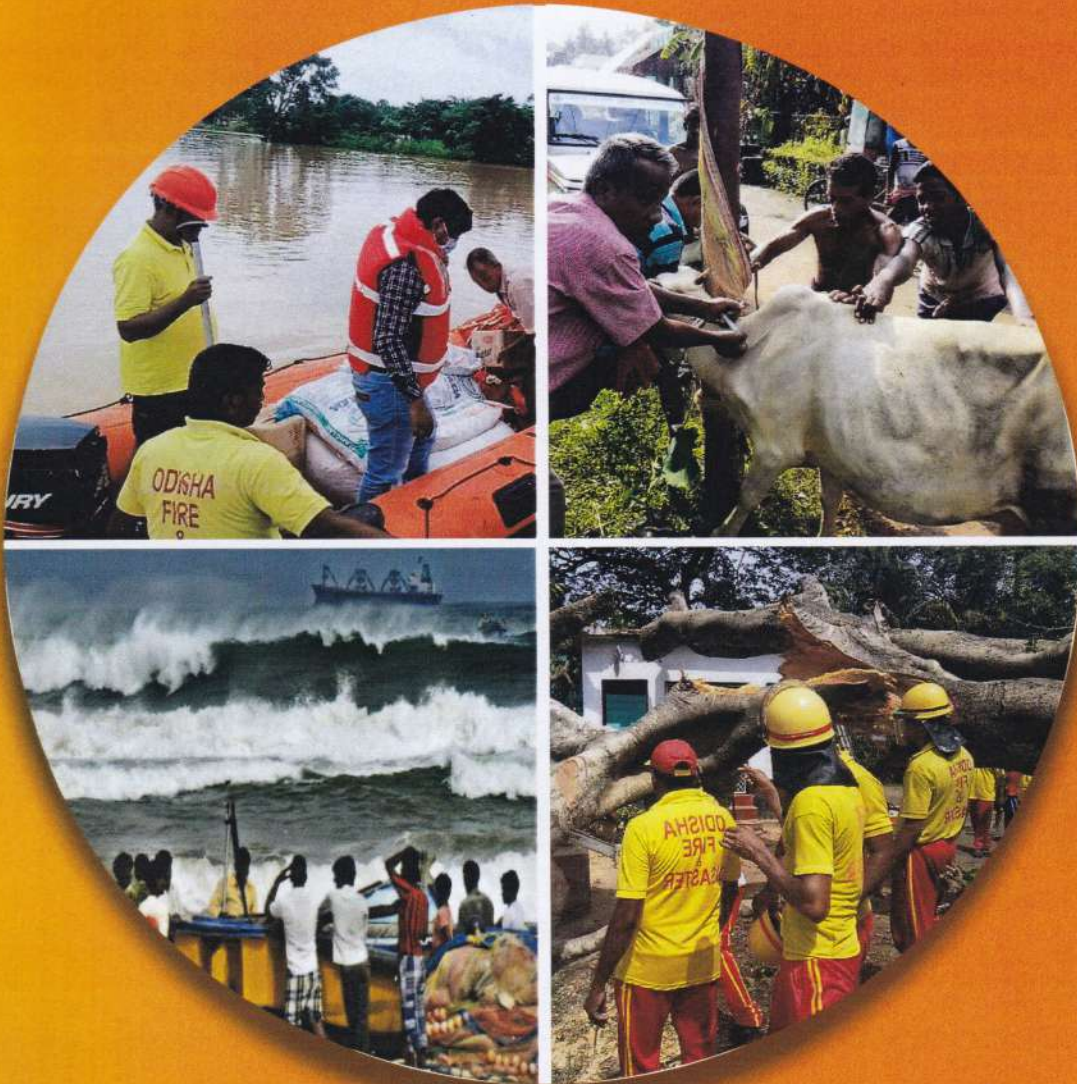




Government of Odisha

ANNUAL REPORT ON NATURAL CALAMITIES 2018-2019



SPECIAL RELIEF COMMISSIONER

Revenue & Disaster Management Department
Government of Odisha

CONTENTS

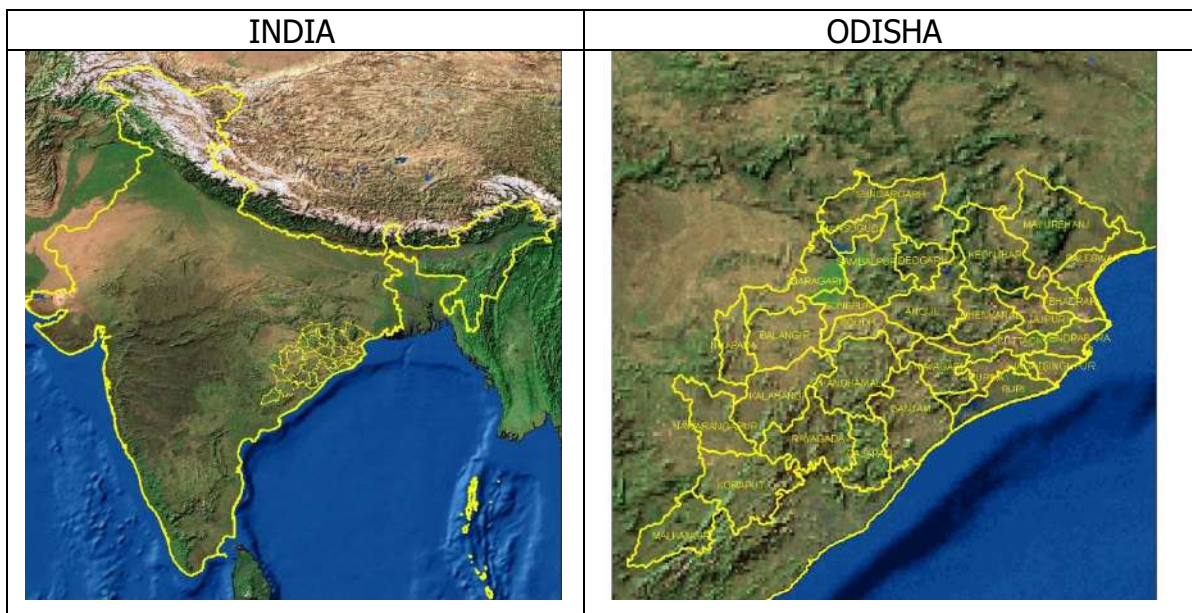
CHAPTER-I	Introduction	01-12
CHAPTER-II	Rainfall	13-19
CHAPTER-III	Heavy Rain & Floods	20-92
CHAPTER-IV	Drought	93-98
CHAPTER-V	Pest Attack	99-99
CHAPTER-VI	Fire Accident & other Disasters	100-101
CHAPTER-VII	State Specific Disasters	102-107
CHAPTER-VIII	State Disaster Response Fund(SDRF)	108-127

CHAPTER-I

INTRODUCTION

State Profile

Odisha extends from 17° 49'N to 22° 36'N latitude and from 81° 36' E to 87° 18'E longitude on the eastern coast of India with an area of about 155,707 Sq km. The state is broadly divided into four geographically regions viz. the northern plateau, central river basins, eastern hills and coastal plains. The 480 km long coastline of Odisha is opened to Bay of Bengal. Besides, the State is intercepted by peninsular river systems like Subarnarekha, Budhabalang, Brahmani, Baitarani, Mahanadi, Rushikulya and Vansadhara, apart from a number of tributaries and distributaries. The state is divided into 30 districts for administrative convenience. The 30 districts have been subdivided into 58 subdivisions and further divided into 314 blocks.



State's vulnerability to various disasters

