Departmental Disaster Management Plan of R.D.	
Department, Government of Odisha	
	2010
	2019

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# How to use the plan



# **Chapter – 1:** Introduction

As per the section 40(1) of Disaster Management Act, 2005, every department of the State Government, in conformity with the guidelines laid down by the State Authority, shall-

(a) Prepare a disaster management plan which shall lay down the following:-

- i. the types of disasters to which different parts of the State are vulnerable;
- ii. integration of strategies for the prevention of disaster or the mitigation of its effects or both with the development plans and programmes by the department;
- iii. the roles and responsibilities of the department of the State in event of any threatening disaster situation or disaster and emergency support function it is required to perform;
- iv. Present status of its preparedness to perform such roles or responsibilities or emergency support function.
- v. The capacity-building and preparedness measures proposed to be put into effect in order to enable the Ministries or Departments of the Government of India to discharge their responsibilities.

#### 1.1 Objective:

Disasters leave a grave impact on the lives and livelihoods of people and the economic performance and environmental assets of the affected area. Consequences may be long term and at times irreversible, depending on the mitigation efforts.

Disasters can be either natural or manmade. They can be of slow or sudden onset. A disaster usually causes serious disruptions to social activities. It brings in its wake widespread human suffering with physical loss or damage. The coping mechanism of the community comes under severe strain.

The consequences of disasters derive from a combination of human actions and interaction with nature's cycle or systems. Such incidents seem to be increasing in recent years. These can lead to widespread loss of life and property affecting large segments of the population. These can cause harm to the environment and economy of community.

#### The Disaster Scene : Odisha

The State of Odisha extends from 17°49'N to 22°34'N latitudes and from 81°27É to 87°29É longitudes on the eastern coast of India. This is one of the most vulnerable zones that face pressure fluctuations in the Bay of Bengal. On the other hand, the hinterland faces massive deforestation that affects micro-climatic balance leading to siltation and corresponding floods in the coastal area. In Odisha, natural calamities often occur like a chain, one leading to the other.

According to the Meteorological Survey of India, the eastern coast of India is one of the six major cyclone-prone regions in the world that is hit by four to six cyclones every year, of which one or two are severe in nature and scale. The Odisha coast is hit by 20% of all severe cyclones that make landfall on this coast. In recent times, severe/super cyclones hit Odisha in 1942, 1971, 1999, 2018 and 2019.

Floods frequently wreak havoc in several parts of the State. The floods of 1967, 1980, 1982, 1999 and 2001 are still fresh in public memory for the extensive damage caused to life and property.

Drought has been a recurring phenomenon in Odisha. Drought and associated crop loss in the western as well as in the central parts have become a regular affair, which has forced people to migrate to the prosperous States of India.

**Mitigation** is the effort to reduce loss of life and property by lessening the impact of disasters. In the face of increasing menace of various hazards, mitigation would remain the key and the most effective strategy to reduce the risks of various hazards. **Structural mitigation** measures generally refer to capital investment on physical constructions or other development works, which include engineering measures and construction of hazard resistant and protective structures and other protective infrastructure. **Non-structural mitigation** measures refer to awareness

and education, policies, techno legal systems and practices, training, capacity development, public commitment, and methods and operating practices, including participatory mechanisms, and the provision of information, which can reduce risk with related impacts.

It is commonly agreed that there should be full preparedness to efficiently manage the situations arising out of disasters such as floods and cyclones. Such preparedness helps to a very large extent to adequately respond to the crisis and bring about normalcy.

The three stages of response are

# State I - Pre Disaster Stage II - During- Disaster Stage III - Post- Disaster

In line with the old and time tested adage, "Prevention is better than cure", pre-disaster mitigation measures are of vital importance. Meticulously planned and properly implemented, the efforts can go a long way in meeting and even preventing the dislocations likely to occur in the event of floods and cyclones, the two disasters which frequent Orissa. Involving the local community in all these activities holds the key to disaster management initiatives. With location specific variations, the following groups of activities are suggested. It may be noted that most of these would hold good for Phase II (Response During Disaster) as well.

#### Standard operating procedure,

#### (A) For connectivity (Rural Works):

Before the onset of monsoon every year usually in the month of April, pre monsoon inspection of each road and Bridge under this Organization is conducted in order to check the vulnerability of the Structure & roads in order to quell breach of bridges and roads and road side drain. All the drainage spots of the bridge and C.D. works are cleaned for free passage of runoff water. Roads side drains are cleaned for obstacle free flow of run-off water. In order to check the erosion of soil road side plantation are made. Turfing is also done in embankments in order to quell soil erosion and also to lower velocity of runoff water to apprehend further damage.

Assessment and mapping of shelter, pucca buildings, schools which can be converted in to shelter during flood is also conducted.

i) Inspection of Roads and Bridges: The JE/AE/AEE inspects all the roads, buildings and Bridges under his jurisdiction before the monsoon, ensures that the previous restoration of damages is taken care of and the repair work in the weak points is complete. The Chief Engineer holds an annual meeting with the concerned staff and reviews.

ii) **Flood risks assessments** will be taken up annually to determine the susceptibility of the land bordering the relevant watercourses to flooding. This periodical assessment will provide the concerned governmental agency or local body the state of readiness of the road network and their vulnerability, if any, and other works necessary to meet calamity. The main outcome of such an exercise will be a flood risk map that will be updated every 3-5 years. The planning tasks will include the following:

- a) Identification of any point of recurrent damages to public property and brain storming the best available solution to protect it against calamity.
- b) Specify the criteria against which new development would be managed within areas of risk.
- c) Suggest detailed safeguard measures to be adopted for minimizing various risk factors.
- iii) Stock piling materials at weak points during emergencies:

Sand bags, sand, bamboo etc. is collected at weak points or at nearby locations for use in case of breach or damage to embankments.

## iv) Opening Control Rooms:

Control rooms are opened in the office of the Engineer-in-Chief, Rural Works and below to the rank of Junior Engineers from 1<sup>st</sup> June to 31<sup>st</sup> October every year. These control rooms function round the clock during emergencies and from 6 a.m. to 10 p.m. during normal conditions. Control Rooms also functions in the offices of respective Collectors and the Revenue Department. All district control rooms will have the state of the art communication systems as well as a network with the State Control Room so that data can be regularly exchanged. The control rooms of this Department function in close liaison with the respective counterparts of the Revenue Department for optimisation of efforts.

v) **Directory for communication** giving names, designation, address, and telephone numbers will be updated before every flood season and distributed to all concerned in specific locations.

vi) Preparedness for the immediate restoration of rural connectivity.

- Identification of vulnerable points.
- Stocking of sand, morrum & boulder etc at a safe place at these locations.
- Keep the manpower / labour force ready prior to the occurrence
- Considering favourable ground situation, commence restoration of activity of movement of men and material to the cut-off zone.
- The restoration cost is to be met from the funds available on the roads or the expenditure will be met from the funds received from S.R.C. But all out efforts should be made to restore the damages within 24 hours or as soon as possible.

## 2. <u>Social Mapping</u>

- This exercise involves the preparation of a simple social map indicating problem areas and developing the networking system.
- While preparing such a map, information can be gathered from the inhabitants of the affected villages/areas.

- Timeline data on levels of flood, degree of damage caused in the past, places affected and probable shelter places.
- Occurrence of disasters such as flood/drought/cyclone/heat wave, etc. in a graphical form.
- Warning systems available in the areas.
- Geographical situations such as rivers, forest, barren land, canal, high land, etc.
- Road connectivity to the district headquarters.
- Location of institutions such as school/college/hospital/PRI/veterinary center/ cyclone shelter/multipurpose buildings/others.
- Local NG0s, their location and operational area.

### 4. Availability of Boats

- During floods, due to submergence of flood water the road transport gets disrupted. In such cases boats are the immediate and convenient mode of conveyance. Thus availability of boats in such a situation solves the problem of relief and reconstruction measures in an effective manner.
- It is essential to formulate an action plan, in consultation with other district / block officials, for keeping adequate boats ready before the onset of monsoon.

### 5. <u>Shelter Places</u>

- Identification of shelter places in the vulnerable areas is an important exercise prior to a disaster.
- No. of shelter places, capacity of accommodation in each shelter place, facility available, etc. should be prepared block wise.
- The shelter places should be equipped with facilities such as water supply, toilet, water storage arrangement and scope for free kitchen service etc.

## 6. Construction of Raised Platforms

- If the tube well hand pumps get submerged in flood water, the source also becomes contaminated and unsafe for human consumption. Therefore, in flood prone areas, it would be necessary that tube well platforms be built at a level higher than the ordinary flood levels.
- The places to be identified where raised platforms have already been constructed and are under progress.
- The raised platform so constructed should have proper access to the public.
   The site should be selected by the community.

## 7. Enlisting NGOs

Identification of NGOs operating block- wise should be prepared. While preparing such list, care should be taken to collect information with regard to

- ◆ Number of volunteers, NGO-wise
- Type of activities carried out and the expertise achieved
- Bonafides of the NGO (whether registered under the SRA Act)

- ✤ Area of operation
- Address, telephone number, Fax, E-mail, etc. of the NGO to be collected and recorded

#### 8. <u>Procurement of Materials</u>

Preparedness as regards procurement of materials is of prime importance. This should include

- Survey, at least before one month of the onset of monsoon, is to be conducted in the flood prone areas to assess quantity of materials required for the restoration such as sand, stone, JCB, Power cutter, Tractor, Prepared by the J.E. and sent to the E.E. R.D. through the A.E. R.D.
- Materials required for the restoration of such water supply units be prepared by the JE, RW and sent to the EE, RD through the AE, RD.
- Material procurement is ensured by the EE, RW observing the codal procedure.
- Proper documentation should be made for such procurement and utilization thereafter.

