward and divisional offices and respective departments.</li> <li>➤ Call for emergency meeting to take stock of the situation. Develop a strategy and objectives.</li> </ul>
DFO	<ul style="list-style-type: none"> <li>➤ Develop and quarterly update the disaster management plan that includes the Contingency Action Plan for the Department based on HVRC analysis with the active involvement of all concerned line departments and local bodies in the district</li> <li>➤ Make personnel available to the District Magistrate, within the affected block,. If more personnel are required, recall those on leave.</li> <li>➤ Identify areas that could be opened or made available for grazing or fodder collection in case of disaster</li> <li>➤ Ensure that adequate supply of small poles or bamboo is available for reconstruction of houses of the affected people, as well as wood for cremation of dead.</li> <li>➤ Ensure plantation to the maximum possible extent.</li> </ul>
Railway	<ul style="list-style-type: none"> <li>➤ Identification of flood prone areas, RAT, RAW and information prone to erosion/breaches and marking them on railways system map.</li> <li>➤ Development of Flood Shelters for staff and passenger at suitable locations in the areas prone to repeated floods</li> <li>➤ Study of changed water catchment area due to construction of highways, Dams.</li> <li>➤ Study of changed rainy season month on a particular region.</li> <li>➤ Action Plan for Alignment, Location, Design and Provision of Waterway on Railways Embankments</li> <li>➤ Inspections of Railway Affecting Works – to be streamlined and timely ensured.</li> <li>➤ Review of waterways for adequacy and alignment and measures to modify, if needed.</li> <li>➤ Status Note on the lessons learnt from the previous flood situations in the past 5 years.</li> <li>➤ Bye-laws for buildings in flood plains.</li> <li>➤ Making existing and new buildings and infrastructure capable of withstanding fury of floods.</li> </ul>
EE-	<ul style="list-style-type: none"> <li>➤ Review and update precautionary measures and procedures and</li> </ul>

Electricity/OPTCL	<p>review with staff the precautions that have been taken to protect equipment.</p> <ul style="list-style-type: none"> <li>➤ Ensure that the Power Supply department to make alternate arrangements of emergency supply for the major offices from time of receipt of districts</li> <li>➤ Check emergency tool kits, assembling any additional equipment needed.</li> <li>➤ After receiving alert warning, immediately undertake following inspection of High tension lines, Towers, Sub-stations, Transformers, Insulators, Poles and other equipments</li> <li>➤ Instruct district staff to disconnect the main electricity supply for the affected area.</li> <li>➤ Protect Power Stations from disaster. Raise the height of compound walls. Arrange gunny bags. Install pump sets for draining water in case of Flood/ Cyclone/ Tsunami,</li> <li>➤ etc.</li> <li>➤ Provide information to the people about the state of power supply. It is one of the most important sources of information. Establish temporary electric supplies to other key public facilities, public water system etc. to support emergency relief.</li> <li>➤ Establish temporary electric supplies to transit camps feeding centres, relief camps and Site Operation Centre, District EOC and on access roads to the same.</li> <li>➤ Establish temporary electric supplies for staging area.</li> <li>➤ Compile an itemized assessment of damage, from reports made by various electrical receiving centres and sub-centres.</li> </ul>
EE - PHED	<ul style="list-style-type: none"> <li>➤ Formation of Disaster Management Cell and manning with senior personnel drawn from key sections of the dept.</li> <li>➤ Formulation of Public Health Engineering related programme and activities by intonating them with hazard specific preventive and mitigation measures.</li> <li>➤ Creation of stocks of installation materials at the district level for use in emergencies.</li> <li>➤ Orientation and training of a team of technicians to do installation as quickly as possible.</li> <li>➤ Strategizing the installation of hand-pumps etc. with hazard profile of the area in mind.</li> <li>➤ In consultation with the Department of Education and DMD, provision of additional sanitation and drinking water facilities in schools and relief shelters where people take refuge during flood.</li> <li>➤ In consultation with the Department of Disaster Management making special arrangements for the supply of drinking water in drought prone areas.</li> </ul>

	<ul style="list-style-type: none"> <li>➤ Planning for repair and maintenance of the facilities created as a part of the programme and activities.</li> <li>➤ Keeping a track of groundwater level and having a fresh look at the facilities created accordingly.</li> <li>➤ Organizing interaction with Gram Panchayats for having proper sanitation facilities, and providing them support and guidance in planning, implementation and maintenance of the same.</li> <li>➤ Procurement, upkeep and maintenance of sanitation equipment for use in emergencies.</li> </ul>
DPS, SSA- School & Mass Education/ DEO - Higher Secondary Education	<ul style="list-style-type: none"> <li>➤ Formation of Disaster Management Cell and manning the same by senior personnel drawn from key Directorates.</li> <li>➤ Incorporating costs for preventive and mitigation measures for earthquake, flood, fire and cyclonic storm prone areas to construct disaster resistant school buildings.</li> <li>➤ In association with Fire Dept. getting fire extinguishers installed in schools and teachers identified and trained in operating them.</li> <li>➤ Awareness Generation Programmes about Hazard, the kind of preparedness required and how to act at the time of disaster shall be organized in schools on monthly basis.</li> <li>➤ Disaster Management shall be made a part of the school curriculum.</li> <li>➤ The Department shall get quality films made on hazard wise disaster preparedness and organize their viewing by children and their parents.</li> <li>➤ The Department shall in association with Nehru Yuva Kendra organize locality based youth clubs and get them groomed in escort services, relief work and taking care of children, women, old and sick.</li> <li>➤ Making adequate arrangements for getting hand pumps installed, storage facilities created, toilet and bathrooms built in those schools where communities do take shelter during flood. Concerned departments shall either make the arrangements or make funds available for the same.</li> </ul>
BDO/Tahasildar	<ul style="list-style-type: none"> <li>➤ Providing authentic information required by the DCR</li> <li>➤ Preparing a record of previous disasters in the locality and analyzing the effects</li> <li>➤ Preparing hazard maps of the Block./Tahasil &amp; the GPs in minute details</li> <li>➤ Mapping the cut off areas with alternate route map.</li> <li>➤ Identification of shelter places in the maps</li> <li>➤ Keeping a List of storage Points &amp; facilities available, dealers of foodstuffs.</li> <li>➤ Keeping a list of vulnerable people and area and weak points on</li> </ul>

	<p>embankments (if applicable)</p> <ul style="list-style-type: none"> <li>➤ Creating a Control Room at the respective level and assignment of duties to the staff.</li> <li>➤ Pre-positioning of staff for site operation centers.</li> <li>➤ Uninterrupted communication with the DCR</li> <li>➤ Arrangement of alternative communication/generator sets, etc</li> <li>➤ Formation of GP/village level disaster committees and task forces</li> <li>➤ Arrangement of boats on hire available locally.</li> <li>➤ Deployment of Boat in the most vulnerable areas.</li> <li>➤ Organizing awareness camps at GP/village levels</li> <li>➤ Dissemination of Warning:</li> <li>➤ Crosschecking with the DCR for the authenticity of the warnings</li> <li>➤ Arrangement or requisition of Jeeps/Trekkers/ Auto Rickshaw to disseminate received warning information's to the population of vulnerable / weak places</li> <li>➤ Dissemination of warning/ coordination with District control room.</li> <li>➤ Warning the people about probable affected areas</li> <li>➤ Mobilizing the people to leave for identified shelters with their domestic animals and personnel belongings.</li> </ul>
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## CHAPTER-10 RESPONSE

The Response Plan is the actual implementation of the disaster plan. Disaster response is the organization of activities used to respond to the event and its aftermath. The Response Phase focuses primarily on emergency relief: saving lives, providing first aid, minimizing and restoring damaged systems (communications and transportation), meeting the basic life requirements of those impacted by disaster (food, water, and shelter), and providing mental health and spiritual support and comfort care.

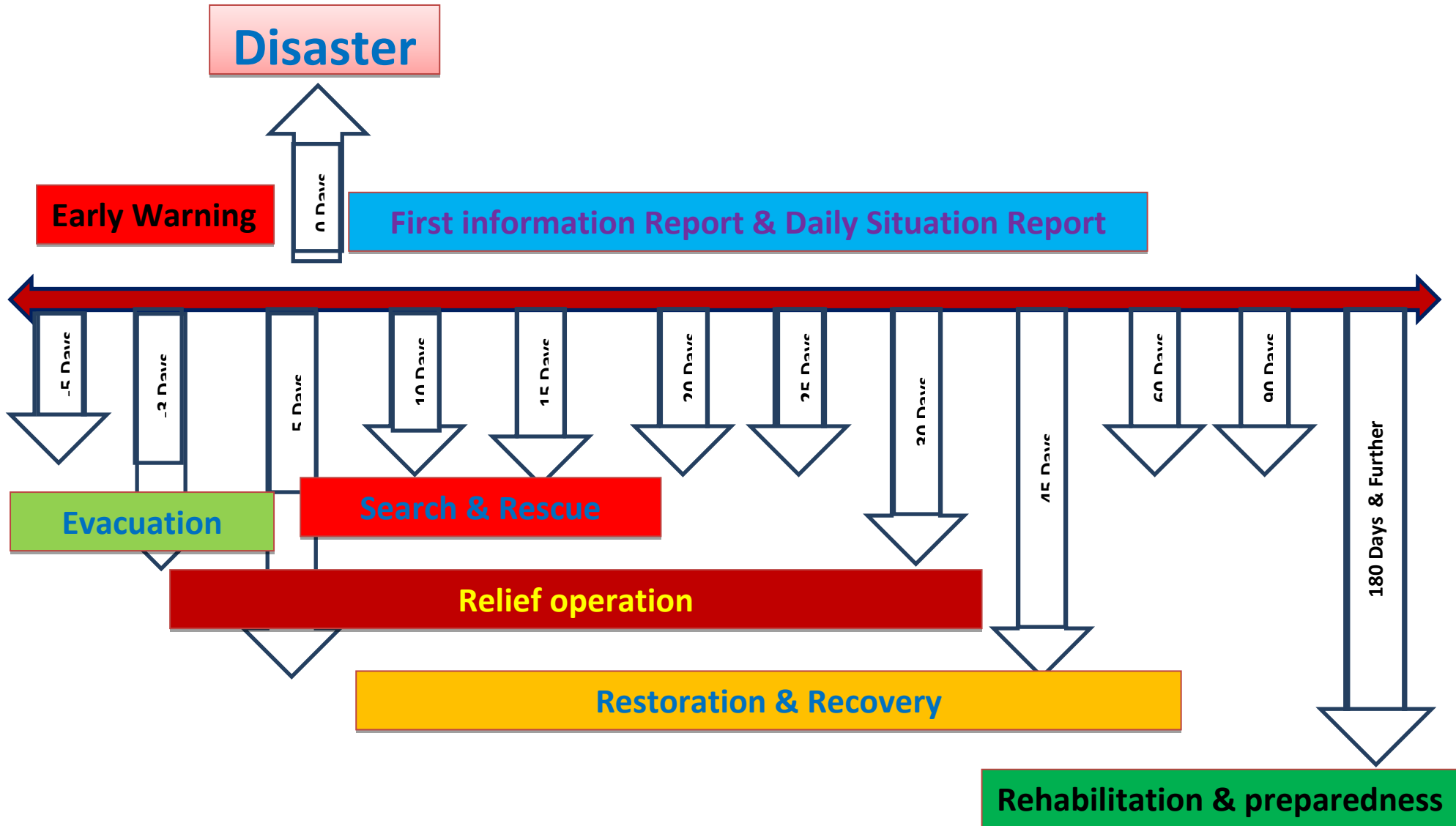
Response refers to activities done for handling disaster to bring the situation to normalcy not exceeding fifteen days from the abatement of disaster. The onset of an emergency creates the need for time sensitive actions to save life and property, reduce hardships and suffering, and restore essential 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.

In addition to the various types of disasters, there are different phases of the emergency response to them. For example, in most rapid onset disasters the very first stage is search and rescue. Search and rescue operations usually involve specialized units. Rescue is times when specialized units are available locally or sent in by other safe place. The local population acts immediately to search for victims and bring them to safety. This stage of an emergency response is immediate and usually lasts just three to four days after a disaster event.

The follow-up stage to search and rescue consists of emergency relief. This stage is unpredictable in terms of its duration. The short-term emergency relief for its disaster-affected population before moving quickly to rehabilitation and reconstruction. There could also exist variations within a disaster-affected population with economically well-off groups recovering more quickly from a disaster event than those less well-off. Some countries may be very hard hit by a disaster event and require emergency relief over a long period of time.