The Odisha state is located in the eastern seaboard of India and is one of the most disaster prone states in the country. The 480 Kms of coastline, the 11 major river systems and the geo-climatic conditions make almost the entire State vulnerable to different disasters, particularly, floods, cyclones, droughts and heat waves. There are eleven major river systems in Odisha such as Subarnarekha, Budhabalanga, the Baitarani, Brahmani, Mahanadi, Rushikulya, Vansadhara,

Nagabali, Indravati, the Kolab and Bahuda. Its densely populated coastal plains are the alluvial deposits of its river systems. The rivers in these areas with heavy load of silt have very little carrying capacity, resulting in frequent floods, only to be compounded by breached embankments. About two-third of the total cultivated area being rain-dependent, drought poses a serious threat at regular intervals in the event of failure of Monsoon. Although the State has no experience of any significant earthquakes, its probability of occurrence in future cannot be ruled out. Though a large part of the state comes under Earthquake Risk Zone-II (Low Damage Risk Zone), the Brahmani-Mahanadi graven and their deltaic areas come under Earthquake Risk Zone-III (Moderate Damage Risk Zone) covering 44 out of the 106 urban local bodies of the state. Though the coastal area of the State was not affected by the tsunami of December 2004, it remains a potential hazard for the State. Disasters in the recent past, the heat wave of 1998; Super Cyclone in 1999, very severe cyclonic storm Phailin in 2013 and very severe cyclonic storm Phailin in 2013; floods in 2001, 2003, 2005, 2008 and 2011 and severe drought in 2002 and 2009 and 2015 revealed the many challenges that must be faced in order to improve its preparedness and emergency response to the frequently recurring disasters.