#### 9. Identification of Store Houses

- Location of Central/Divisional/Sub-divisional/Sectional Stores is to be ascertained.
- Location of such store with detailed address, contact numbers and route chart, etc. should also be made available for ready reference by the concerned officials and agencies engaged in the task.

#### 10. <u>Formation of Groups/Teams for Rapid Response</u>

- It is necessary to prepare, in advance, a list of groups / teams / individuals for rapid response at the time of a disaster.
- The group so formed should indicate the designation of officials, NGOs and member of PRI and individuals of the village, with allocation of duties to perform, for ready reference.
- The group members should make the villagers/communities aware to face disaster in the most organized manner.
- One or more meetings (as would be necessary) should be held at the block level jointly by the BDO, AE, RD and JE, RD with the help of the NGOs.

#### \* <u>RW Organization:</u>

 RW Organization is meant for providing all weather road communication facilities from District head quarters to block head quarters & from Block Head quarters to all possible to human habitations in remote area. \*

This organization has been provided with a good number of technical man powers starting from Chief Engineer to Junior Engineers. The technical activities in rural areas are being manned by above technical man power.

#### **1.2 Scope of the Plan:**

- i. Taking up of proactive measures to prevent disaster and mitigate its effects. Government should take protective measure to prevent disaster & its mitigation in various manners such as: (a) Construction, maintenance and protection of flood control structures like embankments, ring bunds, etc. (b) Dams and levees can also be constructed which can be used as temporarily storing space which reduce the chances of lower plains getting flooded. (c) Critical buildings as well as private houses in flood-prone areas should be constructed on an elevated area and if necessary on stilts and platform. (d) All buildings especially public building must have earthquake resilient features. (e) Establishment of fire stations as per Fire Safety Bye-laws.
- *ii.* Necessary policies and planning to reduce the loss of public and private property, especially critical facilities and infrastructure. –

Government should planning, necessary policies to reduces the loses of public & private properties. Construction and maintenance of protection structure, flood control structure, irrigation canals should be done.

- *iii.* Better management of future development to mitigate the effect of natural hazards. -From past experience and from new technology, trainings are given how to mitigation the effect of natural hazards.
- iv. Convergence of different departmental schemes for disaster risk reduction. -

In different departmental schemes, provision should be made for disaster risk reduction. Extra finance in these schemes should be provided so that the scheme can be done keeping view to risk reduction. For example, while constructing a building different protective measures should be taken to prevent disaster & its mitigation such as protecting the building from earthquake, constructing building in elevated area or on stilt platform to protect the building from flood etc. Provision for necessary fire protection should be made.

v. Enhance the capacity to respond to disasters. -

Government should enhance the capacity to respond to disaster booth in structural and non structural way. More and adequate staffs should be trained to face the hazards. Different machineries should be procured for the purpose. Different safety structures such as dams, roads in raised embankments, Bridges & culverts, multipurpose flood & cyclone shelters should be constructed. More fire stations should be constructed. Buildings must have earthquake resilient features.

vi. Development of standardized mechanism to respond to disaster situation to manage the disaster efficiently. –

For quick response to the situation, Govt. should take active role by educating the people, giving prior information, shifting them to the safety places by storing the necessary requirements for relief before the disaster etc.

vii. Prompt relief, rescue and search support in the disaster affected areas and to build back better. -

Filling up breaches, pot holes, use of pipe for creating water ways, repair & stone pitching of embankment, repair of breached culvert should be done immediately. Road should be made trafficable immediately either by closing by breaches or by constructing bypass. Immediate restoration should be done immediately without waiting for fund.

## **1.3 Over view of the Department** (Departmental Statistic profile):

The main objective of this department is development of rural area. We cannot consider development of our state in all respect without considering development of rural area. The major part of Odisha is rural area. This department is meant for construction and maintenance of rural infrastructure and rural connectivity. Now **42738** K.M of road and Res.**12**,**85**,**012.00** sqm. plinth area of **10881** nos. of building and Non-res **37**,**06**,**507** sqm. Plinth area of **16450** nos. of building of rural area comes under this department. Besides that this department is constricting roads and buildings of other department in rural area.

# **1.4** Acts, Rules and Policies governing the business of the department:

For executing different work, R.D. Department call Tender and doing agreement etc following OPWD Code. PMGSY roads are executed following PMGSY rules, policies & standard bid document of PMGSY. ADB roads are executed following ADB guideline & standard bid document of ADB. Different staffs are working as per work assign to them following Service code, CCA rule etc. They follow and act as per different policies and norms made by Government of Odisha from time to time. They ensure the quality of different work following different specification, guideline given by IRC, NRRDA from time to time. Staffs are trained with new technology to execute in the field.

## 1.5 Institutional Arrangement for Disaster Management

(Organizational Structure) Secretary

## E.I.C.

 $\int$ 

CERW (Scheme), CERW (PMGSY) C.E.R.W (Buildings), CERW (Plan Roads)

 $\int$ 

S.Es. of the Department.

 $\int$ 

All the E.Es.

All the DEEs. & AEEs.

All the AEs & JEs.

## 1.6 Preparation and Implementation of the Departmental Disaster Management Plan.

Development of the plan: Deptt. (Nodal)

Approval of the plan : Secretary

Dissemination of Plans to stakeholders :- (Nodal/Deptt.)

Implementation: - Division head (E.E.)

Review &updating (Who/when/how?) (Deptt.) : Refer Table No.1.1

[As per section 40 (1. b) of the DM Act 2005 the Departmental Disaster Management Plan

to be reviewed and updated annually.

As per section 40 (1. c) the department is to furnish a copy of the plan to the State Authority.

As per section 40 (2) - Every department of the State Government, while preparing the plan shall make provisions for financing the activities specified therein.

As per section 40 (3) - Every department of the State Government shall furnish an implementation status report to the State Executive Committee regarding the

implementation of the disaster management plan referred.

As per section 18 (2-c) the State Disaster Management Authority to approve the disaster management plans prepared by the department of the Government of the State]

# Timeline for updating DDMP (Table No.1.1)

Sl No.	Activities to be done	Timeline
1.00		
1	Consultation within the department and with important stakeholders	1 <sup>st</sup> week of January
2	Collection of all relevant information and preparation of the draft plan.	By 3 <sup>rd</sup> week of January
3	Chalking out the financial requirement for implementation of the plan and its incorporation in the Departmental Budget	Last week of January
4	Draft sharing at the department level	1 <sup>st</sup> week of February
5	Necessary modification and corrections	2 <sup>nd</sup> week of February
6	Finalization of the Departmental Disaster Management Plan at the Department level and submission of a copy to SDMA	Last week of February
7	Approval by State Disaster Management Authority (SDMA)	By March

# Chapter – 2: Hazard, Risk & Vulnerability Analysis

## 2.1 History/past disasters/losses in the department:

2.1.1 Causes of losses/damages;

Table No. 01

Sl. No.	Year	Disaster event/ Incident	Location/ Affected districts/Area	Loss of Life	Damage to infrastructure	Other losses SRC sanction amount (Rs in lakhs)
1	2007	Flood /Cyclone	As per estimated sanction in various location & District	Nil	Immediate restoration of road and building is	3996.97
2	2008	-do-	-do-	Nil	done soon	4507.42
3	2009	-do-	-do-	Nil	after flood &	2200.00
4	2010	-do-	-do-	Nil	permanent	2023.92
5	2011	-do-	-do-	Nil	restoration	8092.26
6	2012	-do-	-do-	Nil	of ostimato	1864.28
7	2013	-do-	-do-	Nil	and approval	6006.43
8	2014	-do-	-do-	Nil	of fund	5766.42
9	2015	-do-	-do-	Nil		824.32
10	2016	-do-	-do-	Nil		52.22
11	2017	-do-	-do-	Nil		-

#### 2.2 Emerging Concerns:

Due to raise of Sea level erosion occurs in coastal areas some villages may enter in to sea and loss its existence govt. should take suitable step like forestation and construction of Guard area in the area to reduces erosion.

Due to depletion ground water level public face many difficulties to get drinking water and water required of daily use and irrigation proposes.

Due to extreme heat people face many difficulties. Many people die in sunstroke people are advice not to go outside during extreme heat. Govt. also ban working hour of labourers from 10.30 A.M. to 4.00 PM. in constructions site. This

year in Odisha the temperature recorded more than 45<sup>o</sup> C in more than 10 Cities. People are following agriculture pattern accordingly to rainfall pattern of that area. If rainfall pattern changes crops may die or give fewer yields.

#### **Vulnerability:**

The unique geo climatic condition of Odisha makes vulnerable to various natural disaster. The flood is the most devastating natural disaster. In Odisha the flood is caused by mainly Mahanadi, Bramahani, Baitarani and due to Subarnarekha, Rushikulya, Banshnadhar, Budhabalanga also.

Mainly 16 districts of our State are considered to be vulnerable districts those are Bhadrak, Balasore, Jajpur Kendrapara, Jagatsinghpur, Keonjhar, Puri, Ganjam Sambalpur, Sonepur, Boudh, Koraput, Bolangir, Kalahandi, Deogarh & Bargarh.

#### **Standard operating procedure:**

Before the onset of monsoon every year usually in the month of April, pre monsoon inspection of each Road and Bridge under this Organization is conducted in order to check the vulnerability of the Structure & roads in order to quell breach of bridges and roads and road side drain. All the drainage spots of the bridge and C.D. works are cleaned for free passage of runoff water. Roads side drains are cleaned for obstacle free flow of run-off water. In order to check the erosion of soil road side plantation are made. Turfing is also done in embankments in order to quell soil erosion and also to lower velocity of runoff water to apprehend further damage.