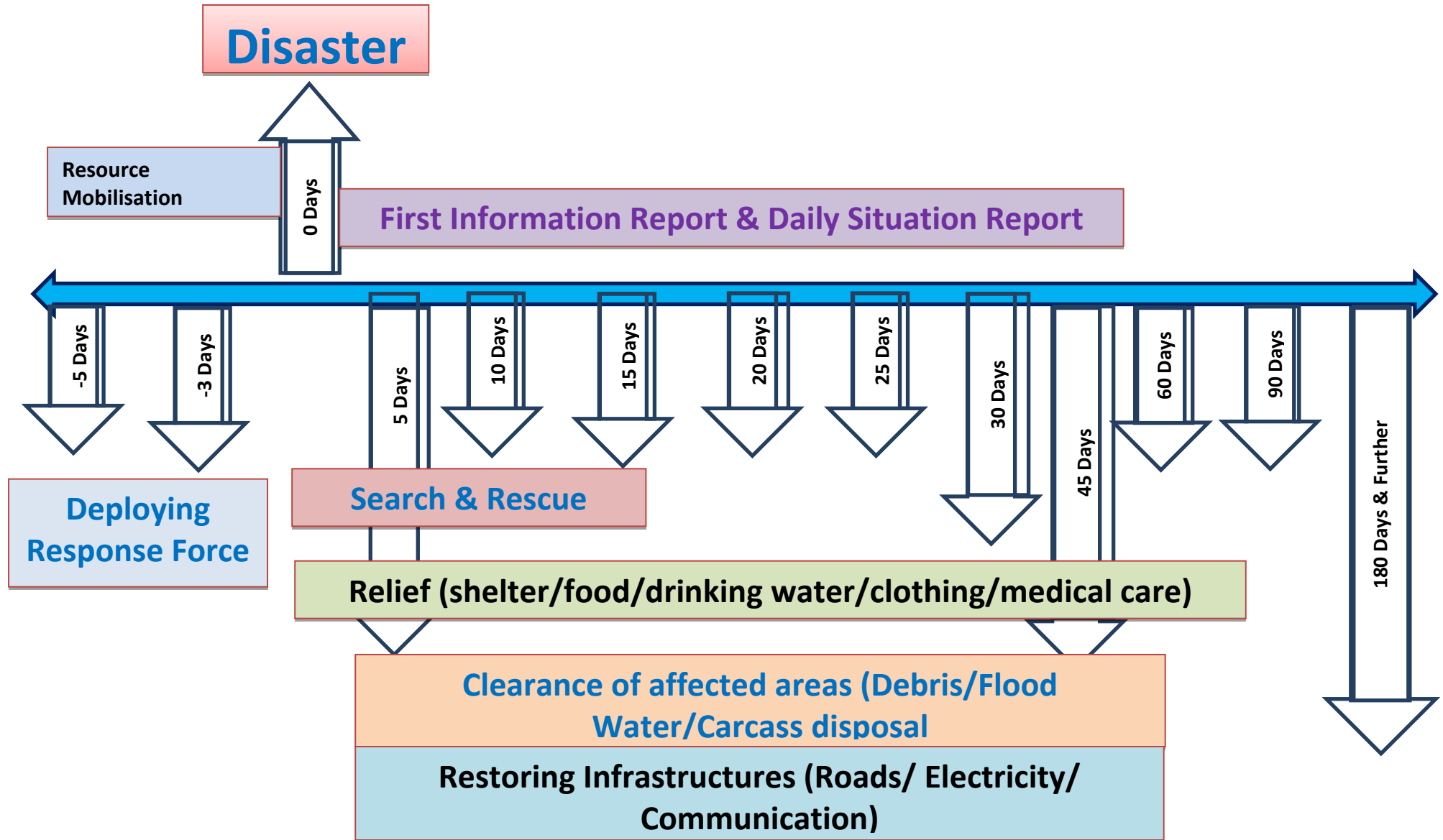
This is achieved primarily by ensuring participation of the disaster-affected population in program design and building on local capacities. As an emergency situation stabilizes the affected communities and humanitarian actors move into the transition stage of rehabilitation and reconstruction, and, if all goes well, to development.

### 10.1 Phases of Response: Timeline





## 10.2 Relief Management: Timeline



### 10.3 Forecasting and Warning:

A reliable and timely warning of disasters can save a lot of human lives. In India various upgraded and modernised the monitoring, forecasting and warning systems to deal with flood, earthquake and drought.

#### 10.3.1 Floods

The central water commission has a flood forecasting system covering 62 major rivers in 12 states with 157 stations for transmission of flood warning on real time basis. The forecast are issued with an accuracy of up to 95 percent. There is also 55 hydro-meteorological stations in the 62 river basins. VHF/HF wireless communication systems is used for data collection with microcomputers at the forecasting centers. Hydrological models are increasingly used for inflow and flood forecasting and the forecasts are communicated to the administrative and the engineering departments for dissemination.

#### 10.3.2 Droughts

The IMD has divided the entire country into 35 meteorological subdivisions. It issued weekly bulletins on rainfall indicating normal, excess and different levels and also the percentage of departure from the normal. The CWC monitors the level of 60 major reservoirs with weekly reports of reservoir levels and corresponding capacity for the previous year and the average of the previous 10 years. Similar monitoring of smaller reservoirs by the irrigation Departments of the state governments gives advance warning of hydrological droughts with below average stream flows, creation of stream flows and decrease in soil moisture and ground water level.

Based on the input from IMD and CWC on the rainfall behaviour and the water levels in the reservoirs respectively and the information on crop situations received from the local resources, the National Crop Whether Watch Group monitors the drought conditions based on vegetative and moisture index status.

#### 10.3.3 Earthquake

On the basis of past earthquake of magnitude 5 and intensities ranging from V to IX superimposed on the magnitude information and also drawing upon tectonic feature in the near past, Earthquake Zone maps have been prepared. IMD operates network of 36 seismic monitoring stations.

### 10.4 Activation of Emergency Plan:

Responses are structured as per the nature of disaster. Three level of disaster have been identified – potential, limited and full emergency conditions. Emergency plan of each level

should be prepared by the District, Block and GP level. An elaborated communication process enables identification of the particular emergency plan, which should be implemented.

#### 10.4.1 Trigger Mechanism

Trigger Mechanism has been conceptualized as an emergency quick response mechanism which, on energising would spontaneously set the vehicle of management into motion on the road to disaster management process. The underlying assumptions behind this conceptualization is that the process and mechanism of responding have been planned earlier and response activities would start as soon as the information is received about a disaster or impending disaster by any point in the whole mechanism. To have an effective Trigger Mechanism for the disaster managers are:

- i. Evolving an effective signal/warning mechanism.
- ii. Identification of activities at their level.
- iii. Identifying sub activities under each activities/level of activity.
- iv. Specifying authorities for each level of activity and sub activities.
- v. Determining the response time for each activity.
- vi. Working out individual plans of each specified authority to achieve the activation as per the response time.
- vii. Having quick response teams for each specified authority.
- viii. Having alternative plan and contingency measure.
- ix. Undergoing preparedness drills.

#### 10.4.2 Supply and Management System (SUMA)

The SUMA is a management and training system and can be visualized as a technical cooperation project. It is a powerful indicators and tools for transparency and accountability and contributes significantly of storage systems. The SUMA system performs the following functions:

- i) Registering- Every arriving materials to be registered in the entry point.
- ii) Classifying- The system classifies the incoming supplies regardless of ownership as per the pre-established category.
- iii) Sorting- Under SUMA the incoming supplies are sorted out accordance to priority into three categories. These are as
  - a) Items urgently needed.
  - b) Items of potential usefulness.
  - c) Items of no use.

## 10.5 The Response:

The district the control room is headed by the District collector. There is a, district disaster management Committee at the district level, Block disaster management Committee at the block level, Gram Panchayat disaster management Committee at the GP level and village disaster management Committee at the village level.

### 10.5.1 District:

Task	Activity
Warning Communication	<ul style="list-style-type: none"> <li>• Warning dissemination to the concerned BDOs / Tahasildars / Police stations / PRIs</li> <li>• Warning dissemination at the last mile by Public address system for necessary evacuation from the low lying areas</li> <li>• Recording the receipt of information &amp; regular Status update</li> <li>• Transmitting updates to SEOC &amp; DEOC in regular interval as instructed</li> <li>• Reporting frequently to DEOC</li> </ul>
Meeting of DDMA (Heads of the department & stakeholder)	<ul style="list-style-type: none"> <li>• Collector to take up a department coordination meeting &amp; distribute works among all the Departments</li> <li>• Assignment of officers to coordinate with other line departments such as               <ul style="list-style-type: none"> <li>○ Revenue officer to coordinate and call for report from CSO, RTO</li> <li>○ Establishment officer to coordinate and call for report from CDMO, CDVO</li> <li>○ Sports officer to coordinate with the NSS &amp; NCC</li> <li>○ Emergency officer to coordinate with the coordinating officers for smooth reporting and monitoring</li> <li>○ DIPRO to conduct the media management in coordination with Dist. Emergency Officer</li> </ul> </li> <li>• Collector issues circular to keep Govt. offices open cancelling all holidays and not allowing the field and HQ staff to leave their duty station</li> <li>• A fixed time to be finalized every day for reporting at all level.</li> <li>• Circulate the minutes of the meeting with clear-cut role &amp; responsibility</li> </ul>
Pre-positioning of staff, resources & Evacuation	<ul style="list-style-type: none"> <li>• Identifying &amp; designating Nodal Officer for different disaster affected areas.</li> <li>• Positioning of ODRAF / NDRF / Fire services / Police / Home Guard in the strategic places</li> <li>• Pooling Volunteer services (Civil Defense / Task Force / NCC / NSS / Scout &amp; Guide)</li> <li>• Take stake of required materials for search &amp; rescue, first aid,</li> </ul>

	<p>casualty management, evacuation, relief etc.</p> <ul style="list-style-type: none"> <li>• Make necessary arrangements of shelters for evacuation</li> <li>• Keeping track of the persons evacuated and the places where they have taken the shelter</li> <li>• Time to time reporting the nos of evacuees at different shelter places to the DEOC for onward transmission</li> <li>• Constitute a special team for special care to vulnerable section like Specially abled, Sr. Citizen, Pregnant &amp; lactating women, Infants &amp; children etc.</li> </ul>
Response	<ul style="list-style-type: none"> <li>• EOCs to Ensure back up (Power/Fuel/internet) Communication at Dist. / Dept. &amp; Block levels</li> <li>• Response force under guidance of Nodal officers ensure complete Evacuation (Human/ Animal), carry out Search &amp; Rescue, clear relief lines,</li> <li>• Collector to submit requisition of vehicle/boat/ helicopters &amp; list of support from state &amp; Centre to all concerned authorities</li> <li>• CSO to store required relief materials (Chhuda. Gur, Dry Foods) in the nearby storage points and identify the procurement point if required</li> <li>• CDVO to store, transport &amp; distribute required foddors for animals to the affected areas</li> </ul>
	<ul style="list-style-type: none"> <li>• Cyclone shelter committee &amp; Village Disaster management committee to organize free kitchen in the shelters with help of revenue dept.</li> <li>• EE- RWSS &amp; CDMO to ensure supply of drinking water, disinfection of water &amp; maintain Health &amp; hygiene in the shelters</li> <li>• CDMO to carry out First aid &amp; casualty management</li> <li>• Collector to collect &amp; transmit First Information Report (FIR) &amp; Daily Situation Report as per requirement</li> </ul>

**10.5.2 Response : Community Level**

<b>Activity</b>
<ul style="list-style-type: none"> <li>• DEOC to disseminate warning communication to BEOC, PRIs, Community through Email, Cell Phones, VHF Message (if required)</li> <li>• Print and Electronic Media needs to be used depending upon the severity of the situation</li> <li>• Response force to ensure Power/Fuel/internet/ Communication at Shelters back up</li> <li>• Supply Inspectors &amp; Marketing Inspectors to distribute relief materials with response force, Task force &amp; volunteers</li> <li>• Response force to carry out Search &amp; Rescue measures, Emergent relief operation, Relief</li> </ul>

- line clearance, distribution of relief
- Doctors to carry out First aid & casualty management, Carcass disposal & sufficient mortuary facility in the affected areas
- House hold members needs to protect their valuables such as property documents, medical prescriptions for critical illness (if any), jewelry etc. after getting the information so that it will be protected from damage
- Every house hold needs to keep stock of dry foods at least three days so that if evacuated to the nearest shelter they can take care of their families and belongings.

**10.5.3 Response: Family & Individual Level**

Task	Activity
Response	<ul style="list-style-type: none"> <li>• Listen to the instruction of the response force &amp; warnings</li> <li>• Validate the warning from the DEOC (1077) or other control rooms nearby</li> <li>• Economic use of “Ready to go Emergency Kit” Ready to go First Aid Kit</li> <li>• Cooperate the response force/officers &amp; Render volunteer service if asked for</li> <li>• Maintain cleanliness &amp; hygiene at home / shelter / community center</li> <li>• Every house hold needs to keep stock of dry foods at least three days so that if evacuated to the nearest shelter they can take care of their families and belongings.</li> <li>• Follow the do and don’t properly</li> </ul>

**10.5.4 Role of the Response Team**

Institution	Response System			
	Preparedness	Pre-Disaster	During Disaster	Post Disaster
District Control Room	1. Setting of control room and ensure the 24 hour functioning. 2. Assigning responsibility to the PD, DRDA,	1. Monitor functioning of DCR. 2. Co-ordination with official. 3. Assigning duties to NGOs.	1. Dissemination of information regarding status of the disaster and submission of reports to PR Department	1. Information dissemination to public

	Sub Collector, DPO, and BDOs. 3. Vehicle arrangement. 4. Co-ordination with NGOs. 5. Early warning system. 6. Ensure muck drill.	4. Holding of DDMC Meetings.		
DDMC	1. Assign responsibilities to BCRCs and BDOs. 2. Ensure availability of resources.	1. Arrangement of all important telephone line.	2. Coordinate with district Administration on a regular interval.	1. Review on rescue & damage assessment. 2. Emergency relief assessment. 3. Monitoring on Reconstruction and Rehabilitation
BDMC	1. Assign responsibilities all concerned officials at the Block level.	1. Ensure all BNREGSK building are functioning at GP and Block level. 2. On receipt of warning ask all the staff to join duty immediately.	1. Coordinate with DDMC and control room on a regular interval 2. Deploy staff at the disaster site for evaluation.	1. Report to DDMC
GPDMC	1. Ensure formulation of all disaster management groups. 2. Co-ordination with local NGOs working in the areas.		1. Open GP office and other shelters available. 2. Rescue operation and evaluation	1. Report to Block Office

Immediate on receiving information about the disaster that strikes any area the trigger mechanism is activated and the following actions will be initiated:

- Generation of event scenario report to be sent as per the trigger mechanism.
- Preparation of current status on life line facilities and infrastructure.
- Rapid visual assessment of damage to buildings.

- Assessment of Causalities.
- Assessment of number of displaced persons.
- Assessment of Transport requirement.
- Assessment of requirement of shelters.
- Assessment of basic need requirement of displaced persons.
- Status of search and rescue operations.
- Details and listing of missing persons.
- Assessment of type and extent of medical support for undertaking emergency operation.
- Status of identification of stakeholders and role players for providing supporting response and recovery operations.
- Status of activating call centre for providing multiple pieces of information to callers and relatives of victims.