The Bureau of Material Technology and Promotion Council (BMTPC), Government of India has divided the state in to different multi hazard zones. The area statistics of the different disasters is given in the following Table. The geographical distribution of different hazard zones of Odisha is represented in the following Figure.



Disaster Occurrences in the recent past

One or other calamities like flood, cyclone or drought occur every year in Odisha and bring in its trail much loss and sufferings to the people and the state. The record of previous disasters in the State substantiates the fact that the state is prone to one or more forms of natural disasters. There are many instances where a particular area has been struck by a number of disasters simultaneously or repeatedly by one or the other type of disasters. Rivers flowing through the state expose vast areas to floods. The 480 Km coastline exposes the state to cyclones and storm surges. Droughts are also a regular feature as the western districts of the State are prone to repeated droughts. The state is also vulnerable to tornadoes, heat wave, fire, industrial hazards and human epidemics.

During the period from 1993-2017, the state has experienced 18 years of flood, 11 years of drought and 7 years of cyclone including super cyclone of 1999. The following table indicates the year wise occurrences of various disasters during last two decades with their geographically impacts in the state.

Year wise occurrences of various disasters

Year	Calamity	Districts Affected
1993	Floods	27
1994	Floods Drought	5 10
1995	Floods & Cyclone	23
1996	Drought	28
1997	Drought	16
1998	Drought, Heat wave	26
1999	Super Cyclone	14
2000	Drought	29
2001	Floods	24
2002	Drought	29
2003	Floods	23
2004	Floods	05

2005	Floods	15
2006	Floods	27
2007	Floods (July) Floods (Aug & Sept)	12 15
2008	Floods (June & Sept)	21
2009	Flood Drought/ Pest Attack	17 18
2010	Flood Drought Cyclonic rain	6 17 23
2011	Flood	21
2013	Very Severe Cyclone Phailin Flood	18 13
2014	Very Severe Cyclone Hudhud Flood	15 27
2015	Drought Heavy Rain	27 14
2016	Flood and heavy rain Drought	6 4
2017	Flood and heavy rain Drought Pest Attack Unseasonal Rain	13 15 24 19