Assessment and mapping of shelter, pucca buildings, schools which can be converted in to shelter during flood is also conducted.

#### **Control Room:**

24 hours control room with nodal officer in each Division office are setup every year commencing from 1<sup>st</sup> June to 31<sup>st</sup> October to keep a strict vigil upon the vulnerability of the flood affected areas with a view to receive the massages are roads, bridges and buildings damaged by flood and cyclone from the fields official officers and other sources to take follow up action at appropriate time during the current financial year, like every year.

Similarly these shall be a control room in each division to look after the flood station and to take follow up action. In order to meet the flood situation the Division shall have a contingency plan and are emergency team to attend the breaches and dislocation of traffic during the flood season. After occurrence of breach, due to heavy flood the preliminary report is to be prepared and temporary assessment is mad to restore the damage roads to its pre flood condition.

#### 2.3 Hazard &Vulnerability Mapping:

- 2.3.1 Nature, frequency and intensity of disaster to which the department is prone to or is likely to be impacted in future;
- 2.3.2 Vulnerability of the department to various hazards.
- 2.3.3 Risk Analysis calculating risk which various hazards/disaster can cause to

department keeping in view its vulnerability and capacity

Considering these cases the department list area which place could be affected during flood/cyclone /earth quack etc. Department should be prepared hazard vulnerability maping.

#### Areas of Vulnerability

**Cyclone and Flood :** Cyclones in Odisha originate in the Bay of Bengal in the months of May-July and October-November. Cyclones have made landfalls mostly between Paradip (Jagatsinghpur District) and Chandbali (Bhadrak district) and moved in north westward direction. Since the coastal region is densely populated, the landfall of cyclones causes widespread damage. The region vulnerable to cyclones and low pressures spreads over an area of 20,800 sq. kms and extends from the undivided Balasore district to the undivided Puri and Ganjam districts. Areas that are frequently hit by low-pressure disturbances are Astarang in Puri district, Mahakalpada in Kendrapada district, Balikuda and Erasama in Jagatsinghpur district, and Chandbali in Bhadrak district and Chandipur in Balasore district.

Geographically, the middle coastal plains comprise the deltas of rivers Salandi, Baitarani, Brahmani and Mahanadi. The presence of extensive irrigated area and safeguard against natural inundation by a well-coordinated embankment system has led to high population density and high yield per unit of land. There are also tidal forests, better known as "Little Sunderbans" in the river estuaries. In addition, it is a common feature of the coastal Odisha that many breaches develop in saline embankments. These areas are prone to high flooding. It is in this region that some of the oldest towns of Odisha such as Cuttack, Puri, Kendrapara and Jajpur are located.

#### Drought:

Nuapada, Bolangir and Kalahandi districts and several other areas in the western parts of Odisha experience drought and crop loss almost every third year. In addition to crop loss, acute drinking water crisis is an annual feature in Bolangir, Jharsuguda, Sundergarh, Kalahandi, Sonepur and Nuapada districts.

#### **Previous Approaches and Limitations :**

Odisha in low magnitude emergency situations, relief operation is normally efficient and relief materials reach the affected population in time. But in severe situations like the one in case of super cyclone of 1999, initially there was lack of coordination between in Government, donors and the recipients. It is a fact that there remains a gap between the needs of the disaster victims and the relief extended to them. Such gaps are tried to be bridged with effective disaster mitigation approaches by the Government.

#### The Issue :

- (i) In the light of Odisha's epidemiological indicators, mortality and morbidity rates are closely related to infectious diseases which to a large extent, depend on the quality of water consumed by people and their access to adequate sanitation services. Therefore, when situation turns critical during and after disasters, post-disaster activities must focus on rehabilitating services that might otherwise constitute sources of epidemics; special attention must be paid to ensure the quality and quantity of water, sanitation facilities and removal of excreta and solid waste management.
- (ii) Rural connectivity plays a major role in reaching of relief to the affected people.

# **Chapter-3: Capacity-Building Measures**

#### 3.1 Gaps in the Existing Capacity of the department

Disaster does not occur in the same place. There is a gap of human resources in the place where disaster occurs. Department takes the steps bring them from other division to help the division where disaster occurs. The department is also not having trained personnel in Disaster management. The staff are facing the problem and managing it from their past experience. The department plan to give training to its staffs for Disaster Management.

3.2 Existing Human	<b>Resources</b> in th	e department	trained on	Disaster N	Management
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<b>S1.</b>	Category	Total	No	of trained	d personr	nel on DM
no.		Staffs	Basic	ToTs	MoTs	Total
1	Administrative Staffs	25	25			25
2	Project Staffs	1439	715			715
3	Accounts and Clerical Staffs	1161	315			315
4	Support Staffs	644	100			100
Total		3269	1155			1155

No such training has been impacted so far. But from experience above persons have basic knowledge on Disaster Management.

#### 3.3 Capacity-Building Plans

#### **Rural Development**

Sl	Training	Key Components/Topics	Target Audience
No.	Programmes on		
1	Awareness and	Rural Development is going to be	Official of Department of
	sensitization	accrual sector for planning and	R.D. local volume, NGO
	towards safety	management from perspective of both	
	condition of	DM & CCA.	
	communication,	Different training programme and	
	pre flood audit of	muck drills given to staff to give more	
	road, bridge and	output during disaster.	
	building awareness		
	public for banned		
	in movement of		
	traffic on affected		
	location during		
	flood cyclone by		
	marking dangerous		
	singles		
2			

#### 3.3.1 Capacity-Building Programmes at different level

#### 3.3.2 State level Capacity-Building Plans; R.D. Department.

S1	Training for	Programmes
No.		
1	E.I.C., Chief Engineers, Addl. Secretary, Joint Secretary, Dy. Secretary SOs./Ministerial Staff & Account Staffs from	Training cum awareness programme at state level for better supervision, monitoring and taking preventive measures.
2	Training for Master Trainer	Training for Master Trainer were conducted at NDIM, New Delhi on Disaster Management Programme for higher level officers of the state from time to time.

#### 3.3.3 District Level Capacity-Building Plans; R.D. Department.

Sl No.	Training for	Programmes
1	E.E of Division,	Training programmes on effective management of disasters
	Estimator and	like cyclone/floods.
	ministerial staff of	
	Division	

#### 3.3.4 Community level Capacity-Building Plans, R.D. Department.

S1	Training for	Programmes
No.		
1	D.E.E. / AEE of All sub- division, AE/JE of all Section and Sub- Divisional staff & supporting staff.	Pre audit of road, bridge culvert and buildings for taking action before disaster, fixing of a sign age for public awareness and warning.

#### 3.4 Training Need Assessment of the department

<b>S1.</b>	Category	Types of Training Requires	Training Institutions
no.			
1	Policy Makers	Development of SOP guide line	
		budget for integrate DM, DRR &	
		CCA features in development	
		programmee.	
2	Technical Staffs	Implementation	
3	Administrative Staffs	Information and monitory	
4	Project Staffs		
5	Accounts and Clerical	Keeping of records and financial	
	Staffs	records and co-ordination	
6	Support Staffs	Asst. to technical staff. And other	
		staff.	

#### 3.5 Capacity-Building of Stakeholders and Beneficiaries of the department

Chief Engineer, S.Es. Addl Secretary, Joint Secretary etc. are given policy makers training.

E.Es./DEEs/AEEs./AEs/JEs are given implementation training.

#### 3.6 Requirement of funds for capacity-building programmes

Sl. No.	Training Programmes	Unit Cost	Total no. of Programmes	Total Cost
1	Policy makers	2 lakh	01	3 lakh
2	Technical Staff	2 lakh	12	24 lakh
3	Accounts/Clerical staff	1 lakh	08	8 lakh

#### 3.7 Annual training calendar of the department

Sl No.	Name of the Course/Training Programme	Participan ts	Duration of the Training Programme	Month of Organization	Training Institutions	Remarks if any
1	Construction & maintenance of flexible and regid pavement including new materials and technologies	80	Five Batch (3 days)	June, 2019	RCTRC, Bhubaneswar & RRNMU, Angul	
2	Design of flexible & regid pavement	40	One Batch (3 days)	July, 2019	RCTRC, Bhubaneswar	
3	Basic training for newly inducted officers in PMGSY	120	3 Batches 4 (5 days each)	August, 2019	RCTRC, Bhubaneswar & RRNMU, Angul	
4	Application of OMMAS version 2.0 in PMGSY Projects	80	Two Batch (2 days)	September,2019	RCTRC, Bhubaneswar & RRNMU, Angul	
5	Design construction of minor bridges & culverts	12	Two Batch (5 days)	October, 2019	RCTRC, Bhubaneswar	
6	ADB Gender procedure	2	2 days	October, 2019	RCTRC, Bhubaneswar	