Primary tasks during this phase would be:

1. Proper need assessment through village response.
2. BDOs shall deploy resources to all affected sections in an equitable manner.
3. Besides food, cloth and shelter facilities such as public health and sanitation is to be provided in shelters or camps.
4. Ensuring total transparency in distribution of relief material.
5. Putting in place an objective method of assessing damage.

### 10.6 Standard Operating Procedures:

Implementation of response plans has to be through well laid down SOPs for each level of activity and sub activity. As activities are in the emergency plans include evaluation, search and rescue, temporary shelters, food, drinking water, clothing, health and sanitation, communication, accessibility and public information. The participatory approach oriented towards providing minimum standard and equity in responding.

Name of the Department	On Receiving Warning	Response time	Post Disaster
Collector/AD M / Emergency Officer	➤ Review the situation in DDMA meeting and identification of gaps and arrangement to be	➤ Convene an emergency meeting and take stock of the situation. ➤ After receipt	➤ Convene an emergency meeting and take stock of the situation ➤ Prepare an



	<p>done accordingly</p> <ul style="list-style-type: none"> <li>➤ Activate DEOC &amp; Early Warning</li> <li>➤ Appoint / Deploy Officers In-charge of Response Base. i.e. DEOC..</li> <li>➤ Work distribution among the officials for smooth operation</li> <li>➤ Circular to keep offices open and staffs to be in alertness</li> <li>➤ Arrange vehicle &amp; activate Evacuation (Normal/Forceful)</li> <li>➤ Deployment of ODRAF / NDRF units in the affected areas.</li> <li>➤ Ensure formalizing supply contracts for all departments that require additional manpower during emergencies.</li> <li>➤ Create teams including transport, relief material and equipment for responding to the disaster incident headed by one of the higher officer of the district.</li> </ul>	<p>of the information within 30 minutes the system needs to be activated and the warning disseminated to the concerned.</p> <ul style="list-style-type: none"> <li>➤ Frequent check up off updates and warning dissemination needs to be done accordingly.</li> <li>➤ Activate Search &amp; Rescue</li> <li>➤ Arrange temporary shelters</li> <li>➤ Arrange logistics in shelters</li> <li>➤ Workout financial estimates (evacuation / relief /recovery)</li> <li>➤ Coordinate with Army, Air Force, Navy, NDRF &amp; ODRAF for support towards evacuation, rescue and</li> </ul>	<p>evacuation plan for the marooned / devastated areas.</p> <ul style="list-style-type: none"> <li>➤ Prepare a list of transit/temporary shelters, and check their suitability for accommodating people.</li> <li>➤ Activate relief line clearance</li> <li>➤ Proper relief Distribution</li> <li>➤ Start damage assessment</li> <li>➤ Facilitate Ex-gratia &amp; Compensation</li> <li>➤ Start primary damage estimate</li> <li>➤ Pool resources for SAR/shifting of critical patients</li> <li>➤ Convene meetings of NGOs, Youth Clubs, Self-Help Groups, etc., in the district, and assign them specific responsibilities for relief, recovery and rehabilitation.</li> <li>➤ Have a back-up communication system.</li> </ul>
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CDMO	<ul style="list-style-type: none"> <li>➤ Disseminate the alert to all concerned (Staff list)</li> <li>➤ Arrangement of medicine, First aid kits &amp; teams</li> <li>➤ Mobile Health units for inaccessible pockets</li> <li>➤ Identifying &amp; shifting patients requiring intensive care to safer places</li> <li>➤ Supply of medicines &amp; pre-positioning of medical teams to vulnerable areas</li> <li>➤ Vaccination for prevention of communicable diseases</li> <li>➤ Measures to dis – infect drinking water</li> <li>➤ Availability of Blood Banks/Ambulance</li> </ul>	<ul style="list-style-type: none"> <li>➤ Mass Casualty Management units &amp; Triage</li> <li>➤ First Aid Centres</li> <li>➤ Medical surgical teams</li> <li>➤ Adequate mortuary facility</li> <li>➤ Measures to shift patients requiring intensive care</li> <li>➤ Pool of Blood donors (Preferably each group)</li> <li>➤ Additional laboratories</li> <li>➤ Carcass disposal team &amp; units</li> </ul>	<ul style="list-style-type: none"> <li>➤ Psycho-Social Counselling</li> <li>➤ Post Disaster Disease surveillance system</li> <li>➤ Special attention to vulnerable section</li> <li>➤ Networking with &amp; promote treatment in Private Hospitals</li> <li>➤ Carcass Management &amp; Issuance of Death Certificate</li> </ul>
Superintendent of Police (SP)	<ul style="list-style-type: none"> <li>➤ Identify Disaster Prone area in the district</li> <li>➤ Prepare a</li> </ul>	<ul style="list-style-type: none"> <li>➤ Dispatch Police to systematically identify and</li> </ul>	<ul style="list-style-type: none"> <li>➤ Provide guards wherever needed particularly for staging area of</li> </ul>

	<p>Deployment Plan for the Police force, based on the needs of the most vulnerable areas.</p> <ul style="list-style-type: none"> <li>➤ Ensure that a sufficient number of police force is available for responding to the disaster situation.</li> <li>➤ Establish coordination with the State Armed Police and Defence and Home Guards.</li> <li>➤ Check the wireless communication network, and secure additional wireless sets for deployment during a disaster.</li> <li>➤ Installation of radio communications at             <ul style="list-style-type: none"> <li>• District Control Room, Control room at affected site, Departmental Offices within the District &amp; Division.</li> </ul> </li> <li>➤ Keep the police vehicles and other modest transport in readiness for deployment of the police.</li> <li>➤ Call for emergency meeting to take</li> </ul>	<p>assist people and communities in life threatening situation.</p> <ul style="list-style-type: none"> <li>➤ Designate an area, within Police Station to be used as help line centre for public.</li> <li>➤ With the assistance of health professional, help injured people and assist the community in organizing emergency transport of seriously injured to medical treatment centres. Ensure that the police stations with staff are functioning in disaster situation.</li> <li>➤ Assist and encourage the community in road-cleaning operation.</li> </ul>	<p>cooperative food etc stores and distribution centres.</p> <ul style="list-style-type: none"> <li>➤ Provide convoys for relief materials.</li> <li>➤ Evacuation will be ordered by Deputy Commissioner, Addl. Commissioner and Superintendent of Police.</li> <li>➤ Assist and encourage the community in road-cleaning operation.</li> <li>➤ Assess and Identify road for following conditions/facilities one Way, Blocked, Alternate route, Overall Traffic Management, Other access roads.</li> <li>➤ Provide security arrangements for visiting VVIPs and VIPs.</li> <li>➤ Assist district authorities to take necessary action against Hoarders, Black Marketers and those found</li> </ul>
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	stock of the situation.		manipulating relief material.
EE- RWSS	<ul style="list-style-type: none"> <li>➤ When early signs of distress appear in any part of the district, EE RWSS will submit a special situation update to DM indicating the position in respect of Water and Sanitation preparedness in the district.</li> <li>➤ Will inform all concerned RWSS- JE / AE of blocks and Panchayats to review essential emergency stocks and contingency plans to be able to respond in a timely manner.</li> <li>➤ Upon receipt of early warning signals from State, he must start the monitoring of all water and sanitation infrastructure in the affected parts of the District.</li> <li>➤ Will be in constant touch with the local IMD and other agencies in the district for information on impending disaster.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Will ensure supply of clean drinking water to affected areas. Will ensure transportation of water with minimum wastage.</li> <li>➤ Will ensure supply of water purification installations, mobile systems, halogen tablets etc. for providing clean drinking water</li> <li>➤ Will ensure that special care is taken of women with infants and pregnant women. Will ensure that sewer pipes and drainage are kept separate from drinking water facilities.</li> <li>➤ Will ensure availability of adequate number of toilets to</li> </ul>	<ul style="list-style-type: none"> <li>➤ Must launch necessary awareness campaigns on safe water handling practices, environmental sanitation and individual hygiene along with hardware provision.</li> <li>➤ Will visit as many areas as possible to have first-hand information of the situation. Will keep District Collector and E-in-C / Chief Engineer, RWSS informed daily about the action taken by him in his area.</li> <li>➤ Local MLA, MP and other community leaders must be informed on measures taken by RWSS / PHED for an effective disaster response.</li> </ul>

		prevent further contamination of water sources.	
EE- Irrigation	<ul style="list-style-type: none"> <li>➤ When early signs of distress appear in any part of the district, EE Irrigation will submit a special situation update to DM indicating the position in respect of Irrigation preparedness in the district.</li> <li>➤ Prepare and update the disaster risk map of the district. The map should show the vulnerability and risks of the critical infrastructure related to irrigation and also whether alternate source of H2O within the district.</li> <li>➤ Prepare a contingency plan for the maintenance and repairs of Bundhs and embankments.</li> <li>➤ Identify Bundhs, which are critical for disaster protection and control.</li> <li>➤ Review and update</li> </ul>	<ul style="list-style-type: none"> <li>➤ Will ensure availability of adequate number of tool kits to prevent any damage during disaster.</li> <li>➤ Provide special attention to those places where the Bundhs were breached and repaired during the last floods/disaster last year. These are the Bundhs, which will be threatened first during the disaster.</li> <li>➤ Deployed adequate team in the most vulnerable areas.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Undertake channel improvement for rivers and nalas to the extent possible. Undertake de-silting / cleaning of Nalas and canals to improve the flow of water.</li> <li>➤ Supply the essential tool kits and protection material at critical places for emergency repair and construction.</li> <li>➤ Organize round the clock inspection and repair of equipments.</li> </ul>

	precautionary measures and procedures.		
DAO- Agriculture	<ul style="list-style-type: none"> <li>➤ Prepare HRV Analysis of the district.</li> <li>➤ Develop Contingency Action Plan based on HRV analysis.</li> <li>➤ Review and update precautionary measures and procedures.</li> <li>➤ Check available stocks of equipments and materials which are likely to be most needed during and after disaster</li> <li>➤ 6. Provision of agricultural services should be coordinated with irrigation department, DRDO, District EOC, SITE OPERATIONS CENTRES.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Supply of agricultural equipments which may be required during Disaster.</li> <li>➤ All valuable equipments and instruments should be packed in protective coverings and stored in room the most damage-proof during disaster</li> <li>➤ All electrical equipments should be unplugged during disaster period.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Suggest variety of seeds and cropping pattern, which can reduce losses and reduce the risks to farmers</li> <li>➤ Plan for emergency accommodations for agriculture staff from outside the area.</li> <li>➤ A pests and disease monitoring system should be developed to ensure that a full picture or risks is maintained.</li> <li>➤ Call for emergency meeting to take stock of the situation. Develop a strategy and objectives.</li> <li>➤ Establish contact with soil and water testing laboratories.</li> </ul>
EE- Rural Works	<ul style="list-style-type: none"> <li>➤ When early signs of distress appear in any part of the district, EE Rural works will submit a special situation update to DM</li> </ul>	<ul style="list-style-type: none"> <li>➤ Will ensure availability of adequate number of tool kits to prevent any damage</li> </ul>	<ul style="list-style-type: none"> <li>➤ Provide for agricultural rehabilitation of disaster affected area by necessary assistance, with</li> </ul>

	<p>indicating the position in respect of rural works preparedness in the district.</p> <ul style="list-style-type: none"> <li>➤ Prepare and update the disaster risk map of the district. The map should show the vulnerability and risks of the critical infrastructure related to rural areas.</li> <li>➤ Ensure community involvement in disaster preparedness on: Risk assessment (to point to which measures to implement); Early warning systems; Life safeguarding equipment; Resources and emergency kits in anticipation of need; Maintaining emergency rosters and evacuation plans; Emergency information and communication systems; Capacity building to ensure adequate emergency response.</li> </ul>	<p>during disaster.</p> <ul style="list-style-type: none"> <li>➤ Provide special attention to those places which were most vulnerable areas during disaster last year..</li> <li>➤ Deployed adequate team in the most vulnerable areas.</li> <li>➤ Provide for preventive medication for entire livestock to check the spread of any disease among the surviving cattle.</li> <li>➤ Ensure the rural communication system and shelter management process during disaster.</li> </ul>	<p>the help of state government, to affected farmers in activities such as sowing/harvesting.</p> <ul style="list-style-type: none"> <li>➤ Make available requisite seeds and fertilizers free of cost to the farmers, of course, with the help of concerned government departments.</li> <li>➤ Provide agricultural equipment/tools through Banks and other funding agencies.</li> <li>➤ Help in rehabilitation of artisans and marginal businessmen affected due to the disaster.</li> <li>➤ Make efforts to re-start schools as soon as possible and encourage children to attend school regularly.</li> <li>➤ Rehabilitation of livestock affected due to the disaster;</li> </ul>
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			Ensure replacement of mulch cattle to the affected farmers;— Free cattle feed for about 2 to 3 months.
EE- Public Works	<ul style="list-style-type: none"> <li>➤ Conduct HRV analysis of PWD of the district.</li> <li>➤ Based on HRV analysis, prepared Contingency Action Plan for the Department.</li> <li>➤ All personnel required for disaster management should work under the overall supervision and guidance of Deputy Commissioner.</li> <li>➤ All officers (technical officers) should be notified and should meet the staff to review emergency procedures.</li> <li>➤ Review and update precautionary measures and procedures, and review with staff the precautions that have been taken to protect equipment.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Carry out route opening by removing debris on the road.</li> <li>➤ Provide a work team carrying emergency tool kits, depending on the nature and extent of the disaster, essential equipments to the disaster spot.</li> <li>➤ If people are evacuating an area, the evacuation routes should be checked and people assisted.</li> <li>➤ Construct/ reinforce the connecting roads from villages to roads, canals and Bundhs and raise their level so that</li> </ul>	<ul style="list-style-type: none"> <li>➤ Undertake repair of all paved and unpaved road surfaces including edge metalling, pothole patching and any failure of surface, foundations in the affected areas by maintenance engineer’s staff and keep monitoring their conditions.</li> <li>➤ Undertake construction of temporary roads to serve as access to temporary transit and relief camps, and medical facilities for flood victims.</li> <li>➤ As per the decisions of the District Control Room, undertake construction of temporary structures required, for</li> </ul>