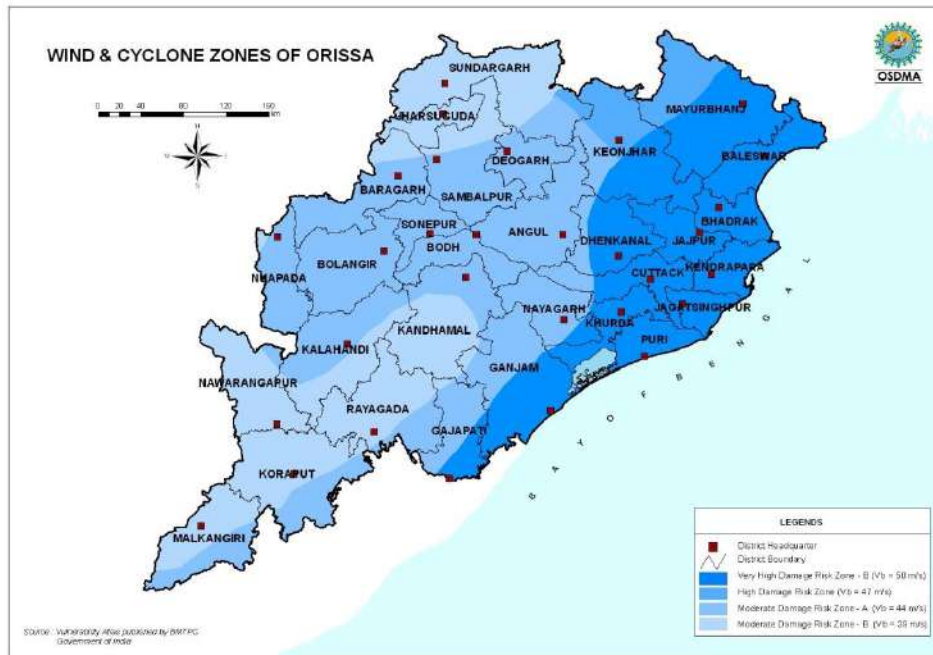
Vulnerability to Cyclones

The East Coast of India is one of the six most cyclone-prone areas in the world. Although the North Indian Ocean (the Bay of Bengal and Arabian Sea) generates only about 7% of the world's cyclones (5 to 6 TCs per year) their impact is comparatively high and devastating, especially when they strike the coasts bordering the North Bay of Bengal. The coastline of Odisha is only about 17% of the Indian east coast, it has been affected by nearly 35% of all cyclonic and severe cyclonic storms that have crossed the east coast and associated storm surges that have often inundated large tracts of coastal districts. On an average, about five to six tropical cyclones form in the Bay of Bengal every year,

of which two to three are within the mild to severe range. The severe cyclonic events in the Bay of Bengal which have impacts on the Odisha coast are given in following Table. Taking together the storms and severe storms, coastal Odisha is about twice as vulnerable as compared to the other eastern states.

Sl.No	Date/Year	Category of Cyclone	Landfall and loss
1	7-12 October, 1737	Super Cyclone	Crossed West Bengal Coast over Sunderbans and had impact over Odisha
2	31 October, 1831	Very Severe Cyclonic Storm	Crossed Odisha Coast near Balasore, Loss of life-50,000
3	2-5 October, 1864	Very Severe Cyclonic Storm	Crossed West Bengal Coast near Contai and had impact over Odisha
4	1-2 November, 1864	Very Severe Cyclonic Storm	Crossed Andhra Pradesh near Machilipatnam and had impact over Odisha
5	22 September, 1885	Super Cyclone	Crossed Odisha Coast at False Point, Loss of life- 5000
6	14-16 October, 1942	Very Severe Cyclonic Storm	Crossed West Bengal Coast near Contai and had impact over Odisha
7	8-11 October, 1967	Very Severe Cyclonic Storm	Crossed Odisha Coast between Puri and Paradeep
8	26-30 October, 1971	Very Severe Cyclonic Storm	Crossed Odisha Coast near Paradeep, Loss of life- 10,000
9	14-20 November, 1977	Super Cyclone	Crossed Andhra Coast near Nizampatnam and had impact over Odisha
10	4-11 May, 1990	Super Cyclone	Crossed Andhra Pradesh Coast about 40 Km S-W of Machlipatnam and had impact over Odisha
11	25-31 October, 1999	Super Cyclone	Crossed Odisha Coast near Paradeep at noon of 29 October
12	12-14 October, 2013	Very Severe Cyclonic Storm, Phailin	Crossed Odisha Coast near Gopalpur at evening of 12 October
13	12-14 October, 2014	Very Severe Cyclonic Storm 'Hudhud'	Crossed Andhra Pradesh Coast at Vishakapatnam and impact on south Odisha

The Building Material Technology Promotion Council (BMTPC) of Ministry of Urban Development, based on Hazard Vulnerability identified cyclone prone districts of Odisha taking into consideration cyclone hazards of the coastal area. As per wind and cyclone hazard Zones map of Odisha, out of 30 districts of the state, 14 districts are categorized as high damage risk zone either fully or partially.



Wind and Cyclone Hazard Zones of Odisha

During the last decade, the State has faced one or other forms of disasters like flood, cyclone, tornado or drought every year. From 1891 to 2000, 98 nos. of cyclones/ severe cyclones had crossed the Odisha coast. This is more than that of the coast of West Bengal, Andhra Pradesh, Tamil Nadu, Karnataka, Maharashtra, Goa, Gujrat & Kerala. Most of the cyclones cross coast of Odisha, followed by Andhra Pradesh and Tamil Nadu and then West Bengal.

Total number of Cyclonic crossing different coasts (1891-2000)

State	Total No.
West Bengal	69
Odisha	98
Andhra Pradesh	79
Tamil Nadu	62
Karnataka	02
Maharashtra & Goa	18
Gujarat	28
Kerala	03

[Source: IMD]

Generally, two cyclone seasons i.e., one during pre-monsoon period (April, May & June up to onset of monsoon) and another post monsoon (October to December) prevail for the coast of Odisha. If the disturbances are grouped in terms of pre- and post- monsoon season, they are more in the post-monsoon season.