7	Geo Tagging & use of space technology in PMGSY roads	20	Two Batch 2 days	November,2019	RCTRC, Bhubaneswar & RRNMU, Angul	
8	Procurement Consultant Selection procedure by ADB	5	Two Batch 3 days	November,2019	RCTRC, Bhubaneswar	
9	Road safety & safety audit for PMGSY road	20	Four Batch 3 days	November,2019	RCTRC, Bhubaneswar & RRNMU, Angul	
10	Modern Survey techniques including GIS/GPS & total station	30	Five Batch 3 days	December,2019	RCTRC, Bhubaneswar & RRNMU, Angul	
11	Training programme on gender cases- RCIP by ADB	3	One Batch 2 days	December,2019	RCTRC, Bhubaneswar	
12	National level workshop on GIS implementation for PMGSY	2	2 days	January,2019	HIPA, Gurgaon, New Delhi	
13	Design , Construction and maintenance of minor bridges & culverts	30	Five Batch 5 days	January,2019 to March, 2019	RCTRC, Bhubaneswar & RRNMU, Angul	
14	Contract management clinic by ADB	3	1 day	February, 2019	RCTRC, Bhubaneswar	
15	FIDIC Contract Management by ADB	1	3 days	February, 2019	RCTRC, Bhubaneswar	
16	National Conference on 15 years of PMGSY	4	2 days	February, 2019	IIT, Roorkee	

17	ADB Disbursement Procedures	2	3 days	February, 2019	RCTRC, Bhubaneswar	
18	Geo Informatics and Modern Survey techniques for planning & management of PMGSY	5	1 batch 4 days	March, 2019	RCTRC, Bhubaneswar	
19	Orientation of Project Directors & Senior officials of PWD to base practices of MPRDC	2	2 days	March, 2019	RCTRC, Bhubaneswar	
20	Procurement Consultant Selection procedure by ADB	5	3 days	April, 2019	RCTRC, Bhubaneswar	

#### 3.8 Table top Exercises

Training is conduced and Secretary & EIC in state level and by collector in the district level and EEs have been instructed to implement accordingly.

#### 3.9 Mock Drills

S1. No.	Mock Drills on	Participants	Month of Organization	To be organized by	Remarks
1	Nil	Nil	Nil	Nil	Nil

# Chapter – 4: Prevention & Mitigation Measures

4.1 Prevention & Mitigation Measures

- Existing measures
- Drawing up of prevention & mitigation plans (disaster Specific)

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

Sl. No.	Activity/ Project	Starting	Date of	Cost	Funding	Out Come ( persons to be benefited/ vulnerability reduction of area)
		date	completion		source	urcu)
1	Multipurpose Flood Shelter 110 nos.	2014-15	2017-18	82.48 crore	CMRF	2,20,000
2	Multipurpose Cyclone Shelter 316 nos.	2012-13	2017-18	427.56 Crore	NDMA	8,82,000

#### **Structural Measures:**

#### **Non-structural Measures:**

Sl. No.	Activity/ Project	Starting date	Date of Completion	Cost	Funding source	Out Come ( persons to be benefited/ vulnerability reduction of area)
1	Risk transfer mechanisms should be created, i.e. establishment and strengthening of insurance schemes and policies, which would transfer losses due to hazard to a third party. Insurance schemes for crop, cattle, small businesses and life should be strengthened and promoted to minimize economic losses.				State Govt.	
2	Groups of architects, engineers and masons should be formed and trained on building safe infrastructure.				State Govt.	
3	Alternate safe housing technology along with rainwater harvesting structures should be constantly encouraged and mainstreamed for long-term vulnerability reduction. Policies and bye-laws could be developed for the same.				State Govt.	
4	Conducting research on alternative cropping to reduce adverse affect due to flood, water logging or drought				State Govt.	

# Hazard- Specific Mitigation Actions:

In addition to the multi-hazard mitigation actions the following hazard specific mitigation actions should be taken depending on the vulnerability of the village/block/district.

Hazard	Structural Mitigation	Non- Structural Mitigation
Flood	<b>2</b> Construction, maintenance and protection of flood control structures like embankments, ring bunds, etc.	1. Well maintained boats available at all time at Gram Panchayat level.
	<ul><li>3 Dams and levees can also be constructed which can be used as temporarily storing space which reduce the chances of lower plains getting flooded.</li></ul>	2. Crops that can be harvested before the onset of monsoon/flood season and crops that are flood friendly should be grown in the region
	4 Critical buildings as well as private houses in flood-prone areas should be constructed on an elevated area and if necessary on stilts and platform.	3. Awareness on flood-proof habitat planning with long term goal of flood plain zoning and rehabilitating all to safer zones.
	<ul> <li>6 Construction of tube wells on raised platforms.</li> <li>6 Construction of seed bank on higher ground.</li> </ul>	
Earthquake	<ol> <li>All buildings especially public building must have earthquake resilient features.</li> <li>Building bye laws applicable for the specific earthquake zone of the region should be followed.</li> </ol>	1. Awareness on building bye- laws applicable for the specific earthquake zone.
Drought	<ol> <li>Construction of irrigation channels.</li> <li>Existing ponds to be cleaned and more ponds to be dug as part of MGNREGA activities in village</li> <li>Sluice gates to be linked with ponds</li> <li>Tube wells and dug wells to be built in villages</li> <li>Construction and maintenance of grain banks on safer locations</li> </ol>	<ol> <li>Promotion and support for rainwater harvesting.</li> <li>Awareness on government subsidy on bore wells and tube wells for irrigation purposes</li> </ol>
Fire	<ol> <li>Establishment of fire stations as per Fire Safety Bye-laws</li> </ol>	<ul> <li>1.Promotion of usage of fuel blocks during summers to minimize cases of fire during summer</li> <li>2. Awareness campaign on fire hazard and strategies to prevent fire incidents</li> </ul>

# **Chapter – 5: Preparedness**

This section should describe, in general, the capabilities and processes the department has in place to implement the range of preventive/ protective actions that may be required for various hazards. The preparatory activates listed below are activities that may be required to implement preventive/ protective actions in response to certain types of hazards.

5.1 Nodal person

Sl	Name & Designation of the Nodal	Contact No.	
No.	person for Disaster Management in	Office	Mobile
	the Department		
1	Sri Binod Kumar Prusty, S.E. Q.C.	EIC, R.W	9437060237

#### 5.2 Emergency Operation Center (Department)

Number of	Name of the	Time	Cor	ntact No
Staffs	staff		Office	Mobile
assigned	Stall			
3	G. Asish,		0674-	7328828357
	AEE (Bridge)	6.00 A.M to 2.00	2391928	
	Chita Ranjan	P.M. for all task		9437178545
	Mishra, AE.			
	(Bridge)			
	Sankar Singh			9438152994
	Sardar, D.E.E	2.00 A.M to 10.00 P.M. for all task	0674	
	(Building)		0074-	
	Sunil Kumar		2391928	7328828356
	Padhi, AEE			
	(Road)			
	Tripurari			8456055047
	Sahoo, A.E.			
	(MMSY)	$10.00 \mathrm{PM}$ to $6.00$	0674	
	Kailash	$\Lambda$ M for all task	2301028	
	Chandra	A.WI. IOI all lask	2391920	
	Dehury, CJE,			
	Plan Road			

S1. No	Name of District	Name of R.W.Division	Name of the Nodal /Head	Office (with STD code	Mobile (G)
1	2	3	4	5	7
1	Angul	Angul	B.K. Sarangi, EE	06764-230792	9437255305
2		Balasore-I	Nandulal Gharai, EE	06782-262723	9437255354
3	Balasore	Balasore-II	Pratap ch, Mohanty, EE	06782-241855	9437255353
4		Jaleswar	Trilochan Sahu, EE	06781-237898	9437255356
5	Bargarh	Bargarh	B. Meher, EE	06646-230137	9437255306
6		Padmapur	Ram Gopal Baliveda, EE	6683223952	9437255307
7	Bhadrak	Bhadrak-I	Manas Ranjan Mohanty, EE	06784-250431	9437255357
8		Bhadrak-II	Bijaya Kumar Das, EE	06754-250252	9437255358
9		Bolangir	R.P. Acharya, EE	06652-232862	9437255326
10	Bolangir	Titilagarh	Sanjib Kumar Dash, EE	06655-222247	9437255327
11		Patnagarh	A. Kisan, EE		9437562334
12	Boudh	Boudh	Sudhansu Ranjan Nayak, EE	6841-223589	9437255317
13	Cuttack	Cuttack-I	Neela Madhab Sahu, EE	0671-2440662	9437255338
14	Cuttack	Cuttack-II	P.K Bhol, EE	0671-2445119	9437255339
15	Deogarh	Deogarh	K.K. Mishra, EE I/C	06641-226238	9437255359
16	Dharlanal	Dhenkanal	P.K. Dhar, EE	06762-226706	9437255309
17	Dnenkanai	Kamakshya Nagar	P.K. Bal, EE	06769-270685	9437255308
18		Gajapati	Sridhar Nayak, EE	06815-222303	9437255318
19	Gajapati	Mohana	R.N. Behera, EE		9437562293
20		Ganjam-I	P.K. Mishra, EE	0680-2291405	9437255319
21	Ganjam	Ganjam-II	P.K. Jena, EE	0680-2404096	9437255320