	<ul style="list-style-type: none"> <li>➤ Maintain all the highways and access roads, which are critical from the point of view of supplying relief.</li> </ul>	<p>people can access the high ground during disaster.</p>	<p>organizing relief work and construction of relief camps, feeding centres, medical facilities, cattle camps and SITE OPERATIONS CENTRES.</p> <ul style="list-style-type: none"> <li>➤ An up-to-date report of all damage and repairs should be kept in the district office report book and communicate the same to the District Control Room.</li> </ul>
<p>DTO-Telecom</p>	<ul style="list-style-type: none"> <li>➤ Communication establishment with District and Block/ Tahasil control room and departmental officers within the division.</li> <li>➤ An officer to be appointed as nodal officer • Standby arrangements for temporary electric supply or generators.</li> <li>➤ Inspection and repair of poles etc.</li> <li>➤ Identification of materials required for response operations.</li> <li>➤ All staff informed</li> </ul>	<ul style="list-style-type: none"> <li>➤ Where Disaster strikes with/ without early warning signals, TSPs shall immediately assess damage to their network and deploy Rapid Damage Assessment Team &amp; Disaster Response Task Force Teams (DRTF) with required inventory to</li> </ul>	<ul style="list-style-type: none"> <li>➤ If required portable / vehicle mounted / air-transportable BTSs / BSCs with backhaul on satellite media may be installed by TSPs.</li> <li>➤ Nodal officer of TSPs of affected telecom circle level shall report to concerned DDG (TERM), DoT (Chairman of STDCC) in that circle, for sharing information and coordination related matters.</li> </ul>

	<p>about the disasters, likely damages and effect</p>	<p>provide emergency communication to priority callers like police, Fire, Medical, civil defence, Red Cross, Army, financial institutions, NGOs, all officers and staffs engaged in restoration of telecommunication services, etc</p> <ul style="list-style-type: none"> <li>➤ A control room will be setup at the state HQ / nearest to affected area, as the case may be, and made operational under control of TERM cell of affected area.</li> </ul>	<ul style="list-style-type: none"> <li>➤ TERM units of DOT shall be the single nodal point in the disaster region where representatives of TSPs shall also be present to coordinate and oversee communication restoration efforts</li> <li>➤ All the affected areas and infrastructure will maintain immediately to make sure the effective communication after disaster for quick response.</li> </ul>
<p>CDVO</p>	<ul style="list-style-type: none"> <li>➤ Prepare HRV Analysis of Animal Husbandry Department of the District.</li> <li>➤ Based on HRV Analysis, prepare Contingency Action Plan of the</li> </ul>	<ul style="list-style-type: none"> <li>➤ . Supply stocks of equipments and drugs which are likely to be most needed during the disaster.</li> <li>➤ Fill</li> </ul>	<ul style="list-style-type: none"> <li>➤ Post Disaster Disease surveillance system</li> <li>➤ Special attention to vulnerable section</li> <li>➤ Assist the Revenue Department in</li> </ul>

	<p>District.</p> <ul style="list-style-type: none"> <li>➤ All personnel required for Disaster/Flood Management should work under supervision and guidelines of District Magistrate.</li> <li>➤ Call for emergency meeting to take stock of the situation. Develop a strategy and objectives.</li> <li>➤ Review and update precautionary measures and procedure and review with staff the precautions that have been taken to protect equipments.</li> <li>➤ Stock emergency medical equipments which may be required during and post disaster</li> </ul>	<p>department vehicles with fuel and park them in a protected area.</p> <ul style="list-style-type: none"> <li>➤ Prepare an area of the hospital for receiving large number of livestock during disaster.</li> <li>➤ Distribute the requirement of water, fodder and animal feed, for cattle camps and organize the same.</li> <li>➤ Ensure that adequate sanitary conditions through cleaning operations are maintained in order to avoid outbreak of any epidemic during disaster.</li> </ul>	<p>preparing plans for cattle campus and cattle feeding centres.</p> <ul style="list-style-type: none"> <li>➤ Organize vaccination campaigns in disaster prone villages after the disaster.</li> </ul>
<p>RTO/MVI</p>	<ul style="list-style-type: none"> <li>➤ Disseminate the alert to all concerned staff.</li> <li>➤ Prepare a list of vehicles- trucks, buses, jeeps, tractors, etc of</li> </ul>	<ul style="list-style-type: none"> <li>➤ Provide requires vans and ambulances for mobile health and animal</li> </ul>	<ul style="list-style-type: none"> <li>➤ Providing vehicles for communication and relief.</li> <li>➤ Provide ambulances to rural areas for</li> </ul>

	<p>government and private agencies in the district and provide the list to the District control room.</p> <ul style="list-style-type: none"> <li>➤ Issue standing instructions to the State transport department for providing buses for evacuation and relief.</li> <li>➤ Recall important functionaries from leave; communicate to the staff to man their places of duties like the ward and divisional offices and respective departments.</li> <li>➤ Call for emergency meeting to take stock of the situation. Develop a strategy and objectives.</li> </ul>	<p>husbandry teams for immediate response during disaster.</p> <ul style="list-style-type: none"> <li>➤ Provide trucks, buses, jeeps, tractors, etc for evacuation and supply chain management.</li> <li>➤ Fill department vehicles with fuel and park them in a protected area.</li> </ul>	<p>bringing affected people to hospitals after disaster.</p>
DFO-	<ul style="list-style-type: none"> <li>➤ Conduct HRV analysis of Forest of the district.</li> <li>➤ Based on HRV analysis, prepared Contingency Action Plan for the Department.</li> <li>➤ All personnel required for disaster management</li> </ul>	<ul style="list-style-type: none"> <li>➤ Allow the transportation of fodder from forest areas, when the fodder is not freely available.</li> <li>➤ Evacuate the people and animal under the forest</li> </ul>	<ul style="list-style-type: none"> <li>➤ Ensure Plantation to maximum possible extent.</li> <li>➤ Ensure supply of wood for disposal of dead bodies.</li> <li>➤ Recall important functionaries from leave; communicate to</li> </ul>

	<p>should work under the overall supervision and guidance of Deputy Commissioner.</p> <ul style="list-style-type: none"> <li>➤ All district level officials of the department would be asked to report to the Deputy Commissioner when disaster occurs</li> <li>➤ Emergency tools kits should be assembled for each division, and should include: Crosscut saws, Axes, rope.</li> </ul>	<p>areas to a safest place.</p> <ul style="list-style-type: none"> <li>➤ Cut down the most vulnerable trees near the residential areas.</li> <li>➤ Provide wooden poles and bamboo for temporary shelter.</li> </ul>	<p>the staff to man their places of duties like the ward and divisional offices and respective departments.</p> <ul style="list-style-type: none"> <li>➤ Call for emergency meeting to take stock of the situation. Develop a strategy and objectives.</li> </ul>
Railway	<ul style="list-style-type: none"> <li>➤ Overall coordination with the district administration for disaster response.</li> <li>➤ Disseminate the alert to all concerned staff.</li> <li>➤ Call for emergency meeting to take stock of the situation. Develop a strategy and objectives.</li> <li>➤ Prepare and update the disaster risk map of the district. The map should show the vulnerability and risks of the critical</li> </ul>	<ul style="list-style-type: none"> <li>➤ Activate Search &amp; Rescue</li> <li>➤ Arrange temporary shelters</li> <li>➤ Mass Casualty Management units &amp; Triage</li> <li>➤ First Aid Centres</li> <li>➤ Medical surgical teams</li> <li>➤ A control room will be setup at the district HQ / nearest to affected area, as the case may be, and made</li> </ul>	<ul style="list-style-type: none"> <li>➤ Providing necessary information to public.</li> <li>➤ Clearing the railway line blockages and restoration of the communication system.</li> <li>➤ Providing relief line to the vulnerable areas after disaster.</li> <li>➤ Special attention to vulnerable section.</li> </ul>

	infrastructure related to railway lines.	operational under control of TERM cell of affected area.	
EE- Electricity	<ul style="list-style-type: none"> <li>➤ Conduct HRV analysis for the department of the district.</li> <li>➤ Based on HRV analysis, prepare Contingency Action Plan of department of Power Supply.</li> <li>➤ All personnel required for disaster management with work under the overall supervision and guidance of responsible officer.</li> <li>➤ Establish radio communications with State Emergency Operation Centre, Divisional Commissioner, District Control Room and your departmental offices within District/Division.</li> <li>➤ After receiving alert warning, immediately undertake following inspection: High</li> </ul>	<ul style="list-style-type: none"> <li>➤ Instruct district staff to disconnect the main electricity supply for the affected area.</li> <li>➤ Dispatch emergency repair groups equipped with food, bedding, tents, and tools.</li> <li>➤ Protect Power Stations from disaster. Raise the height of compound walls. Arrange gunny bags.</li> <li>➤ Install pump sets for draining water in case of Flood/ Cyclone/ Tsunami, etc.</li> <li>➤ Provide information to the people about the state of power supply. It is one of the most important</li> </ul>	<ul style="list-style-type: none"> <li>➤ Ensure that the Power Supply department to make alternate arrangements of emergency supply for the following offices from time of receipt of districts: Hospitals ,Public Health Departments , Deputy Commissioner Office, District EOC, Sub-Divisional EOC, site Operation Centres, Police Station , Telecommunications buildings, Meteorological stations. Irrigation Office.</li> <li>➤ Hire casual labourers on an emergency basis for clearing of damaged poles and salvage of conductors and insulators.</li> <li>➤ Begin repair/reconstruction.</li> </ul>

	<p>tension lines, Towers, Sub-stations, Transformers, Insulators, Poles and Other equipments.</p>	<p>sources of information.</p>	
EE – PHED	<ul style="list-style-type: none"> <li>➤ When early signs of distress appear in any part of the district, EE PHED will submit a special situation update to DM indicating the position in respect of water supply preparedness in the district.</li> <li>➤ Prepare and update the disaster risk map of the district. The map should show the vulnerability and risks of the critical infrastructure related to water supply and public health.</li> <li>➤ Prepare a contingency plan for the maintenance and repairs water pipe systems.</li> <li>➤ Identify vulnerable areas, which are critical for disaster protection and control.</li> <li>➤ Review and</li> </ul>	<ul style="list-style-type: none"> <li>➤ Will ensure availability of adequate number of tool kits to prevent any damage during disaster.</li> <li>➤ Provide special attention to those places where the water supply were breached and repaired during the last disaster last year.</li> <li>➤ Deployed adequate team in the most vulnerable areas.</li> <li>➤ Opening the blockage of sewerage and sewage system during disaster to control the disease and epidemics.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Supply the safe drinking water at the affected areas immediately after the disaster.</li> <li>➤ Maintenance of Water works immediately after the disaster.</li> <li>➤ Cleaning the sewerage system with adequate disinfection to prevent disease and epidemics.</li> </ul>

	<p>update precautionary measures and procedures.</p>		
<p>DEO- School &amp; Mass Education</p>	<ul style="list-style-type: none"> <li>➤ Conduct HRV analysis of schools of the district.</li> <li>➤ Based on HRV analysis, prepared Contingency Action Plan for the Department.</li> <li>➤ All personnel required for disaster management should work under the overall supervision and guidance of the DEO.</li> <li>➤ All officers (technical officers) should be notified and should meet the staff to review emergency procedures.</li> <li>➤ Obtain IEC materials posters, Pamphlets, simple tips on do's and don'ts in different disasters.</li> <li>➤ Conduct awareness generation activities systemically in the whole school targeting different classes and also staffs and</li> </ul>	<ul style="list-style-type: none"> <li>➤ Duck cover and hold first sign of earthquake move away from buildings.</li> <li>➤ Assist the evacuation teams in evacuation of the school buildings.</li> <li>➤ For a chemical hazard assist the warning team in disseminating the required safety tips to the entire school.</li> <li>➤ Ensuring the schools becomes the shelter houses with adequate nos of equipments during the disaster.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Dissemination of information on do's and don'ts so that the situation doesn't worsen. This can be done in the coordination with the warning and information dissemination teams.</li> <li>➤ The damaged building and infrastructure should repair immediately after the disaster.</li> <li>➤ The relief lines should be measured from the school building after the disaster.</li> </ul>



	<p>teachers.</p> <ul style="list-style-type: none"> <li>➤ Assists in organizations of the evacuations drills for various hazards.</li> </ul>		
DEO - Higher Secondary Education	<ul style="list-style-type: none"> <li>➤ Conduct HRV analysis of Higher Secondary schools of the district.</li> <li>➤ Based on HRV analysis, prepared Contingency Action Plan for the Department.</li> <li>➤ All personnel required for disaster management should work under the overall supervision and guidance of the DEO.</li> <li>➤ Organized demonstration of fire safety, first aid and search and rescue through linkages with the fire brigade, health officials and civil defence and home guards.</li> <li>➤ Obtain IEC materials posters, Pamphlets, simple tips on do's and don'ts in different disasters.</li> <li>➤ Conduct awareness generation</li> </ul>	<ul style="list-style-type: none"> <li>➤ Duck cover and hold first sign of earthquake move away from buildings.</li> <li>➤ Assist the evacuation teams in evacuation of the school buildings.</li> <li>➤ For a chemical hazard assist the warning team in disseminating the required safety tips to the entire school.</li> <li>➤ Ensuring the schools becomes the shelter houses with adequate nos of equipments during the disaster.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Dissemination of information on do's and don'ts so that the situation doesn't worsen. This can be done in the coordination with the warning and information dissemination teams.</li> <li>➤ The damaged building and infrastructure should repair immediately after the disaster.</li> <li>➤ The relief lines should be measured from the school building after the disaster.</li> </ul>

	<p>activities systemically in the whole school targeting different classes and also staffs and teachers.</p> <p>➤ Assists in organizations of the evacuations drills for various hazards.</p>		
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### Departmental Standard Operating Procedure (SOP):

#### Public Health Engineering Department:

Actions to be Taken	Action Taken: Yes / No
<b>Early Warning &amp; Disaster Response</b>	
1. Activation of communication with the DEOC or the Deputy Collector, Emergency.	
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 centres.	
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 DEOC and agencies.	
10. Reporting to DEOC.	