Vulnerability to Floods

Amongst all the natural disasters affecting the State, floods are the most frequent and devastating. Almost 80% of the annual rainfall is concentrated over a short monsoon period of 3 months. While the coastal plains are very flat, the slopes in the inlands are precipitous. This leads to heavy siltation, flash floods and poor discharge of flood waters into the sea and thus the embankments are breached with alarming frequency. High population densities in the flood-prone coastal and delta regions, increased encroachment in the flood plains because of comparatively better livelihood opportunities and development are important contributors to the increased vulnerability to flood. Poor socio-economic condition of the majority living in the flood plains, and the local economy being primarily dependent on the monsoon paddy add to the vulnerability of the community.

Heavy rainfall during monsoon causes floods in the rivers. Flow of water from neighbouring States of Jharkhand and Chhattisgarh also contributes to flooding. The flat coastal belts with poor drainage, high degree of siltation of the rivers, soil erosion, breaching of the embankments and spilling of floodwaters over them cause severe floods in the river basin and delta areas. In Odisha, rivers such as the Mahanadi, Subarnarekha, Brahmani, Baitarani, Rushikulya, Vansadhara and their many tributaries and branches flowing through the State expose vast areas to floods. In Odisha, damages are caused due to floods mainly in the Mahanadi, the Brahmani, and the Baitarani. These rivers have a common delta where flood waters intermingle, and when in spate simultaneously, wreak considerable havoc. This problem becomes even more acute when floods coincide with high tide. The water level rises due to deposits of silt on the river-bed. Rivers often overflow their banks or water rushes through new channels causing heavy damages.

River Systems



Details of River Catchments

Sl. No.	Name of the River Basin	Catchment Area (SqKm)		
		Total Area	Within Orissa	% to Geographical area of State
1	Mahanadi	141134	65628	42.15
2	Brahmani	39116	22516	14.46
3	Baitarani	14218	13482	8.66
4	Kolab	20427	10300	6.61
5	Rushikulya	8963	8963	5.76
6	Vansadhara	11377	8960	5.75
7	Indravati	41700	7400	4.75
8	Burhabalanga & Jambhira	6691	6354	4.08
9	Nagavali	9275	4500	2.89
10	Subernarekha	19277	2983	1.92
11	Bahuda	1118	890	0.57
Draining into Sea			3731	2.40
Total				100.00

The entire coastal belt is prone to storm surges, which is usually accompanied by heavy rainfall thus making the estuary region vulnerable to both storm surges and river flooding. Few districts in the western part of Odisha are prone to flash floods. The floods of 1980, 1982, 2001, 2003, 2008, 2011 and 2013 in the State were particularly severe; property worth crores of rupees was destroyed in the floods. The basin-wise major flood events during 200-2013 of the state is given in Table.

Basin wise-river wise floods – 2000 -2013

Event Year	Phases	River Basin	Districts affected	Type of Flood
2001	1 st Phase July-Aug	Mahandi, Brahmani, Baitarani, Subarnarekha & Budhabalanga	24	Severe
2003	1 st Phase July-Aug	Brahmani, Baitarani	2	Low
	2 nd Phase Aug-Sept	Mahandi, Baitarani, Indrabati, Nagabali, Kolab, Bansadhara	23	Severe
	3 rd Phase Oct	Rushikulya, Baitarani, Budhabalanga, Mahandi	13	High
2004	1 st Phase Aug	Baitarani, Subarnarekha, Budhabalanga	4	Medium
	2 nd Phase Oct	Bansadhara	2	Low
2005	1 st Phase June	Brahmani, Baitarani	3	Low
	2 nd Phase July-Aug	Mahandi, Brahmani, Baitarani	7	Medium
	3 rd Phase Sept	Subarnarekha, Budhabalanga, Bansadhara	4	Medium
2006	1 st Phase July	Mahandi, Baitarani, Subarnarekha, Bansadhara	18	High
	2 nd Phase Aug	Bansadhara, Budhabalanga, Subarnarekha, Baitarani	11	Medium
	3 rd Phase Aug	Mahandi, Baitarani, Subarnarekha, Budhabalanga	20	High
	4 th Phase Aug	Mahandi, Baitarani, Subarnarekha, Budhabalanga	20	High
	5 th Phase Aug	Mahandi, Baitarani, Subarnarekha	14	High
2007	1 st Phase July	Baitarani, Subarnarekha, Budhabalanga	11	Severe