## 5.3 Contact details of the Heads of the Department/Division

22		Bhanjanagar	Tribchan Nayak		9437255459
23	Jagatsinghpur	Jagatsinghpur	Manoranjan Pattnaik, EE	6724-221779	9437255340
24	т.,	Jajpur-I	R.C. Behera, EE	06728-222059	9437255341
25	Jajpur	Jajpur-II	Lokanath Mishra, EE	06725-274245	9437255342
26	Jharsuguda	Jharsuguda	Rashmi Ranjan Mishra, EE	06645-272407	9437255310
27		Bhawanipatna	Santosh Ku. Samal, EE	06670-230656	9437255331
28	Kalahandi	Dharamgarh	SAnjeeb Kumar Raouray, EE	06672-242765	9437255329
29		Kesinga	Debendra Ku. Seth, EE		9437562291
30	Nuapada	Khariar	Debendra nath Pattaniak		9437562274
31	Kandhamal	Phulbani	P.K. Sahu, EE	06842-253708	9437255321
32	I	Kendrapara-I	Nalinikant Senapati, EE	06727-230096	9437255343
33	Renarapara	Kendrapara-II	B.B. Dalabehera, EE	06727-230428	9437255344
34		Keonjhar-I	Bimal Prasad Tinia	06766-258195	9437255361
35	Keonjhar	Keonjhar-II	Ananta gopal Satapathy, EE	06766-258072	9437255362
36		Anandapur	Alok Ranjan Mohanty, EE	06731-220382	9437568115
37	Khurda	Bhubaneswar	Anadi Charan Sahoo E.E.	0674-2301787	9437255345
38		Koraput	Kishore Chandra Nayak, EE	06852-251263	9437255371
39	Koraput	Sunabeda	A.K. Pattaniak, EE	06853-221521	9437255372
40		Jeypur	Shiva Prasad Bhol, EE		
41		Malkanagiri-I	K. Vora Prasad Rao, EE (IC)	06861-231450	9437255373
42	Malkanagiri	Malkanagiri-II	K. Vora Prasad Rao, EE (IC)	06861-230971	9437255370
43	Mayurbhanj	Baripada	Sukanta Ku. Behera, EE	06792-260207	9437255363

44		Karanjia	Sushil Ch. Samantaray, EE	06796-221754	9437255364
45		Rairangapur	D.P. Karan, EE	06794-222888	9438255365
46		Nabarangapur	S.C. Maohapatra, EE	06858-222023	9437255374
47	Nabarangapur	Umerkote	Durga Chandra, Behera, EE	06858-270253	9437255375
48		Nayagarh-I	S.R. Prusty, I/C	06753-252049	9437255347
49	Nayagarh	Nayagarh-II	Amerash Nayak, EE		9437489474
50	NT 1	Nuapada	L.K. soren, EE	06678-223083	9437255329
51	Nuapada	Khariar	Debendranath Pattnaik , EE		9437562274
52	Deseri	Puri	S.K. Samal, EE	6752-222092	9437255349
53	ruri	Nimapara	Debashish Padhi, EE	06758-250838	
54	Ravagada	Rayagada	PRadeep Chandra Mandal, EE	06856-222188	9437255376
55	Nayagada	Gunupur	S.K. Padhi, EE		9437100764
56	Sambalaur	Sambalpur	R.C. Rath, EE	0663-2401850	9437255311
57	Sambaipur	Kuchinda	Aurobinda Tripathy, EE		9437562208
58	Sonepur	Sonepur	Satyabrata Behera, EE	06654-221436	9437255334
59	Com do un out	Sundergarh	B.B. Dalbehera, EE	06622-272280	9437255313
60	Sundergarn	Rourkela	Kishore Ku, Mishra, EE	0661-2664693	9437255312

# 5.4 Details of Human Resources trained on Disaster Management

Sl	Staff Category	Total	No of trained personnel			
No		staff	Basic	ToTs	MoTs	Total
1	Administrative	25	25			25
2	Clerical & Financial	1161	315			315
3	Project/scheme	1439	715			715
4	4 Menial/Support		100			100
Total		3269	1155			1155

			Details	
Sl No	Type of Resource	Description (utility during Disaster & for preparedness)	Name of the	Total (In
			Districty Division	Nos.)
1	Infrastructure			
а	Multipurpose Flood Shelter	Affected persons sifted to there and all emergency requirement supply by Govt. or volunteers		110
b	Multipurpose Cyclone Shelter	-do-		316
с	Community Hall	-do-	Every District	
d	Embankment	Where permanent house is not available there sifted to higher embankment and keep them by forming temporary tent.		
2	Support Equipme	ent for DM		
a	JCP, Excavator	For excavating earth and sifting of sand for breach closing		
b	Power cutter, crane	Use for cutting trees, removing the trees big logs for clearing of roads		
С	Track , Tractor	For transporting of relief goods and for transporting of earth, sand, boulders for breech using		
d	Water tanker, PVC tank	For supplying of drinking water and water needed for other purpose		
3	Human Resource	25		
a	Trained on DM			
b	untrained			
4	Others (Specify)			
а		<ul> <li>Procurement of pouch / poly pack materials (plastic bags) along with sealing equipment for distribution of water, bleaching powder and halogen tablets;</li> <li>Procurement of Jerry cans;</li> <li>Procurement of halogen tablets and packing in</li> </ul>		

	of Central/Divisional/Sub-	
	divisional/Sectional stores;	
	<ul> <li>Identification of location of stationing equipment;</li> </ul>	
	<ul> <li>Identification of sources for filling water in poly packs, pouches, jerry cans, water tanks, etc. for distribution;</li> </ul>	
	<ul> <li>Preparation, distribution and adherence to route charts converging with activities of other line</li> </ul>	
b	departments;	

#### 5.5 Resource

**6.1** Important Contact Nos.

Sl	Name of the Agency/Department	Name of the Nodal	Contact details
No.		Person	
1	Principal Secretary, RD.	Dr. Mona Shrama, IAS	0674-2536740
			(office)
2	Engineer-in-Chief, Rural Works	Er. Deba Narayan Pal,	9437255355
		EIC	
3	Chief Engineer, PMGSY	Er, Bijay Narayan	9437569885
	_	Mishra	
4	Chief Engineer, Buildings	Er. Suresh Chandra	9437493595
		Mishra	
5	Chief Engineer, Plan Roads	Er. Chandramauli	9437574704
	_	Pattanaik	
6	Nodal Officers (S.E. Q.C.)	Er. Binod Kumar	9437060237
		Prusty	

#### 5.7 Preparedness at Department level (List is Indicative & may be extended)

- Ensure regular preparedness meetings (preferably quarterly)
- Develop & update Disaster Management Plan, carry out Hazard analysis
- Keep a list of Contacts of EoCs, Nodal officer of different departments, Important stake holders,
- Keep a list of infrastructure/equipment with Operation & Maintenance calendar
- Carry out operation & maintenance of infrastructure / equipment as per schedule
- Develop yearly capacity building calendar of stakeholders & volunteers
- Asses preparedness through Mock Drills for different disasters at district department, block & community level
- List the locality which is likely to be affected such as flood prone area, earthquake area, drought area etc.
- List the different NGOs who will support during disaster.
- List the different Organization with address for availability of different equipment, technical person, relief materials etc.
- List the different donor organization who come forward to help during disaster.

# Chapter -6: Response Plan and Relief

#### 6.1 Public Warning System

The department will know the situation from weather forecasting department, higher authority about disaster situation. The nodal officers of the department and also collector of the district in from of the division control room about warning situation. TV, Newspaper also allowed of the situation. Filed staff also collects the information from two sources.

- Informal : Local informers, Community leaders, NGOs and other organizations. This is the first information which should be confirmed from formal sources later
- Formal : Official information collected from Block, PRI, Line Departments and Field Functionaries

#### The information should include :

- ◆ Affected areas : a list of affected villages, gram panchayats, blocks
- ◆ Affected communities with details of population, households, etc
- A list of marooned pockets (villages or parts thereof) and the likely duration of the situation
- Affected infrastructure : affected and submerged tube wells, Piped Water Systems, other water sources, roads - extent of damage and remedial measures required
- Temporary shelters : Schools, community halls, embankments, etc with location, what needs to be done to address water and sanitation services

# 6.1.1 Existing arrangements of the department for information collection and dissemination

Junior Engineer, RD shall personally contact the Block Control Room/BDO once or twice daily, collect information on affected areas, pass on the same to sectional Control Room and act accordingly. He will request the concerned Assistant Engineer, RD for additional support, if required.

He will ensure functioning of the Control Room in his office.

#### **Monitoring of Activities**

- Monitoring of activities by the designated Nodal Officers as frequently as necessary;
- Daily feed back in suitable format needs be furnished by the JE for review and monitoring and review of the different planned activities;
- It is to be reviewed if the advance planning is implemented in proper manner or not. If not then the deficiencies are to be reviewed and solutions suggested;

#### 6.1.2 Existing system of Public Warning in the departments.

#### **Control Room:**

24 hours control room with nodal office at each division office are setup every year commencing from 01.06.2013 to 31.06.2013 to keep a strict vigil upon the vulnerability of the flood affected areas with a view to receive the massages are roads, bridges and buildings damaged by flood and cyclone from the fields official officers and other sources to take follow up action at appropriate time during the current financial year, like every year.