**Water Resources Department**

<b>Actions to be Taken</b>	<b>Action Taken: Yes / No</b>
<b>Early Warning &amp; Disaster Response</b>	
1. Activation of communication with the DEOC or the Deputy Collector, Emergency 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.	
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 DEOC and agencies.	

**Public Works Department (Building)**

<b>Actions to be Taken</b>	<b>Action Taken: Yes / No</b>
<b>Early Warning &amp; Disaster Response</b>	
1. Activation of communication with the DEOC or the Deputy Collector, Emergency. The responsibility of the nominated 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 Chain saw, cutter.	
8. To deactivate the emergency response actions in consultation with EOC and agencies.	

**Public Works Department (Bridges & Roads)**

<b>Actions to be Taken</b>	<b>Action Taken: Yes / No</b>
<b>Early Warning &amp; Disaster Response</b>	
1. Activation of communication with the DEOC or the Deputy Collector, Emergency.	
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 DEOC.	

### Forest Department

<b>Actions to be Taken</b>	<b>Action Taken: Yes / No</b>
<b>DISASTER RESPONSE</b>	
1. Activation of communication with the DEOC or the Deputy Collector, Emergency as with the responsibility of the nominated 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 DEOC and agencies.	
7. Reporting to DEOC.	

### Social Welfare Department

<b>Actions to be Taken</b>	<b>Action Taken: Yes / No</b>
<b>Disaster Response</b>	
1. Activation of communication with the DEOC or the Deputy Collector, Emergency. The responsibility lies with the nominated 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.	
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 AWCs.	

7. To deactivate the emergency response actions in consultation with EOC and agencies.	
8. Reporting to DEOC.	

### Health Department

<b>Actions to be Taken</b>	<b>Action Taken: Yes / No</b>
<b>Disaster Response</b>	
1. Activation of communication with the DEOC or the Deputy Collector, Emergency. The 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.	
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"> <li>• Drugs used in treatment of cuts and fractures, such as tetanus toxic, analgesics and antibiotics</li> <li>• Drugs used for the treatment of diarrhoea, water-borne diseases and flu(including oral rehydrating supplies)</li> <li>• Drugs required to treat burns and fight infections</li> <li>• Drugs needed for detoxification including breathing equipments</li> </ul>	
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 'casualties	
10. Designating an area of the hospital for receiving large number of casualties. <ul style="list-style-type: none"> <li>• Emergency admissions</li> <li>• Procedures to be maintained</li> <li>• Records to be kept for future reference</li> <li>• Work schedules to ensure availability of adequate staff</li> </ul>	
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**

<b>Actions to be Taken</b>	<b>Action Taken: Yes / No</b>
<b>Disaster Response</b>	
1. Activation of communication with the DEOC or the Deputy Collector, Emergency. 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.	
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 refuelled 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"> <li>• Latest status of effect of disaster in the affected area.</li> <li>• Respond to personal inquiries about the safety of relatives in the affected areas</li> <li>• Compile statistics about affected communities, deaths, complaints and needs</li> <li>• Respond to the many specific needs that will be presented</li> </ul>	
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.	

**Energy / Electricity Department**

<b>Actions to be Taken</b>	<b>Action Taken: Yes / No</b>
<b>Disaster Response</b>	
1. Activate communication with the DEOC or Deputy Collector, Emergency. 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 cut off 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 DEOC and agencies	
9. Reporting to the DEOC.	

**Agriculture Department:**

<b>Actions to be Taken</b>	<b>Action Taken: Yes / No</b>
<b>Disaster Response</b>	
1. Activation of communication with the DEOC or Deputy Collector, Emergency. 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**

<b>Actions to be Taken</b>	<b>Action Taken: Yes / No</b>
<b>Disaster Response</b>	
1. Activation of communication with the DEOC. The responsibility for the same lies with the appointed Nodal Officer and the accountability of the CDVO.	
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 anaesthetics 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.	

**DEOC, DDMA**

<b>Actions to be Taken</b>	<b>Action Taken: Yes / No</b>
<b>Disaster Response</b>	
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 in 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.	

### 10.7 Format for First Information Report (FIR):

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

**OFFICE OF THE COLLECTOR & DISTRICT MAGISTRATE, BARGARH**  
(Emergency Section)

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

To

Special Relief Commissioner, Odisha

State Emergency Operation Centre (SEOC),

Rajiv Bhawan, Ground Floor, Unit-5, Bhubaneswar

Fax No: 0674-2534176, E-mail: [relief\\_sr@yahoo.com/src@ori.nic.in](mailto:relief_sr@yahoo.com/src@ori.nic.in)

**FIR of \_\_\_\_\_, 20XX**

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

**Addl. District Magistrate**

District Emergency Operation Centre (DEOC)

Bargarh

*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).*

**10.8 Daily Status Report on Relief/ Restoration Measures Undertaken By  
Departments**

**1. Health Department.**

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

**2. R.D. Department.**

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

**3. FS & CW Department**

- .....Qtls. Chuda, ..... Qtls gur supplied to .....  
Blocks

(Qty .in quintals)

District	Chuda	Gur

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

**Blocks**

**Quantity allocated (in quintal)**

**Total:**

**4. Fisheries & A,R.D. Department**

- Animals vaccinated-
- Animals treated-

Damages to Roads/River 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

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## CHAPTER – 11 REHABILITATION AND 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 annexed for smooth & quick processing.

### 11.1 Standard Operating Procedure: Restoration & Rehabilitation:

**Table – 11.1**

<b>Name of the Department</b>	<b>Normal Time / Aftermath of floods</b>
District Disaster Management Authority	<p><b>Normal:</b></p> <ul style="list-style-type: none"> <li>• Conduct capacity building porgrammes for Govt. Official, PRIs, NGOs, Volunteers, SHGs, Paramedical Staffs, etc. To have a better knowledge on disasters and its management.</li> <li>• Documentation of best practices</li> <li>• Provision of funds for infrastructure development</li> <li>• Preparation of DDMP and its implementation at all levels</li> </ul> <p><b>Aftermath of Flood:</b></p> <ul style="list-style-type: none"> <li>• The DDMA will review the relief, restoration and rehabilitation measures.</li> <li>• Utilize the machinery in restoration and rehabilitation work without</li> </ul>



	<p>compromise</p> <ul style="list-style-type: none"> <li>• In close coordination with Blocks, Tahasil and PRIs</li> <li>• Act at the center point for State and below district level</li> </ul>
<p>Collector/ADM / Emergency Officer</p>	<p><b>Normal:</b></p> <ul style="list-style-type: none"> <li>• Monitor the activities undertaken by DDMA</li> <li>• Review the preparedness activities</li> </ul> <p><b>Aftermath of Flood:</b></p> <ul style="list-style-type: none"> <li>• Restoration of Critical Infrastructures to bring situation to normalcy</li> <li>• Ensure Restoration of roads &amp; channels, Communication Network, Electricity &amp; Energy</li> <li>• Ensure address of health issues in the affected areas</li> <li>• Adopt sustainable mitigation measures in the restoration activities</li> <li>• Monitor &amp; review the restoration activities</li> <li>• Ensure proper functioning of rehab centers</li> <li>• Ensure proper functioning of free kitchen centers in rehab centers</li> </ul>
<p>CDMO</p>	<p><b>Normal:</b></p> <ul style="list-style-type: none"> <li>• Awareness and training programs for staff and other stakeholders</li> <li>• Preparedness planning and sharing with the DDMA</li> <li>• Review and monitor the preparedness activities and report to DDMA</li> </ul> <p><b>Aftermath of Flood:</b></p> <ul style="list-style-type: none"> <li>• All Circle Officers will carry out damage assessment in their respective areas</li> <li>• Representatives from line department's viz. Agriculture, PWD, PHED, Water Resource, Animal Husbandry, Education, Health, Irrigation, Fishery and Social Welfare will accompany Circle Officer &amp; his staff during damage assessment</li> <li>• Carry out Disease surveillance measures to check epidemic prone diseases</li> <li>• Rehabilitation of deprived &amp; destitute</li> </ul>

	<ul style="list-style-type: none"> <li>• All damage assessment reports in the prescribed format (By GoO) to be submitted to DDMA on daily basis</li> <li>• Carry out Trauma &amp; Psycho-social counselling</li> <li>• A mechanism for quick identification of factors affecting the health of the affected people shall be established for surveillance and reporting.</li> <li>• An assessment of the health and nutritional status of the affected population shall be done by experts with experience of emergencies and, if possible, local knowledge.</li> <li>• The voluntary deployment of the nearest medical resources to the disaster site, irrespective of the administrative boundaries, will be warranted.</li> <li>• Mobile medical hospitals and other resources available with District shall be provided to the relief camp.</li> <li>• Adequate supply of medicines, disinfectants etc. shall be made.</li> <li>• Where necessary inoculation shall be done.</li> <li>• Vaccination of the children &amp; pregnant women shall be undertaken.</li> <li>• Vector-borne diseases are a major cause of sickness and death in many disaster situations. Vector control measures shall be undertaken.</li> <li>• Water borne diseases may cause sickness and deaths and therefore adequate measures shall be taken to prevent such outbreaks.</li> </ul>
Superintendent of Police (SP)	<p><b>Normal:</b></p> <ul style="list-style-type: none"> <li>• Conduct training programmes for staff on operation of updated equipments for Search and Rescue</li> <li>• Conduct training programme for staff on First Aid</li> <li>• Review and monitor of preparedness activities</li> <li>• Rapport building with the local community by the staff members</li> </ul> <p><b>Aftermath of Flood:</b></p> <ul style="list-style-type: none"> <li>• Close coordination with Dist. Administration</li> <li>• All Circle Officers will carry out damage assessment in their respective areas</li> </ul>

	<ul style="list-style-type: none"> <li>• Deployment of police personnel in shelters and relief camps to ensure smooth operation</li> <li>• Coordination with the district administration for law and order situation</li> <li>• Representatives from line department's viz. Agriculture, PWD, PHED, Water Resource, Animal Husbandry, Education, Health, Irrigation, Fishery and Social Welfare will accompany Circle Officer &amp; his staff during damage assessment</li> <li>• All damage assessment reports in the prescribed format (By GoO) to be submitted to DDMA on daily basis</li> </ul>
EE- RWSS	<p><b>Normal:</b></p> <ul style="list-style-type: none"> <li>• Proper planning for supply of drinking water at the rural pockets for summer and flood season</li> <li>• Time to time restoration of tube wells and raising of platforms in the flood affected area</li> <li>• Aware the community to use safe drinking water</li> </ul> <p><b>Aftermath of Flood:</b></p> <ul style="list-style-type: none"> <li>• Close coordination with DEOC</li> <li>• All Circle Officers will carry out damage assessment in their respective areas</li> <li>• Representatives from line department's viz. Agriculture, PWD, PHED, Water Resource, Animal Husbandry, Education, Health, Irrigation, Fishery and Social Welfare will accompany Circle Officer &amp; his staff during damage assessment</li> <li>• All damage assessment reports in the prescribed format (By GoO) to be submitted to DDMA on daily basis</li> <li>• Immediate restoration of drinking water facility</li> <li>• Provision of drinking water tankers in water scarcity pockets.</li> <li>• Disinfection of drinking water sources</li> <li>• Awareness among the community to take safe drinking water</li> </ul>
EE- Irrigation	<p><b>Normal:</b></p> <ul style="list-style-type: none"> <li>• Identification of weak embankments</li> </ul>

	<ul style="list-style-type: none"> <li>• Repairing of the embankments</li> <li>• Capacity building training programmes for staff and other stakeholders</li> <li>• Flood contingency planning and sharing with DDMA</li> </ul> <p><b>Aftermath of Flood:</b></p> <ul style="list-style-type: none"> <li>• Close coordination with DEOC</li> <li>• All Circle Officers will carry out damage assessment in their respective areas</li> <li>• Representatives from line department’s viz. Agriculture, PWD, PHED, Water Resource, Animal Husbandry, Education, Health, Irrigation, Fishery and Social Welfare will accompany Circle Officer &amp; his staff during damage assessment</li> <li>• All damage assessment reports in the prescribed format (By GoO) to be submitted to DDMA on daily basis</li> </ul>
<p>DAO- Agriculture</p>	<p><b>Normal:</b></p> <ul style="list-style-type: none"> <li>• Training to farmers and other stake holders on different good agricultural practices</li> <li>• Training to Staff members on different good / updated agricultural practices</li> </ul> <p><b>Aftermath of Flood:</b></p> <ul style="list-style-type: none"> <li>• All Circle Officers will carry out damage assessment in their respective areas</li> <li>• Representatives from line department’s viz. Agriculture, PWD, PHED, Water Resource, Animal Husbandry, Education, Health, Irrigation, Fishery and Social Welfare will accompany Circle Officer &amp; his staff during damage assessment</li> </ul>
<p>EE- Rural Works</p>	<p><b>Normal:</b></p> <ul style="list-style-type: none"> <li>• Routine developmental works but disaster proofing mechanism</li> <li>• All Circle Officers will carry out damage assessment in their respective areas</li> <li>• Representatives from line department’s viz. Agriculture, PWD, PHED, Water Resource, Animal Husbandry, Education, Health, Irrigation, Fishery and Social Welfare will accompany Circle</li> </ul>