	2 nd & 3 rd Phase Aug	Subarnarekha, Budhabalanga, Baitarani, Rushikulya, Bansadhara	15	High
	4 th Phase Sept	Subarnarekha, Budhabalanga, Baitarani, Rushikulya, Bansadhara	10	Medium
2008	1 st Phase June	Baitarani, Subarnarekha, Budhabalanga	6	Severe
	2 nd Phase Sept	Mahandi, Brahmani, Baitarani	19	Severe
2009	1 st Phase Aug-Sept	Subarnarekha, Budhabalanga, Baitarani, Mahandi, Rushikulya, Nagabali	17	Medium
2010	1 st Phase Aug-Sept	Indrabati, Bansadhara, Kolab	6	Low
2011	1 st Phase June	Subarnarekha, Budhabalanga	4	Low
	2 nd Phase Aug	Subarnarekha	4	Low
	3 rd Phase Sept	Mahandi	19	Severe
	4 th Phase Sept	Subarnarekha, Budhabalanga, Baitarani, Brahmani	10	Severe
2012	1 st Phase Aug	Mahanadi	4	Low
	2 nd Phase Nov	Rushikulya	1	Low
2013	1 st Phase Oct	Baitarani, Subarnarekha, Budhabalanga, Rushikulya	6	Severe
	2 nd Phase Oct	Mahandi, Baitarani, Brahmani, Subarnarekha, Budhabalanga, Rushikulya	13	High

Profile of the State

Sl. No.	Name of the District	Total Land area (Sq. Km.)	Number of Villages (2011 Census)	Population (in '000)	Literacy Rate (in per cent)	Gross Cropped area (in '000 ha.)	Rivers	Normal Annual rainfall (mm)
<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>
1	Angul	6375	1871	1272	78.96	285.14	Brahmani, Mahanadi	1401.9
2	Balasore	3806	2932	2317	80.66	326.65	Subarnarekha, Budhabalang, Jalaka, Swarna	1592.0

3	Baragarh	5837	1206	1479	63.99	443.09	Mahanadi, Zira, Anga	1367.3
4	Bhadrak	2505	1312	1507	83.25	229.39	Baitarani, Salandi	1427.9
5	Balangir	6575	1783	1648	65.50	434.08	Hati, Suktel, Rahul	1289.8
6	Boudh	3098	1187	440	72.37	130.17	Mahanadi, Tel, Salanki, Bagh, Mehurni	1623.1
7	Cuttack	3932	1952	2619	84.20	309.73	Mahanadi, Devi, Kathajodi, Birupa, Kuakhai, Sidua, Luna,	1424.3
8	Deogarh	2940	878	312	73.07	94.74	Bramani	1582.5
9	Dhenkanal	4452	1208	1193	79.41	235.13	Bramani, Ramiyal	1428.8
10	Gajapati	4325	1612	576	54.29	131.66	Bansadhara	1403.3
11	Ganjam	8206	3195	3520	71.88	617.94	Rusikulya, Badanadi, Baghua, Dhanei, Loharakhandi, Ghodahada, Kokalaba, Bahuda	1276.2
12	Jagatsinghpur	1668	1292	1137	87.13	70.97	Biluakhai, Paika, Mahanadi, Devi, Hansua.	1514.6
13	Jajpur	2899	1783	1826	80.44	258.60	Baitarani, Brahmani, Budha, Kharasrota, Birupa	1559.9
14	Jharsuguda	2081	351	579	78.36	81.87	Ib, Veden	1362.8
15	Kalahandi	7920	2253	1573	60.22	542.74	Hati, Indravati, Tel, Reta, Vamsadhara, Chandola, Utei.	1330.5
16	Kandhamal	8021	2587	732	65.12	163.34	Rahul, Salunki,	1427.9
17	Kendrapada	2644	1547	1440	85.93	254.26	Brahmani, Hansua, Kharasrota, Luna, Chitrotpala, Paika, Karandia	1556.0
18	Keonjhar	8303	2123	1803	69.00	371.67	Baitarani	1487.7
19	Khordha	2813	1534	2246	87.51	162.42	Kusabhadra, Bhargavi, Daya	1408.4