Similarly these shall be a control room in each division to look after the flood station and to take follow up action. In order to meet the flood situation the Division shall have a contingency plan and are emergency team to attend the breaches and dislocation of traffic during the flood season. After occurrence of breach, due to heavy flood the preliminary report is to be prepared and temporary assessment is mad to restore the damage roads to its pre flood condition. **6.1.3 Establishment of control rooms at State and District level.** 

S1 No.	State	Contact Person	Contact no. of the control room	E-mail ID
1	Nodal Officers	Binod Kumar Prusty, S.E. Q.C.	0674-2391928	<u>cerw_bbsr@yahoo.com</u>
2	Engineer-in- Chief, Rural Works	Er. Deba Narayan Pal	9437255355	<u>cerw_bbsr@yahoo.com</u>

S1. No.	Name of District	Name of R.W.Division	Name of the Nodal /Head	Office (with STD code	Mobile (G)	E-mail ID
1	2	3	4	5	7	8
1	Angul	Angul	B.K. Sarangi, EE	06764- 230792	9437255305	rwangul@yahoo.in
2		Balasore-I	Nandulal Gharai, EE	06782- 262723	9437255354	eerw_balasore@rediffmail.com
3	Balasore	Balasore-II	Pratap ch, Mohanty, EE	06782- 241855	9437255353	eerw_balasore@yahoo.co.in
4		Jaleswar	Trilochan Sahu, EE	06781- 237898	9437255356	eerw_jaleswar@yahoo.com
5	Bargarh	Bargarh	B.Meher, EE	06646- 230137	9437255306	<u>rd_bgh@yahoo.co.in</u>

6		Padmapur	Rm Gopal Baliveda, EE	6683223952	9437255307	rwd.padampur@yahoo.co.in
7	Bhadrak	Bhadrak-I	Manas Ranjan Mohanty, EE	06784- 250431	9437255357	ee_rwbdk@yahoo.com
8		Bhadrak-II	Bijaya Kumar Das, EE	06754- 250252	9437255358	ee_rwbdk2@yahoo.co.in
9		Bolangir	R.P. Acharya, EE	06652- 232862	9437255326	dpmubalangir@gmail.com
10	Bolangir	Titilagarh	Sanjeeb Ku. Das, EE	06655- 222247	9437255327	<u>eerw_titilagarh@yahoo.co.in</u>
11		Patnagarh	A.Kisan, EE		9437562334	<u>eerw_ptng@yahoo.in</u>
12	Boudh	Boudh	Sudhansu Ranjan Nayak, EE	6841- 223589	9437255317	rw_boudh@yahoo.co.in
13	Certhada	Cuttack-I	P.K. Bhol, EE	0671- 2440662	9437255338	rw_cuttack@yahoo.co.in
14	Cuttack	Cuttack-II	D.P. Das, EE	0671- 2445119	9437255339	cuttackrw2nd@yahoo.co.in
15	Deogarh	Deogarh	K.K. Mishra, EE I/C	06641- 226238	9437255359	<u>dm-deogarh@nic.in</u>
16		Dhenkanal	P.K. Dhar, EE	06762- 226706	9437255309	eerwdkl@yahoo.co.in
17	Dhenkanal	Kamakshya Nagar	P.K. Bal, EE	06769- 270685	9437255308	<u>rw.kamakhyanagar@yahoo.in</u>
18	Crimati	Gajapati	Sridhar Nayak, EE	06815- 222303	9437255318	rwd_gajapati@yahoo.co.in
19	Gajapati	Mohana	R.N. Behera, EE		9437562293	rwdmohana@gmail.com
20		Ganjam-I	P.K. Mishra, EE	0680- 2291405	9437255319	eernb1 bam@yahoo.com
21	Ganjam	Ganjam-II	P.K. Jena, EE	0680- 2404096	9437255320	eerwgmt@yahoo.co.in
22		Bhanjanagar	Trilochan Nahak, EE, (I/C)		9437255459	eernbbngr@yahoo.in
23	Jagatsinghpur	Jagatsinghpur	Manoranjan Pattnaik, EE	6724- 221779	9437255340	eerw_jspur@sify.com
24	<b>T</b> .	Jajpur-I	R.C. Behera, EE	06728- 222059	9437255341	jajpurrwd@yahoo.com
25	Jajpur	Jajpur-II	Lokanath Mishra, EE	06725- 274245	9437255342	rwdivision_jaraka@yahoo.co.in
26	Jharsuguda	Jharsuguda	Rashmi Ranjan Mishra, EE	06645- 272407	9437255310	eerw_jharsuguda@yahoo.co.in
27		Bhawanipatna	Santosh Ku. Samal, EE	06670- 230656	9437255331	rw bhawanipatna@yahoo.co.in
28	Kalahandi	Dharamgarh	Sanjib Ketan Raoutray, EE	06672- 242765	9437255329	<u>rw_dharmagarh@yahoo.com</u>

29		Kesinga	Debendra Ku. Seth, EE		9437562291	eerwkesinga@yahoo.com
30	Nuapada	Khariar	Debendranath pattanaik, EE, (I/C)		9437562274	eerwkhariar@gmail.com
31	Kandhamal	Phulbani	P.K. Sahu, EE	06842- 253708	9437255321	rw_phulbani@yahoo.co.in
32		Kendrapara-I	Nalinikant Senapati, EE	06727- 230096	9437255343	eerw_kpd@yahoo.com
33	Kendrapara	Kendrapara-II	B.B. Dalabehera, EE	06727- 230428	9437255344	eerw_kendraparat@yahoo.co.in
34		Keonjhar-I	Bimal Prasad Tiria, EE	06766- 258195	9437255361	<u>eerw1_kjr@yahoo.com</u>
35	Keonjhar	Keonjhar-II	Ananta gopal Satapathy, EE	06766- 258072	9437255362	<u>eerw_kjr2@yahoo.com</u>
36		Anandapur	Alok Ranjan Mohanty, EE	06731- 220382	9437568115	eerw_anandapur@yahoo.co.in
37	Khurda	Bhubaneswar	Anadi Charan Sahoo, E.E.	0674- 2301787	9437255345	eerw_bbsr@yahoo.co.in
38		Koraput	Kishore Chandra Nayak, EE	06852- 251263	9437255371	eerwkoraput@yahoo.com
39	Koraput	Sunabeda	A.K. Pattanayak, EE	06853- 221521	9437255372	eerw_sunabeda@yahoo.co.in
40		Jeypur	Shiva Prasad Bhol, EE			eerbjeypore@rocketmail.com
41		Malkanagiri-I	NVH Rao, EE	06861- 231450	9437255373	rwd_malkangiri@yahoo.co.in
42	Malkanagiri	Malkanagiri-II	K. Vora Prasad Rao, EE	06861- 230971	9437255370	ruralworksdivisioniimalkangiri@yahoo.in
43		Baripada	Sukanta Ku. Behera, EE	06792- 260207	9437255363	rw_mayurbhanja@yahoo.co.in
44	Mayurbhanj	Karanjia	Sushil Ch. Samantaray, EE	06796- 221754	9437255364	eerwkaranjia@yahoo.com
45		Rairangapur	D.P. Karan, EE	06794- 222888	9438255365	eerbrairangpur@yahoo.co.in
46		Nabarangapur	S.C. Mohapatra, EE	06858- 222023	9437255374	<u>eerwnow2@dataone.in</u>
47	Nabarangapur	Umerkote	Durga Chandra, Behera, EE	06858- 270253	9437255375	eerwukt@rediffmail.com
48		Nayagarh-I	S.R. Prusty, EE (IC)	06753- 252049	9437255347	eerwnayagarh@gmail.com
49	Nayagarh	Nayagarh-II	Amerash Nayak, EE		9437489474	nayagarhrw2@yahoo.in

50		Nuapada	L.K. soren, EE	06678- 223083	9437255329	rdnuapada@rediffmail.com
51	Nuapada	Khariar	Debendra nath Pattnail, EE, (I/C)		9437562274	eeroads.khr@rediffmail.com
52	Derei	Puri	S.K. Samal, EE	6752- 222092	9437255349	eerwpuri@sify.com
53	i uli	Nimapara	Debasis padhi EE,	06758- 250838		<u>ee_nimapara@yahoo.co.in</u>
54	Pavagada	Rayagada	Pradeep Ch. Mondal, EE	06856- 222188	9437255376	rw_rayagada@yahoo.co.in
55	Kayagada	Gunupur	S.K. Padhi, EE		9437100764	
56	Comboliour	Sambalpur	R.C. Rath, EE	0663- 2401850	9437255311	rw_sambalpur@yahoo.co.in
57	Sambaipur	Kuchinda	Arabinda Tripathy, EE		9437562208	rw_sambalpur@yahoo.co.in
58	Sonepur	Sonepur	Satyabrata Behera, EE	06654- 221436	9437255334	rw_sonepur@yahoo.co.in
59	Sundorgarh	Sundergarh	B.B. Dalbehera, EE	06622- 272280	9437255313	rw_sundargarh@yahoo.co.in
60	Sundergarn	Rourkela	Kishore Ku, Mishra, EE	0661- 2664693	9437255312	rw_rourkela@yahoo.co.in

#### 6.2 Inter-Departmental Coordination

State control room will coordinate Revenue & Disaster Management Department and also SRC. As per their advice the nodal officer as well as control room will coordinate of the other Deptt. If needed. The nodal officer control room will give necessary directions to Executive Engineer nodal officers of the Division to monitor accordingly.

#### 6.2.1 State Level

#### Control room and Nodal officers will oordinate with all division.

#### 6.2.2 District Level

Collector & District control room coordinate with all department and make arrangement for inter departmental coordination.

Sl No.	Level	Name of the Nodal Officer	Contact No.	Alternative contact no.	Roles/Responsibilities
1	Superintending Engineer	Er. Binod Kumar Prusty	9437060237		Coordinate with SRC and Divisional Nodal Officers as per requirement.