	<p>Officer &amp; his staff during damage assessment</p> <ul style="list-style-type: none"> <li>• All damage assessment reports in the prescribed format (By GoO) to be submitted to DDMA /DEOC on daily basis</li> <li>• Immediate restoration of critical infrastructures</li> </ul>
EE- Public Works	<ul style="list-style-type: none"> <li>• All Circle Officers will carry out damage assessment in their respective areas</li> <li>• Representatives from line department's viz. Agriculture, PWD, PHED, Water Resource, Animal Husbandry, Education, Health, Irrigation, Fishery and Social Welfare will accompany Circle Officer &amp; his staff during damage assessment</li> <li>• All damage assessment reports in the prescribed format (By GoO) to be submitted to DDMA /DEOC on daily basis</li> <li>• Immediate restoration of critical infrastructures</li> </ul>
DTO-Telecom	<ul style="list-style-type: none"> <li>• All Circle Officers will carry out damage assessment in their respective areas</li> <li>• Representatives from line department's viz. Agriculture, PWD, PHED, Water Resource, Animal Husbandry, Education, Health, Irrigation, Fishery and Social Welfare will accompany Circle Officer &amp; his staff during damage assessment</li> <li>• All damage assessment reports in the prescribed format (By GoO) to be submitted to DDMA /DEOC on daily basis</li> </ul>
CDVO	<ul style="list-style-type: none"> <li>• All Circle Officers will carry out damage assessment in their respective areas</li> <li>• Representatives from line department's viz. Agriculture, PWD, PHED, Water Resource, Animal Husbandry, Education, Health, Irrigation, Fishery and Social Welfare will accompany Circle Officer &amp; his staff during damage assessment</li> <li>• All damage assessment reports in the prescribed format (By GoO) to be submitted to DDMA /DEOC on daily basis</li> </ul>
RTO/MVI	<ul style="list-style-type: none"> <li>• All Circle Officers instructed to be in coordination with the local authority</li> <li>• Identification and Provision of vehicles for necessary emergency movement</li> </ul>

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

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

**11.2 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					



### 11.3 Calculation of assistance for agricultural input subsidy-SMF:

(Rs. In lakh)

S l.	Na me of the Blo ck	Area held by SMF (in Hecta res)	Total Agricul tural area Affecte d [in Hect.]	Total agricult ural area where croplos s is > 50%	Crop loss 33% & above			Expenditure incurred			Tot al
					Irriga ted [in hect. ]	Rain fed [in hect .]	Peren nial	Irrigated @Rs.13, 500/- per hectare	Rainfed @Rs.68 00/- per hectare	Peren nial @ Rs.180 00/ per Hect.	
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
<b>Total</b>											

**11.4 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										

## 11.5 Farmers affected by successive calamities:

(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										

**11.6 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..

**11.7 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																		
<b>TOTAL</b>																		

### 11.8 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									
<b>Total</b>									

**11.9 Extent of damage due to natural calamities:**

Dist : \_\_\_\_\_ Nature and period of natural calamity : \_\_\_\_\_

SI.	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	

### 11.10 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
<b>Roads &amp; Bridges</b>	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 –				
<b>Drinking Water Supply</b>	Rural Water Supply	No of Tube wells damaged – No of platforms damaged – No. of Rural pipe water supply system damaged -				
	Urban Water Supply					
<b>Irrigation</b>	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 –				
<b>Primary Education</b>	Primary School Buildings	No of Primary School buildings damaged -				
<b>PHCs</b>	PHCs	No of Primary Health Centres damaged -				
<b>Community assets owned by Panchayats</b>	Community Halls	No of Panchayat Ghar/Community Hall damaged -				
	AWW Centres	No of Anganwadi Centres damaged -				
<b>Power</b>	Electrical lines	No of Primary sub-stations damaged – 33 KV lines damaged – 11 KV lines damaged – Distribution Transformers damaged – LT lines damaged –				
<b>Total</b>						

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## CHAPTER-12 RECOVERY

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

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

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

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

## 12.1 Livelihood Recovery Plan:

Considering the poverty profile of Odisha, convergence of different flagship schemes holds great significance in addressing poverty and unemployment. All the major anti-poverty Schemes envisage convergence of some kind. But two of them, critical in the context of poverty reduction, are NRLM and MGNREGS. NRLM needs MGNREGS because of better inclusion of the poorest, strengthening organizations of poor, enhanced livelihood opportunities and bringing the right perspective into intervention. Economic activities taken up by the SHGs often require certain backward linkage. If basic assets for taking up of NRLM can be created under MGNREGS, it might be of help to the groups and their members. In the other side, MGNREGS needs NRLM for stronger access to entitlements, participation of poor women, more effective decentralized planning and execution. The assets created under MGNREGS can be better utilized when there is value addition done by other schemes of Line Departments. The value addition of MGNREGS works can further strengthen the livelihoods base and diversify the livelihoods of poor communities. In this context a strategy has been implemented in Paikmal block of Bargarh district with an aim to integrate both the MGNREGS and NRLM and bring synergy among other schemes of Line Departments to enhance the livelihood security of the rural poor. Based on the learning from the implementation, possible livelihood models have been framed for implementation in other districts.

### 12.1.1 Agri based Livelihood

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

#### Agriculture

Study shows that wherever MGNREGS works are being implemented effectively it is generating multiple environmental benefits, leading to improve water availability, soil fertility and increased crop production. The works are also helping reduce soil erosion and increase area under plantations. Hence it is the top most agenda of the State to devise strategy to improve the agriculture production and productivity. To take up agriculture based livelihoods following processes have to be adhered to;

1. Map the cultivable and the potentially cultivable land in the area through social and resource mapping (through GPDP using IPPE exercise). This exercise will help in

identifying the type of lands available in the area like waste land, fallow land etc. These lands may be lands owned by individual households or regularised under Forest Rights Act (FRA).

2. The lands need to be shaped and treated under a scientific plan to ensure that there is no water logging and there is optimum utilization of available water. This will be done through MGNREGS. This will not only ensure that the beneficiaries get wages but also enables them to develop their own assets, thus triggering further sources of employment.
3. Required topographical survey may be carried out before planning and executing land development works. Land development work should be planned and carried out on watershed approach i.e. ridge to valley approach. In construction of bunds and earthen check dams, earth should be taken from upstream side and at least 3-4 feet away from foot of the bund. If common land is not used for crop then the best way to develop is by constructing contour bunds to conserve rain water and soil which is economical, productive and durable.
4. Without provisioning water sources, the lands will become again unproductive. Hence through MGNREGS percolation tanks, canals, check dam, diversion wire etc. could be taken up in the area. Minor Irrigation department can take up irrigation works. Lift Irrigation can also be taken up by Odisha Lift Irrigation Corporation.
5. The next step is optimum utilization of water by encouraging the use of sprinklers, drip irrigation, plastics mulching for horticulture water conservation etc. which can be provided by Agriculture Department.
6. The individual households whose lands are developed under MGNREGS or other schemes could take up farming practices in the developed lands. The SHGs promoted by NRLM can take up collective farming through taking the land on lease basis. The working capital for farming could come up from NRLM.
7. Loans are available to farmers through several institutions and programmes, such as cooperative banks, lead bank district credit plan, Kisan credit cards (introduced by GoI to provide affordable credit to farmers), Primary Agriculture Credit Societies (PACS) and Large Area Multipurpose Cooperative Societies (LAMPS) for SC/ST farmers. However, there is a need to rationalize their borrowing, both in terms of the extent of finance required and the cost of that loan.
8. Agriculture department has provisions of providing seeds (maize, paddy, black gram etc) to the farmers on subsidy. Agriculture/Cooperation department gives subsidy on

fertilizers to the poor farmers. Besides, MGNREGS has recently focussed more on taking up vermi compost and NADEP compost as bio fertilizers. These can also be planned in the area.

9. Activities and funds of several Departments can be converged to ensure good storage facilities. MGNREGS could provide storage centres and food grain storage can also be constructed by Food Supplies and Consumer Welfare Department/ Cooperation Department.
10. NRLM has to take a lead role in providing market related information to the farming communities. The thrust activity of increase in production and crop selection has to include the component of marketing and an investment in building the capacity of farmers to market effectively. They should be exposed to all aspects of this operation (such as the possibility of buy-back arrangements with the private sector). Farmers should have established linkages with wholesale *mandis*, corporate farming, cold storages, private sector, processing plants and retail outlets.

### *The framework*

SI	Scheme	Department	Activities	Cost Norms
1	MGNREGS	PRD	<ol style="list-style-type: none"> <li>1. Irrigation Channel</li> <li>2. Dug Well</li> <li>3. NADEP composting</li> <li>4. Vermi composting</li> <li>5. Liquid Bio Manures</li> <li>6. Land Development with field bunding</li> <li>7. Creation of water bodies including farm pond, de-silting of ponds, canals, defunct water bodies</li> </ol>	<ol style="list-style-type: none"> <li>1. Irrigation channel as per estimated cost</li> <li>2. Dug Well up to Rs.1.60 lakh</li> <li>3. Nadeep compost Rs.14,000/- (26:74)</li> <li>4. Vermi compost-Rs. 20,000/- (24:76)</li> <li>5. Liquid Bio Manure-Rs.2000/-(30:70)</li> <li>6. Land development as per estimate</li> <li>7. As per estimate</li> </ol>
2	PMKSY	Watershed Development Mission	<ol style="list-style-type: none"> <li>1. Lining</li> <li>2. Inlet</li> <li>3. Outlet</li> <li>4. Silt trap</li> <li>5. Adjustable gates etc.</li> </ol>	<ol style="list-style-type: none"> <li>1. Material cost beyond the specified limit, i.e., 40% in the MGNREGS</li> </ol>
3	Jalanidhi	Agriculture	<ol style="list-style-type: none"> <li>1. Dug well</li> </ol>	<ol style="list-style-type: none"> <li>1. 75% of the project cost</li> </ol>

			<p>2. Bore well</p> <p>3. Shallow Tube Well (Individual farmer and cluster of farmer)</p>	<p>subject to a limit of Rs.75000/-</p> <p>2. 75% of the project cost subject to a limit of Rs.50,000/- (excluding cost of electrification). In addition 75% of Genset /electrification cost subject to a limit of Rs.50000/-(for energisation)</p> <p>3. 50% subsidy of the cost or maximum Rs. 20,000. In addition, in case of cluster of 10 nos. or more STWs the cost of electrification will be borne by the Government subject to a ceiling of Rs 4.00 lakh per cluster</p>
4	Biju Krushak Kalyan Yojana (BKKY)	Health	Smart card for health treatment (Those families not covered under RSBY are to be benefitted with Rs 1 lakh for medical treatment both in Govt. & private hospital)	Health benefit up to 1 lakh
5	Infrastructure development for post harvesting	Agriculture/ PRD	Concrete Drying-cum-threshing Floor	20x20 meter community harvesting yard free of cost
6	Pradhan Mantri Crop insurance	Agriculture and Cooperation	Insurance facilities for the farmers cultivating paddy, ground nut, Ginger, Turmeric, Cotton etc.	The premium rate is 2% of total sum assured amount for Kharif crop, 1.5% for Rabi crop and 5 per cent for annual commercial horticulture crops
7	State Plan	Agriculture	<p>1. Promotion SRI method</p> <p>2. Soil Test</p> <p>3. Technology Transfer</p> <p>4. Demonstration,</p>	Incentive of Rs. 4,700 per hectare to the farmer who adopting SRI method

			5. Incentive to the farmers 6. Promotion of Improved Agronomic Package and Practices 7. Extension Services 8. Supply of Pump Set	
8	Farm Mechanisation		Subsidy Assistance on Tractor, Power Tiller, Combined Harvester etc.	As per scheme guidelines
9	NFSM		Improve Package and Practices of Rice , Wheat, Pulses and Core Cereals	As per scheme guidelines
10	OLM	PRD	Promotion Producers Groups, Forward and Backward Linkages, bank linkage	As per the approved proposal

The inputs from the Intensive Participatory Planning Exercise (IPPE) already conducted under MGNREGA shall be used in preparing the convergence plan. In most cases the labour intensive works like earth works for source creation shall be taken up under MGNREGA. Emphasis shall be given for utilising MGNREGA fund for de-silting of ponds, canals, defunct water bodies like old ponds, to improve storage capacity and creating scopes for water availability for irrigation purposes. PMKSY fund shall also be used for topping up of material cost beyond the specified limit, i.e., 40% in the MGNREGA for lining, inlet, outlet, silt trap, adjustable gates etc. In IWMP blocks, PMKSY shall be implemented through convergence of MGNREGS and IWMP. District Irrigation Plan (DIP) as envisaged under PMKSY shall be the cornerstone for planning and implementation of PMKSY. Besides, Dug well, Bore well and Shallow Tube Well (STW) shall be created by utilizing the funds available under Jananidhi Scheme. Systematic Rice Intensification (SRI) shall be taken up under State Plan to promote Improved Agronomic Package and Practices. Soil Test, Technology Transfer, SRI Demonstration and Extension Services shall be ensured under State Plan Scheme. Similarly, supply of Pump Sets shall be provided under State Plan Scheme. Subsidy assistance on Tractor, Power Tiller, and Combined Harvester shall be provided under Farm Mechanisation.



Provisions available under NFSM for promotion of improve package and practices of Rice, Wheat, Pulses and Core Cereals shall also be tapped. Material cost of construction of community threshing floor shall be booked under the schemes related to Infrastructure development for post harvesting whereas labour cost shall be met from MGNREGS. Crops shall be insured under Pradhan Mantri Crop insurance Scheme. Smart card for health treatment up to 1 lakh shall be tagged under BKKY for medical treatment both in Govt. & private hospital.

### **Horticulture**

MGNREGS funds shall be leveraged with various schemes of horticulture department for utilisation of both short term and long term benefits of the farmers. Water sources such as community tank, Farm Pond including 30x40 models and 5 % models shall be created in the land of small and marginal farmers under MGNREGS. Land development activities including field bonding and field levelling shall also be taken under MGNREGS. Large Scale plantation projects on mango/cashew and coconut would be planned under MGNREGS. Besides, organic farming shall be taken up in saturation mode through promotion of Vermi Composting and Nadeep composting. It is non-negotiable that the beneficiary of such projects shall have a job card and shall be from the categories specified in Para 5 of the Schedule I of the MGNREGA. Plantation programme for Medium Density Mango Plantation/ cashew/Coconut should be integrated under MGNREGS depending upon agro-climatic feasibility.