#### 6.2.3 Appointment of Nodal Officers to support Inter-departmental coordination

S1	Level	Head of the IRT	Team	Roles / Responsibilities
No.			members	_
1	State	Engineer-in- Chief, Rural Works	<ol> <li>Nodal Officers</li> <li>All Chief Engineers</li> <li>Accounts Officers</li> <li>Flood Control Team</li> </ol>	<ol> <li>Coordinate with State Government and other line Departments.</li> <li>Ensure Reporting of the affected area and assess damage thereof.</li> <li>Assess the staff and other logistic requirement for operation.</li> <li>Ensure availability of funds at District and block level to meet contingency expenses.</li> <li>Plan and arrange necessary inputs for response measures</li> <li>Manage the fund and maintain financial records</li> <li>Maintain an inventory of all related guidelines, procedures, action plans, district maps and Contact numbers.</li> <li>Develop the media messages up to date status of disaster mitigation and response work</li> <li>Document the lessons learnt. Circulate printing material on Contingent and DM Plans.</li> <li>Capacity Building</li> </ol>
2	District	Executive Engineers	<ol> <li>Accounta nt</li> <li>Estimator</li> <li>Flood control Unit appointed by EE.</li> </ol>	<ol> <li>To coordinate with Directorate, District Authorities and line departments at District level.</li> <li>To prepare and activate district disaster plan</li> <li>To manage the overall response activities in the field</li> <li>To develop the media messages.</li> <li>To mobilise resources for response measures</li> <li>To collect and store disaster related information for post incident analysis.</li> <li>Capacity Building</li> </ol>

## 6.3 Incident Response Teams (IRTs) R.D. Department.

3	Block	1. J.E./A.E	1. Field	4. 7	Γο supervise collection of
			Staff	Ċ	disaster related information and
		2. AEE/DEE	2. Cashie	r	report to the District IRT.
			r	5. Т	Γο prepare and activate disaster
			3. Suppor	F	olan at block level
			ting	6. Ī	To coordinate with District
			staff	I	Authority, AHO and
				]	Tahasildar/ BDO, PRI members
				e	etc
				7. ]	Γο implement the plan
				8. 7	Γο ensure availability of
				r	resources for response measures
				9. (	Capacity Building

6.4 Disaster Specifi	c Response Plan	of the Department
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#### R.D. Department.

Sl No.	Natural Calamity	Responsibility	Response Time	Who is
			line	responsible
1	Flood	The preliminary report should be submitted immediately & Steps should be taken to make traffic free within 24 hour	24 hours	JE/AE/AEE in Block level EE in the District level, EIC in the State level
2		Assessment of Damage& detail report	After 3 days of submergence/ receding of flood	-Do-
3	Cyclone/ Hailstorm/ Tidal waves	Area affected by submergence/ saline inundation/ preliminary report of damage	Immediate after occurrence	-Do-

#### 6.5 Roles of NGOs and Voluntary Organization for better coordination

During disaster the officials involve in the work face many problems. They may not know alternative route, availability of different materials which is going to procure from locality availability of masonry in the locality and other social problem of the locality. NGO & Volunteer organization will help us in this problem. Hence role of NGO and volunteer organization are vital during these periods.

Hence, Identification of NGOs operating block- wise should be prepared. While preparing such list, care should be taken to collect information with regard to

- Number of volunteers, NGO-wise
- Type of activities carried out and the expertise achieved
- ✤ Bonafides of the NGO (whether registered under the SRA Act)
- ✤ Area of operation
- Address, telephone number, Fax, E-mail, etc. of the NGO to be collected and recorded

6.6 <mark>. S</mark>	itandard Operating procedure for R.D	0. Departments)	
Name of the	On Receiving Warning	Response time	Post Disaster
Department			
6.6. S Name of the Department Rural Development	<ul> <li>✓ Dangerous zone for interring of traffic should be indicated</li> <li>✓ Clearance of the road and traffic</li> <li>✓ Cutting of trees abstracting traffic</li> <li>✓ Cutting of trees abstracting traffic</li> <li>✓ Selection of alternative route for movement of traffic &amp; relief material .Construction of divert of road.</li> <li>✓ Helping the public to move to safer place and coordinating with their emergency requirement.</li> <li>✓ Help in moment in relief material.</li> <li>Filing up of breaches and potholes, use of pipe for creating waterways, repair and stone pitching of embankments.</li> <li>Repair breached culverts</li> <li>✓ Providing diversions to the damaged/washed out portions of bridges to restore immediate connectivity.</li> <li>✓ Temporary repair of approaches</li> </ul>	<ul> <li>✓ Take photograph of breach other damages immediately</li> <li>✓ Take immediate action for breach closing or make diversion as case may be and completely within 24.hours.</li> <li>✓ Make any arrangement of movement of relief materials by finding any alternative route.</li> </ul>	<ul> <li>✓ Detail of damage report with in three days of receding for do permanent restoration as per order of authority.</li> </ul>
	<ul> <li>✓ Temporary repair of approaches to bridges/embankments of bridges, repair of damaged</li> </ul>		
	railing bridges, repair of causeways to restore immediate connectivity, granular sub base, over damaged stretch to roads to restore traffic.		

#### 6.7 Relief

6.7.1 Reporting Procedures and formats for damage assessment and others

6.7.2 Illustrative list of activities identified as of an immediate nature

6.7.2.1.

#### 6.7.2.2 Roads (RD)

- ✓ Filing up of breaches and potholes, use of pipe for creating waterways, repair and stone pitching of embankments.
- ✓ Repair breached culverts
- ✓ Providing diversions to the damaged/washed out portions of bridges to restore immediate connectivity.
- ✓ Temporary repair of approaches to bridges/embankments of bridges, repair of damaged railing bridges, repair of causeways to restore immediate connectivity, granular sub base, over damaged stretch to roads to restore traffic.

#### 6.7.3 Minimum Standards of Relief

Immediate restoration should be done immediately without waiting for fund.

#### 6.7.4 Management of relief supplies/speedy management.

Relief supply should reach the site as quick as possible. It may be done by Air dropping are supply by boat if it is not possible to reach the site by the land. Immediate steps should be taken to reach the relief the material through alternative road or constructing diversion road or immediate breach closing.

# **Chapter – 7** Restoration & Rehabilitation

Rehabilitation and restoration comes 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, nonoccupancy 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 to respond to any natural calamity & take up restoration & rehabilitation activities wherein the role of the heads of the department play a vital role to evaluate, asses the quantum of loss & report the situation to the Special Relief commissioner/ State Government for assistance. Further, The Department must undertake all the steps for restoration & rehabilitation of all such infrastructure damaged in disaster by supplying essential commodities, group assistance to the affected people, damage assessment and administrating appropriate rehabilitation and restoration measures.

However, for any assistance from the state government the requisition must reach the SDMA & SRC office in the prescribed format as detailed below for smooth & quick processing.

Damage & L	Loss Assessment
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	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
Road & Bridges	Rural Roads	No. of Roads damaged – Length of Road damaged	By RD Department			
		-	from			
		No. of breaches –	available			
		No. of CD/Bridge	other grants			
		damaged-	and			
		No. of CD/Bridge	contingency			
		washed away -	if any and			
			that will be			
			replace alter			
			from SRC			
Buildin	Rural	Nos of School Building,	-do-			
gs	Buildings	Revenue Building, Health				
		Building and other Govt.				
		Department				
	1	Total				

# **Chapter 8: 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 longterms process in which everyone has a role – the Government including the PRI members, NGOs and especially the affected people, their families and the community.

The Role of the Departments are to explore the scope for

- Preparation of Recovery plan for displaced population, vulnerable groups, environment, livelihoods
- Organize 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 stabilization of the repaired & reconstructed infrastructure.
- Integrate Climate change & Disaster Risk Reduction features in the recovery programmes

The heads of the department will be the coordinator of all Recovery activities under the department. The role of the Heads of the department will be to:

- Generally monitor the management of the recovery process;
- Ensure implementation of the recovery plan at the district level & below.
- Ensure Effective service delivery minimizing overlap and duplication;

# Chapter – 09:

# Mainstreaming Disaster Risk Reduction (DRR) in developmental projects of the department

9.1 Identification of existing programmes of the Department

9.2 Devising plans for factoring Disaster Risk Reduction features into developmental programmes.

[Devise appropriate policy for "Sustainable development" by factoring disaster risk concerns, can help reduce disaster losses, protect existing development gains and avoid new risks. Identify national and other development programs connected with your department and induce strategic interventions for accomplishing "sustainable development" objectives.]

Mainstreaming DRR involves incorporating disaster risk reduction into development policy and practice. It means radically expanding and enhancing disaster risk reduction so that it becomes normal practice, fully institutionalized within an agency's relief and development agenda.

Mainstreaming has three purposes:

(a) To make certain that all the development programmes and projects, are designed with evident consideration for potential disaster risks and to resist hazard impact,

(b) To make certain that all the development programmes and projects do not inadvertently increase vulnerability to disaster in all sectors: social, physical, economic and environment

(c) To 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.

Mainstreaming DRR into the developmental plans is an important mandate of the Disaster Management Act 2005. Integration of disaster risk reduction measures into ongoing flagship programmes of the department is being used as an entry point for mainstreaming DRR in development plans. Steps for ensuring the incorporation of DRR into various ongoing programmes\plans are as follows:

- (a) Identification of key programme / projects of the department.
- (b) Identification of entry points within the programme for integration of DRR (structural, nonstructural and other mitigation measures) at various levels viz. state, district and local levels
- (c) Close coordination with concerned departments such as State Planning Commission and Finance Department for promoting DRR measures into development plans and policies
- (d) Allocation of dedicated budget for DRR within the departmental plans
- (e) Preparation of guidelines for integration of disaster risk reduction measures into development plans of the department at the district and sub-district level.
- (f) Review & Incorporation of DRR provisions in the policies, rules & regulations

# Scope for integrating different schemes for Disaster Risk Reduction (DRR) activities:

Sl. No.	Scheme/ Project	Possible activities for DRR
1	Roads	Guidelines of IRC, NRRDA, PMGSY & ADB Code
2	Buildings	Guidelines of Building Code, NBC- 2016
3	Bridges	Guidelines of IRC Code

## **Chapter -10: Provisions for financing the activities**

As per the sub-section (2) of Section (40) of the DM act, every department of the state government while preparing the Departmental Disaster Management Plans shall make provision for financing the activities specified therein.