Onion cultivation, Betel leaf and floriculture shall be taken by utilizing the funds available under State Plan. Intercropping shall also be promoted in various fruits orchards.

For encouraging farmers to establish fruit orchard on their private holdings, subsidy shall be provided for Mango/Cashew/Guava/Litchi/pomegranate/ Lime Plantation /Lime Plantation. Labour cost of plantation, watch and ward etc. shall be met from MGNREGS funds. Oil palm area in the state needs to be expanded in potential pockets. Under Special programme on Oil Palm Area Expansion, Pump sets to be supplies to the farmers in the areas where transitional water bodies available. Bore well would only be provisioned for irrigation where ground water table in high. Drip and sprinkler irrigation shall be ensured under PMKSY.

Minimum one godown/ storage centre for agriculture producers per block shall be constructed by leveraging the funds of MGNREGS and NHM. Technical support on production of bio-

fertilizer and vocational training on various horticulture operation shall be extended under NHM.OLM shall mobilize the farmers into producers groups and provide necessary training and marketing supports with the technical support of Horticulture department.

### *The framework*

SI	Scheme	Department	Activities	Cost Norms
1	MGNRGS	PRD	<ol style="list-style-type: none"> <li>1. Farm Pond including 30x40 and 5 % model</li> <li>2. Community Tank</li> <li>3. Land Development</li> <li>4. Nadeep Compost</li> <li>5. Vermi compost</li> <li>6. Medium Density Mango Plantation/ cashew/Coconut plantation</li> </ol>	<ol style="list-style-type: none"> <li>1. According to size of land</li> <li>2. As per size of the land</li> <li>3. According to size of land</li> <li>4. Nadeep compost Rs.14,000/- (26:74)</li> <li>5. Vermi compost-Rs. 20,000/-(24:76)</li> <li>6. As per areas of plantation</li> </ol>
2	State Plan	Horticulture Horticulture	<ol style="list-style-type: none"> <li>1. Supply of onion seeds</li> <li>2. Intercropping in fruits orchards</li> <li>3. Mango, coconut, K. Lime and cashew plantation</li> <li>4. Floriculture</li> <li>5. Betel leaf cultivation</li> </ol>	As per provision of the scheme
4	PMKSY		<ol style="list-style-type: none"> <li>1. Drip irrigation and sprinkler irrigation</li> </ol>	As per provision of the scheme
5	Special programme on Oil Palm Area Expansion		<ol style="list-style-type: none"> <li>1. Oil palm cultivation</li> <li>2. Supply of diesel/electric pump sets</li> <li>3. Bore well</li> </ol>	
2	Mission on Integrated Development of Horticulture (NHM)		<ol style="list-style-type: none"> <li>1. Mango/Cashew/Guava/ Litchi/pomegranate/ Lime Plantation</li> <li>2. Post-harvest storage and structures</li> <li>3. Technical supports on Vermin compost and Nadeep compost</li> <li>4. Vocational Training on horticulture</li> <li>5. Plastic Mulching</li> </ol>	As per provision of the scheme

			6. Poly Green House 7. Shed Net 8. Pack House 9. Development of market yard	
3	OLM	PRD	Promotion of Producers Groups, Forward and Backward Linkages, bank linkage	As per the approved proposal of OLM

### Dairy

Dairy sector is one of emerging entrepreneurship activities in Odisha to engage more and more rural youths and women SHGs. This sector can be taken up by the SHGs under convergence mode through MGNREGS and other schemes. Under MGNREGS the infrastructure required for cattle like shed, floor of the cattle shed, urine tank etc can be taken up. A tank constructed for urine collection could be used to make liquid manure. A fodder trough if constructed under MGNREGS would facilitate proper feeding of cattle and minimize waste of fodder. The area of the cattle shed floor for 6 herds of cattle and a fodder trough and a cattle urine collection tank shall be taken up for health and hygienic of the cattle under MGNREGS. An Azola Pit for cattle feed supplement can also be taken up under MGNREGS. Creation of awareness among farmers, breeding of local cows by using superior dairy breeds, supply of fodder seeds/ planting material, fodder demonstration, supply of chaff cutters and organizing health camp etc shall be ensured under Integrated Livestock Development Programme (ILDLP), Kalyani. Subsidised balanced calf feed (4 to 28 months), insurance and deworming, vaccination under Calf Rearing programme and subsequently establishment of Small Dairy Unit could be promoted under Dairy Entrepreneurship Development Scheme (DEDS). Special initiatives for fodder development to be integrated with this initiative by leveraging the funds available under Minikits Programme on fodder Crops or Addl. Fodder Development Programme in drought prone areas. Superior dairy breed shall be protected National Livestock Mission as a safety net to farmer against any loss in dairy enterprise. Technology Knowledge and Strategic Partnership with OUAT, NDRI, Karnal and IVRI, Izatnagar, Bareilly is a must for animal health and livestock production.

SI	Scheme	Department	Activities	Cost Norms
1	MGNREGS	PRD	<ol style="list-style-type: none"> <li>1. Construction of Pucca floor, urine tank and fodder trough for cattle</li> <li>2. Construction of Azola Pit</li> </ol>	<ol style="list-style-type: none"> <li>1. Rs. 35,000 (Unskilled labour: material cost ratio of 30:70)</li> <li>2. Rs.10,000 (Unskilled labour: material cost ratio of 15:85)</li> </ol>
2	Integrated Livestock Development Programme (ILDPA), Kalyani	F & ARD	<ol style="list-style-type: none"> <li>1. Creation of awareness among farmers.</li> <li>2. Breeding of local cows by using superior dairy breeds</li> <li>3. Supply of Fodder seeds/ planting material are supplied</li> <li>4. Fodder demonstration</li> <li>5. Supply of chaff cutters</li> <li>6. Organization of health camp</li> </ol> <p>Technology– Knowledge and Strategic Partnership with OUAT, NDRI, Karnal and IVRI, Izatnagar, Bareilly</p>	As per the norms of the scheme
3	National Livestock Mission		Ensure premium subsidy and quick settlement of insurance	As per the norms of the scheme
4	Dairy Entrepreneurship Development Scheme (DEDS)		<ol style="list-style-type: none"> <li>1. Establishment of small Dairy units</li> <li>2. Promotion of Dairy Enterprise</li> </ol>	As per the norms of the scheme
5	Calf Rearing Scheme		1. Subsidized balanced calf feed ( 4 to 28 months)	As per the norms of the scheme

			2. Deworming 3. Vaccination	
6	Minikits Programme on Fodder Crops/Addl. Fodder Development Programme		Supply of fodder minikits	As per the norms of the scheme
7	OLM	PRD	Promotion of Producers Groups, Forward and Backward Linkages, bank linkage	As per the approved proposal of OLM

### Poultry

Poultry has been the fastest growing sector in providing employment and income to a significant number of people along with making protein supplementation for masses. The backyard poultry also play a vital role in the livelihood of millions of poor people particularly for tribal & scheduled caste. To boost backyard Poultry in the state, construction of poultry shed of SC-ST/BPL households under MGNREGS shall be taken in massive scale in tribal dominated districts. 21 day old chick with proper vaccination shall be supplied to these households from National Livestock Mission. Households those are covered under other such schemes implemented by Central/State government shall be excluded. OLM shall take proactive steps to promote backyard poultry in tribal districts. OLM should supply chicks from District hatchery which are promoted by Animal husbandry department.

Scope may be explored for commercial Layer projects under Agriculture Enterprise Promotion at district level. Eggs produced in such projects could be supplied to local schools for Mid-Day Meal. OLM has to take a leading role in promotion of livelihood cluster, capacity building and marketing of Poultry and poultry products. OLM shall explore the marketing opportunities of poultry products through OPELEFD. OLM shall work closely with OPOLFED for marketing of poultry products.

SI	Scheme	Department	Activities	Cost Norms
1	MGNREGS	PRD	Construction of Poultry Shed	Rs. 65,000 (Unskilled labour: material cost ratio of 15:85)
2	National Livestock Mission	F & ARD	1. Supply of 21 day old chick 2. Night Shelter	As per proviso of line of the scheme
3	Agriculture Enterprise Promotion (Layer)		1. Subsidy Assistance 2. Technical guidance, training of entrepreneur 3. Dissemination of information regarding the scope of commercial and export oriented projects	As per provision of line of the scheme
4	Mid-Day Meal	School and Mass Education Dept.	Use of Egg produced in the Poultry Farm under MDM	
5	OLM	PRD	Promotion of Producers Groups, Forward and Backward Linkages, bank linkage	As per the approved proposal of OLM. Proposal shall be submitted by OLM to OPOLFED to explore the marketing opportunities.

### Pisciculture

Fisheries as a livelihood activity for the poor have immense scope. Many tanks, water harvesting ponds created under MGNREGA are ideally suited for fish production. This convergence is designed for bringing barren water logged areas into Pisciculture fold helping for sustainable utilization of the land, increase the fish production and create ample scope for generation of employment opportunities for the unemployed youths and economic up-liftmen of the rural poor. Creation of durable assets for fishery is admissible to all categories of fish farmers for excavation and renovation of tanks and multipurpose farm ponds under MGNREGS. It is non-negotiable that the beneficiary of such projects shall have a job card and shall be from the categories specified in Para 5 of the Schedule I of the MGNREGA. Subsidy assistance to fish farmers on Pisciculture promotion (Feeding, gardening of embankment etc.) shall be provided under National Mission for Protein Supplement (NMPS) and National Fisheries Development Board assistance (NFDB). Godown, ice plant, cold storage, processing center, water and electricity facilities etc. could be ensured under Infrastructure Support and

Marketing Schemes and Fish drying yards with concrete surfaces shall be constructed in connection with fish landing centres and fishery harbours for hygienic drying of fish under MGNREGS. Besides, Fish farming community shall be provided with Pucca houses under Matsyajibi Basagraha Yojana including provisioning of equivalent wage of 90/95 person days per beneficiary. Scholarship to the children of Matsyajibi who have passed Matriculation shall be provided under Medhabruti Scheme. OLM could mobilize the fish farming community into resourceful groups, upgrade existing skills, value addition of fish and marketing of fish and fish product. NRLM compliance SHGs shall be given preference to provide community tank on lease and Input Loan shall be ensured under Short Term Credit Scheme of F & ARD.

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

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

### 12.1.2 Skill Development Programme

Without doubt training provides increased employment opportunities. Today, even entry level roles in many industries require base level skill. By completing a training course, employment opportunities become wider. Thus, there is a need for a clear focus on improving the employability of rural youth of the district as agriculture failed to absorb the educated youth which constitutes a major proportion of the district workforce. In view of this, DDMP, 2017-18 identified the following Skill Development Programme which will increase the employability of the district to sustain the livelihood of the rural population.

Sl	Department	Implementing Agency / Directorate	Skill Development Programmes
1	Skill Development & Technical Education (SD&TE)	Odisha State Employment Mission Society (OSEMS)	Placement Linked Skill Training Programme (PLTP)
		Directorate of Technical Education & Training (DTE&T)	MES / Apprenticeship / Craftsmanship
2	Panchayati Raj	Odisha Rural Marketing Society (ORMAS)	Deen Dayal Upadhyaya Grameen Kaushalya Yojana



Sl	Department	Implementing Agency / Directorate	Skill Development Programmes
			(DDU-GKY)
			Rural Self Employment Training Institute (RSETI)
3	ST & SC Development	Odisha Scheduled Caste and Scheduled Tribe Development Finance Co-Operative Corporation Ltd. (OSFDC) / ITDA	Skill Development Training Programme (SDTP)
			Placement Linked Employability Training Programme (PLETP)
4	Housing & Urban Development (H&UD)	State Urban Development Agency (SUDA) / National Urban Livelihoods Mission (NULM)	Employment through Skill Training and Placement (ESTP) under NLUM
5	Agriculture	Directorate of Institute on Management of Agricultural Extension (IMAGE)	Skill Development Training Programme (SDTP) for the Youth of watershed area
			Skill Development Training Programme (SDTP) under Modular Employable Skill
		National Horticulture Mission (NHM)	Skill Development Training Programme (SDTP) in Horticulture Sector
6	Handlooms, Textiles & Handicrafts (HT&H)	Directorate of Textiles & Handlooms (DT&H)	Integrated Skill Development Scheme (ISDS)
			Skill Upgradation Training (SUT)
		Directorate of Handicrafts	Crafts Village Programme (CVP)
			Master Craftsman Training (MCT)
			Crafts Design, Development

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

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## **CHAPTER – 13 FINANCIAL ARRANGEMENTS**

### **13.1 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.

### **13.2 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 13<sup>th</sup> 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 instalments in June and December respectively in each financial year. Likewise, the State Government transfers its contribution of 25% to the SDRF in two instalments 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 instalments 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 annexure ..... for SDRF and NDRF Items and Norms)*

### 13.3 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.

#### 13.3.1 Cases Eligible for Assistance under CMRF

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

**13.3.1.2 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.

**13.3.1.3 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.

**13.3.1.4 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.

#### **13.4 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.

#### **13.5 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 Odisha Relief Code, the Collector shall undertake assessment of damages to private properties as well as properties of Government. This assessment shall be done quickly soon after the abatement of flood in the prescribed formats prescribed in Appendix- X of Odisha Relief Code.