#### 10.1 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 installments in June and December respectively in each financial year. Likewise, the State Government transfers its contribution of 25% to the SDRF in two installments in June and December of the same year.

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

#### **10.2 National Disaster Mitigation Fund**

As per Section 47 of the DM Act 2005, Central Government may constitute a National Disaster Mitigation Fund for projects exclusively for the purpose of mitigation. This Section has not been notified by the Government so far. As mentioned earlier, the FC-XIV restricted its recommendation to existing arrangements on the financing of the already constituted funds (National Disaster Response Fund and State Disaster Response Fund) only, as per its terms of reference. The FC-XIV did not make any specific recommendation for a mitigation fund.

#### 10.3 Recommendations of the Fourteenth Finance Commission

In regard to grants for disaster management, Fourteenth Finance Commission (FC-XIV) has adopted the procedure of the XIII FC and used past expenditures on disaster relief to determine the State Disaster Response Fund corpus. While making recommendations, XIV FC have taken note of the additional responsibility cast on States and their district administrations under the Disaster Management Act. XIV FC has also taken note of the location-specific natural disasters not mentioned in the notified list, which are unique to some States.

#### 10.4 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, exgratia 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.

#### 10.5 Allocation by Ministries and Departments

Section 49 provides for Allocation of funds by Ministries and Departments. It states that:

"(1) Every Ministry or Department of the Government of India shall make provisions, in its annual budget, for funds for the purposes of carrying out the activities and programmes set out in its disaster management plan.

(2) The provisions of sub-section (1) shall, *mutatis mutandis*, apply to departments of the Government of the State."

# 10.6 Fund provision for disaster preparedness & capacity building of the department

Formats for provision of funds for disaster management in the annual budget of the department

Sl No.	Categories	Sub-Categories	Total provision of funds in lakh for the financial year 2019-20
1	Mitigation	Structural	10 crore
	wingation	Non-Structural	2 crore
2 Capacity-Build		Training	
	Capacity-Building	Programmes	20 стото
		Mock drills	20 CIOLE
		IEC materials	
3	Proguromont	Materials	10 crore
	Procurement	Resources	10 crore

#### 10.6 Flexi Funds as a part of Centrally Sponsored Schemes

As per Department of Expenditure, Ministry of Finance, O.M No. 55(5)/PF-II/2011 dated 6.1.14, all Central Ministries shall keep at least 10 percent of their Plan budget for each CSS as flexi-fund (except for schemes which emanate from a legislation or schemes where the whole or a substantial proportion of the budgetary allocation is flexible. States may use the flexi-funds for the CSS to meet the following objectives:

a) Provide flexibility to States to meet local needs and requirements within the overall objective of each program or scheme;

b) Pilot innovations and improve efficiency within the overall objective of the scheme and its expected outcomes;

c) Undertake mitigation /restoration activities in case of natural calamities in the sector covered by the CSS;

The utilization of flexi-funds for mitigation/restoration activities in the event of natural calamity must be in accordance with the broad objectives of the CSS. It is possible to combine flexi-fund component across schemes within the same sector but the flexi-funds of a CSS in a particular sector however, shall not be diverted to fund activities/schemes in another sector. The flexi-funds

constitute a source of funding for mitigation activities within overall objectives of the particular National Disaster Management Plan 143 CSS(s) under which they are allocated and this would still leave a gap in terms of funding purely

mitigation related projects especially those addressing cross cutting themes that cover multiple sectors.

#### Annexure-1

Reporting formats of the department for SDRF norms

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

# **Annexure:**

• Emergency contact Nos.

1	Principal Secretary, RD.	Dr. Mona	0674-2536740
		Shrama, IAS	(office)
2	Engineer-in-Chief, Rural Works	Er. D.N. Pal, EIC	9437255355
3	Chief Engineer, PMGSY	Er, Bijay Narayan	9437569885
		Mishra	
4	Chief Engineer, Buildings	Er. Suresh	9437493595
		Chandra Mishra	
5	Chief Engineer, Plan Roads	Er. Chadramauli	9437574704
		Pattanaik	
6	Nodal Officers (S.E. Q.C.)	Er. Binod kumar	9437060237
		Prusty	

- List of Item wise suppliers for department in case of emergency.
- Resource list (IDRN)
- List of NGOs, CBOs, VOs, associated with the department.
- Essential formats for requisition, damage assessment & reporting
- List of infrastructures available with the Department.
- Reporting formats of the department for SDRF norms
- Format for working out the requirements under the head of repair of damaged infrastructure of immediate nature
- Guidelines of Flexi-funds within Centrally Sponsored Schemes

# • Chapter - 11: Knowledge Management

- Knowledge management (KM) is a multidisciplinary approach to achieve the departmental objectives by creating, sharing, using and managing information as well as technology of an organization. Thrust must be given towards exploring all possible opportunities of knowledge requirement for augmenting the departmental potentials like physical assets, human resources & services. Implementing a complete knowledge management takes time and money. However, risks can be minimized by taking a phased approach that gives beneficial returns at each step & tangible results quickly with enhanced efficiency, better decision making and greater use of tested solutions across the department.
- **Objectives for knowledge Management:** Describe the Department Specific objective both short term & long term (*Information & Technology needs and the drivers as well as collaboration that will provide momentum and justification to the endeavor.*)

Thematic Area	Best Practice	Technology Intervention	Opportunity for replication
Road	Rural road	Modern Technology	Need training and
	specification &	i.e.	<b>Procurement of</b>
	IRC	<ol> <li>CELL Filled Concrete</li> <li>Cement Stabilization</li> <li>Cold Mix Technology</li> <li>Envirotac</li> <li>Geotextile for Subgrade improvement</li> <li>Gravel with Slag</li> <li>Iron Slag for Subgrade improvement</li> </ol>	Machinery
		<ol> <li>9. Nano Technology for Water proffing</li> </ol>	

#### • 11.1 Best Practices & innovation in the Department

		<ul> <li>10. Panelled Cement Concrete</li> <li>11. Roller Compacted Concrete Pavement</li> <li>12. Soil Stabilizer JGRS</li> <li>13. Steel Slag for stabilization</li> <li>14. Terrazyme</li> <li>15. Waste Plastics</li> </ul>	
Bridge	IRC	Modern Technology	-do-
Building	Building code	-do-	-do

# 11.2 Process for Knowledge management

Name	Technology Needs	Current State of Technology	Prioritization	Collaborating Institute (Address Contact person & details)
Road	Need training in modern technology	Rural road specification & IRC	<ol> <li>Quality</li> <li>Achieve ment</li> </ol>	IAHE, Noida NIRD & PR, Hyderabad ASCI, Hyderabad
Bridg e	-do-	IRC	-do-	-do-
Build ing	-do-	Building code	-do-	-do-

## • 11.3 Knowledge partners

Details of Institutions With Address, Mail ID, Contact of Nodal Person										
District Level	State Level	Nation Level	International							
-	SIRD, BBSR	IAHE, Noida	-							
	Gopabandhu	NIRD & PR,								
	Academy, BBSR	Hyderabad								
		ASCI, Hyderabad								

#### • Implementation Roadmap for Knowledge Management

#### Annexure-2

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

	Sector	Damage in physical terms	Requirement of funds for repair of immediate nature	Out of (3), amount available from annual maintenance budget	Out of (3), amount available from related schemes/ programs/ other sources	Out of (3), amount proposed to be met from CRF/NCCF in accordance with list of works indicated in the Appendix to the revised items and norms
Roads & Bridges	R.D. 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		
		aamagea in canai		
Drinkin a Water	Rural Water	NO OF TUDE WEIIS		
Supply	300019			
		damaged –		
		No. of Rural pipe water		
		supply system damaged		
		-		
	Urban Water			
	Supply			
Irrigatio	River	No of breaches –	 	
n	Embankment	Length of breach in Km –		
		No of partial damage -		
	Canal	No of breaches –		
	Embankment	Length of breach in Km –		
	S	No of partial damage -		
	MI projects	No of Minor Irrigation		
		projects damaged -		
	Clearance of	Length of drainage		
	Drainage	channels congested with		
	channels	vegetative materials –		
Primary	Primary	No of Primary School		
eaucati	Buildings	buildings damaged -		
PHCs	PHC	No of Primany Health		
Thes	11103	Centers damaged -		
Commu	Community	No of Panchayat		
nity	Halls	Ghar/Community Hall		
assets		damaged -		
owned	AWW Centers	No of Anganwadi		
by Bancha		Centers damaged -		
yats				
Power	Electrical lines	No of Primary sub-		
		stations damaged –		
		33 KV lines damaged –		
		11 KV lines damaged –		
		Distribution Transformers		
		damaged –		
		LT lines damaged –		
		Total		

#### Annexure-3

x

Animal Husbandry (Replacement of Animals)

Name of the Block	No of Livestock / Birds lost Milch Animal Draught Animal Poultry					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 Milch Animal Draught			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) Milch Animal Draught Animal			Poult T ry@ o 50/- t per c bird e subj x ect p	T ot al e x p		
	Buffalo/ Cow	Sheep/ Goat	Camel/ Horse/ Bullock	Calf/ Donkey/ Pony	Birds	Buffalo/ Cow	Sheep/ Goat	Anin Camel/ Horse/ Bullock	Calf/ Donk ey/ Pony	Buffalo/ Cow	Sheep / Goat	Camel/ Horse/ Bullock	Calf / Don key / Pon y	ceili ng of assist ance of Rs.50 00/- per bene ficiar y hous ehol d.	e n di tu r e (11+12+13+14+15)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	( 1 6 )