### 13.5.1 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.

### 13.5.2 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.

### 13.6 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 1<sup>st</sup> and 3<sup>rd</sup> 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 No- 13.1: Different State and Central Government Schemes and Programms**

SI No.	Name of the Scheme	Sector	Nodal Department	Objective of the Scheme
1	National Agriculture Insurance Scheme (NAIS)/ Rastriya Krishi Bima 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	Pradhan Mantri Jeevan Jyoti Bima Yojna	Life Insurance		life insurance cover for death due to any reason
4	Pradhan Mantri Surkhya Bima Yojna	Life Insurance		Accidental insurance for death/full disability or partial disability
5	Postal Life Insurance (PLI) and Rural Postal Life Insurance (RPLI)	Life Insurance	Postal	life insurance under a number of schemes for employees in government, public sector banks and government-aided education institutions
6	Pradhan Mantri Fasal Bima Yojana (PMFBY)	Crop Insurance	Agriculture	Insurance coverage and financial support to the farmers in the event of failure of any of the notified crop as a result of natural calamities, pests and diseases.
7	Rashtriya Krishi Bima Yojana	Health Insurance	Agriculture	Crop insurance
8	Biju Krushaka Kalyan Yojana	Health Insurance	Health	financial support through health and accident

	(BKKY)			insurance
9	Mahatma Gandhi Bunakar Bima Yojana	Accidental Insurance	Handloom and Textile	Insurance for accidental death and disabilities
10	Accident Insurance Scheme	Accident Insurance	Fishery	Assistant to fishermen towards hospitalization expenses during serious disease
11	Disease Control Programmes			Protective vaccination for various diseases to livestock and treatment of animals
12	Mahatma Gandhi National Employment Guarantee scheme	Mitigation measures	PR Dept., Govt. of India	Utilisation of MGNREGS funds to reduce the vulnerability of Panchayat vis a vis natural hazards such as drought, forest fire, cloud floods, etc
13	Pradhan Mantri Gram Sadak Yojana	Roads	Rural Works	To ensure that in case of disasters these roads get provision for restoration to ensure all weather connectivity
14	Indira Awas Yojana	Housing	Rural Development/ Panchayati Raj	To promote measures like application of Hazard resistant design in construction of IAY houses, appropriate sitting of IAY housing. Besides, fire proof houses to fire victim for special allocation quota.
15	SSA/RMSA/RUSA	Education	Human Resource Development	To induce institutional safety plan and development of Policy paper of institutional safety at various level of education.
16	National Rural Health Mission	Health	Health and Family Welfare	To ensure that the village Health Plan and the District health plan explicitly address the disaster risk reduction



				concerns in the vulnerable habitations and the vulnerable districts and the disaster management plan as per DM Act 2005 takes links itself to the District and village Health plans.
17	Finance Commission Grant	Infrastructure Development	PR Dept.	10% of the fund will be dedicated to disaster related projects

### **13.7 Roles of District Planning Committee on financial outlay on mainstreaming Disaster Risk Reduction (DRR) in development programmes:**

The 73rd and 74th amendments of the Constitution provided an impetus to the process of decentralized planning having mandated devolution of powers to Panchayati Raj Institutions (PRIs) at village, block and district levels. Article 24 243ZD of the Constitution mandated the setting up of District Planning Committees (DPCs) for consolidating plans prepared by Panchayats and Municipalities in the district into District Plans. In view of this, Government of Odisha has ensured the formation of DPCs through the Odisha District Planning Committee Act, 1998 and subsequent Odisha District Planning Committee Rules, 2000 which have been enacted for effective planning process at the district level. Subsequently, DPMU, Bargarh have been set up in the district for preparing the Comprehensive District Plans as per the Department Letter No.12774/dated.03.11.2015 of Planning and Coordination Department, Govt. of Odisha. The vision documents 2020 of Bargarh stressed upon interventions to mitigate the critical risks. Further, under Section 38 (2) (e) of the DM Act, the State Government is to ensure that the integration of measures for prevention of disaster or mitigation have been incorporated by the departments of the Government of the State in their development plans and projects.

In this backdrop, the DDMP, 2018 focused on mainstreaming Disaster Risk Reduction (DRR) in development programmes.

### **13.8 Role of DPC for mainstreaming Disaster Risk Reduction (DRR):**

While the issues of climate change cripple formulated climate action in the district, mainstreaming climate change adaptation has emerged as a new area of focus for building resilience of vulnerable communities. Climate adaptive planning spans across departments (agriculture, water resources, rural development etc.) and vertical bureaucratic levels (district, block and village). CCA, i.e. adjustments in human and natural systems in response to actual or

expected climatic variation, with a view to moderating harm or exploiting beneficial opportunities, is an area of growing concern for the district. The myriad and uncertain effects of a changing climate pose significant risks for development and achievement of the Sustainable Development Goals (SDGs) at district level. Following roles of DPC would be articulated to be reduced the disaster risk at various levels.

- Make certain that all the development programmes and projects are designed with evident consideration for potential disaster risks and to resist hazard impact in the district.
- Make certain that all the development programmes and projects do not inadvertently increase vulnerability to disaster in all sectors: social, physical, economic and environment
- Make certain that all the disaster relief and rehabilitation programmes and projects are designed to contribute to developmental aims and to reduce future disaster risk.

### **Procedure/Methodology for Mainstreaming of DRR and CCA in District Level Planning**

#### **Project appraisal**

Consideration of disaster risk concerns as part of the project appraisal process is an essential step in:

- Ensuring that development gains from individual projects are sustainable;
- Ensuring that potential disaster risk reduction benefits of both dedicated risk reduction projects and other development projects are optimized; and
- Highlighting related issues of responsibility and accountability.

Disaster risk concerns should be considered in all components of project appraisal analysis – financial, economic, environmental, social, institutional and technical – reflecting the fact that vulnerability to natural hazards is complex and multi-faceted and so needs to be viewed from all angles, incorporated into broader planning tools, such as logical framework analysis and results-based management frameworks, and reflected in the development of monitoring and evaluation indicators.

#### **13.9 Monitoring and evaluation of projects from DRR/CCA angle:**

The capacity to monitor and evaluate DRR initiatives, generate hard evidence on related inputs, outputs, results and impacts and learn lessons for the future is an essential component for mainstreaming. In practice, the use of benchmarks and indicators to monitor and evaluate DRR initiatives is not very common anywhere. This partly reflects an inherent challenge relating to the fact that the success of a DRR initiative is ultimately measured in terms of something – a disaster or a particular form or level of loss – that does not happen as a consequence of a

hazard event. There are further complications relating to the fact that a particular hazard event may not occur over the life of a project, implying that the benefits and impact of related DRR activities may not be directly measurable within the normal evaluation timeframe. Moreover, no two hazard events are ever the same, implying that the precise nature and scale of any benefits may vary between events. Nevertheless, DRR initiatives can and should be monitored and evaluated. Problems relating, for instance, to potentially lengthy time lags in the realisation of benefits can be overcome to some extent by using leading or process indicators that provide a measure of progress towards the achievement of project objectives (e.g., the number of schools constructed to withstand earthquakes of a particular magnitude).

The UNDP guidelines on integrating disaster risk concerns in planning processes also provide little guidance on monitoring and evaluation beyond stating the need to perform the following steps in undertaking the logical framework analysis for all programs, projects and activities:

- Include relevant indicators to monitor and evaluate any disaster risk reduction components
- Consider disaster-related factors in identifying critical risks and assumptions, developing a risk management plan and establishing risk indicators
- Monitor and assess performance of any disaster risk reduction components, the impact of any disaster events and implications of any changes in vulnerability to natural hazards and modify project activities, targets, and/or objectives accordingly where necessary
- Assess disaster risk reduction achievements and shortcomings and adequacy of the initial disaster risk assessment.

#### **Few key actions for mainstreaming of DRR and CCA in development planning**

##### **CCD of the district should consider the following key action points:**

- Provision for adequate budget, dedicated staff, capacity development, a monitoring framework, and interdepartmental cooperation need to be in place for effective mainstreaming.
- More attention needs to be paid to the monitoring and measuring of mainstreaming. This should include an assessment of inclusion of gender issues and Below Poverty Line families in climate change planning.
- Risk diversification in the context of unpredictable climate patterns is necessary. The options need to include effective programmes of contingency crop planning, crop diversification including the use of hazard resistant crops as well as promoting supplementary income generation from off-farm and non-farm activities.

- The main obstacle in the path of government departments being able to address climate change concerns is dedicated personnel. Officials need to be highly skilled and trained. Additional qualities that an official needs to have in order to function effectively include empathy and communication.
- Detailed procedures that list the precise steps that are to be implemented in case of an emergency and by whom need to be put into place. This will ensure that systems work irrespective of the caliber of the individual official in position at that time. Preparation for a disaster as well as risk reduction should be incorporated in the development agenda of all departments. This step will ensure that citizens who are usually the first on the scene of a disaster are well-equipped to deal with emergencies and also reduce dependence on the National Disaster Response Force.

To facilitate the process a set of checklists are given for vetting different projects/developments through the lens of DRR and CCA as well as to check that they protect the communities from future disaster risks and do not increase their vulnerabilities to disasters. Each question is to be answered in Yes or No with specific remarks for the answer, if required.

### **13.10 Fund provision for disaster preparedness & capacity building:**

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

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## CHAPTER - 14

### PREPARATION & IMPLEMENTATION OF DDMP

#### 14.1 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 Bargarh 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 day 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.

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

##### **Additional District Magistrate:**

- ADM 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.

##### **Deputy Collector, Emergency:**

- 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 the 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.

#### **14.3 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 CDMO, CDVO, Fisheries, DDA cooperated fully.
- Other departments provided data but after constant follow ups.

**14.4 Time lines for updating DDMP:**

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

**14.5 Details of number of consultation and meetings, discussion with stakeholders for modification and final sharing:**

- A two day workshop on preparation of DDMP was attended by DEO and DPO at State level on 19<sup>th</sup> and 20<sup>th</sup> April 2018.
- Dist. level meeting on sharing of formats was done on 07<sup>th</sup> May, 2018.
- Letter issued on 7<sup>th</sup> May with the formats to all line departments and asked to provide data by 14<sup>th</sup> May 2018.
- 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 08.06.2018.
- Necessary suggestion made by DDMA members incorporated in DDMP.
- Approval of DDMP was done on 08.06.2018
- Submission to OSDMA and SRC was done on 10.06.2018.
- 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.

#### **14.6 Sharing and placing before DDMA for approval:**

After the sharing of DDMP with DDMA members on 08.06.2018, the final touch was given to the DDMP. On 08.06.2018, the DDMP placed to the Chairman, DDMA for necessary approval. Finally the DDMP submitted to SRC & OSDMA.

#### **14.7 Implementation of DDMP, 2018:**

Efforts have been made to make the DDMP, 2018 useful and practicable which can be used by various departments to tackle the various types of disasters effectively to minimise the potential loss. Implementation of the DDMP, 2018 will govern by the SoP of the concerned departments and instructions issued by the Government from time to time.

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## CHAPTER - 15

### LESSONS LEARNT AND DOCUMENTATION

Personnel involved in the exercise have to draw up on knowledge of best practices and the resource available to them. Information and training on ways to better respond to and mitigate disaster is important since training for field functionaries is an integral part of capacity building and trained personal respond much better to different disasters and appreciate the need for preventive measure.

Capacity building for effective disaster management therefore needs to be grounded and linked to the community and village level responders on the other hand. It should not be limited to the personal and the personal involved in the disaster management, but should focus on building of knowledge, attitude and skills of a community to cope with the efforts of disaster. Identification of training volunteers from the community towards first response measures as well as mitigation measure is an urgent imperative.

Creating awareness through disaster education and training and information dissemination are necessary steps for empowering the community to cope with disaster. Community based approach followed by most of the NGOs and CBOs should be incorporated in the disaster management system as an effective vehicle of community participation. In facts NGOs have been requested to work with panchayat to evolve Model Panchayat level sustainable development and disaster management plan.

Within the vulnerable community, there exist groups that are more vulnerable like women, children, aged, infirm and physically challenged people who need Special care and attention especially during the disaster situation. Efforts are required for identification of such vulnerable groups and providing special assistance to them in terms of evacuation, relief, aid, medical attention to them in disaster situation.

To active participation in the communities in disaster risk assessment and reduction measure is being looked upon as an imperative in disaster mitigation planning and implementation. Vulnerable communities adopt to hazardous situation by means o indigenous coping strategies. The community situation is to formalise such efforts through codification and analysis of the same and ways to develop inherent capacities through policy intervention.

There are lesson learned in one community which can be studied and applied to another community setting.

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

### ***DROUGHT, 2015***

The district has experienced 10 major droughts during the last 50 years. The 2015 drought, one of the severest in the district that affected 24.91 per cent of its geographical area, 39.94% of the total cultivable land and the livelihoods of around 10 lakhs people and 3 lakhs cattle in the district. The district took proactive steps by forming teams comprising of field level officials of Revenue, Agriculture, Cooperation and Water Resources Departments and conducted sensitization and counselling camps at Gram Panchayat and village level in areas experiencing moisture stress. The district has created large water tanks through MGNREGA in every affected Gram Panchayat, wherever feasible. Large scale development of private lands of the affected farmers were taken up as a component under MGNREGS as an additional relief measure. Strict mechanism was established to monitor the money lending activities in rain deficit areas. Moreover, collective efforts were made to ensure assistance to the farmers as per the announcement made in the Drought Package declared by the Government on 15.10.2015.

### ***FLOOD, 2014***

All the blocks were affected during the flood 2014, among them Sohela, Bijepur & Barpali were severely. About 5 lakhs people were affected. Total 816 Nos. of villages are affected. To manage the flood situation people of 15 villages had been evacuated to temporary shelter places. Relief was being administered among the 10211 nos. of affected people. 30 free kitchen centres opened in 6 blocks, 1 NAC & 1 Municipality and cooked food supplied to 9023 persons. 10 persons are loss their life. 1819 families are assisted with clothing & utensil. ODRAF unit from Bargarh had been deputed for rescue operation.

### ***HEAT WAVE, 2010***

In the year 2010 the District faced an unprecedented heat wave situation, as a result of which 11 persons lost their lives. Though extensive awareness campaigns have largely reduced the number of casualties during post 2010 period, still a good number of casualties are being reported each year which have put the administration in very difficult situation. Insufficient requirement of funds needed for preparedness in taking adequate ameliorative measures was the major reasons of high rate of causality during 2010.

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