20	Koraput	8807	2042	1377	49.87	355.38	Kolab, Ultajharan, Champabati, Jhanjabati	1567.2
21	Malkangiri	5791	1055	613	49.49	186.99	Saberi, Sileru, Guru, Priya Kalam, Taptadhara	1667.6
22	Mayurbhanj	10418	3950	2514	63.98	449.50	Kala, Budhabalang	1600.6
23	Nawaranghpur	5291	891	1219	48.20	261.60	Indravati, Tel, Vaskel	1569.5
24	Nayagarh	3890	1692	962	79.17	190.29	Mahanadi, Brutanga, Kaligiri, Kusumi, Malaguni, Budha Budhari, Kuairia	1354.3
25	Nuapada	3852	668	606	58.20	269.72	Udanti, Jalka	1286.4
26	Puri	3479	1707	1698	85.37	259.04	Kadua, Dhanua, Bhadua, Ratnachira, Malaguni, Devi, Daya, Kusabhadra, Bhargavi, Prachi, Luna	1408.8
27	Rayagada	7073	2665	962	50.88	234.77	Bansadhara, Nagabali	1285.9
28	Sambalpur	6657	1313	1044	76.91	249.11	Mahanadi	1495.7
29	Subarnapur	2337	962	652	74.42	217.75	Mahanadi, Tel	1418.5
30	Sundargarh	9712	1762	2081	74.13	349.86	Brahmani, Ib,	1422.4
Total (State)		155707	51313	41947	73.45	8167.60		1451.2

CHAPTER- II

RAINFALL

Normal rainfall (Long Term Average):

The long term average rainfall in respect of different Blocks, Districts and the State for different months of year is fixed by IMD, Pune taking into account the rainfall data for preceding 30 years. Such long term average rainfall popularly called 'Normal Rainfall' has been last fixed during 2006 for different districts and the State as follows:

Sl. No.	District	Annual Normal Rainfall (in mm)	Sl. No.	District	Annual Normal Rainfall (in mm)
1	Angul	1401.9	17	Kendrapada	1556.0
2	Balasore	1592.0	18	Keonjhar	1487.7
3	Bargarh	1367.3	19	Khordha	1408.4
4	Bhadrak	1427.9	20	Koraput	1567.2
5	Balangir	1289.8	21	Malkanagiri	1667.6
6	Boudh	1623.1	22	Mayurbhanj	1600.6
7	Cuttack	1424.3	23	Nawarangpur	1569.5
8	Deogarh	1582.5	24	Nayagarh	1354.3
9	Dhenkanal	1428.8	25	Nuapara	1286.4
10	Gajapati	1403.3	26	Puri	1408.8
11	Ganjam	1276.2	27	Rayagada	1285.9
12	Jagatsinghpur	1514.6	28	Sambalpur	1495.7
13	Jajpur	1559.9	29	Subarnapur	1418.5
14	Jharsuguda	1362.8	30	Sundargarh	1422.4
15	Kalahandi	1330.5			
16	Kandhamal	1427.9		State Average	1451.2

District-wise rainfall for the year 2018

The district-wise monthly rainfall statistics from January to December, 2018 including percentage of deviation is indicated in the table below.

Sl. No.	DISTRICT	JANUARY			FEBRUARY			MARCH			APRIL			MAY			JUNE			JULY		
		Actual	Normal	% of Dev.	Actual	Normal	% of Dev.	Actual	Normal	% of Dev.	Actual	Normal	% of Dev.	Actual	Normal	% of Dev.	Actual	Normal	% of Dev.	Actual	Normal	% of Dev.
1	Angul	0.0	12.6	-100.0	0.0	27.1	-100.0	0.1	24.3	-99.6	74.3	27.2	173.3	80.1	52.9	51.3	123.4	225.1	-45.2	333.1	347.7	-4.2
2	Balasore	0.0	14.7	-100.0	0.0	31.8	-100.0	6.2	34.4	-81.9	162.6	62.2	161.4	144.4	108.5	33.1	268.9	221.5	21.4	320.5	308.6	3.9
3	Bargarh	0.0	12.5	-100.0	2.7	19.1	-85.8	0.2	22.0	-99.2	9.5	20.0	-52.3	66.1	25.6	158.1	145.5	205.6	-29.2	471.2	397.2	18.6
4	Bhadrak	0.0	11.8	-100.0	0.0	29.6	-100.0	0.0	36.1	-100.0	103.9	51.2	102.9	139.4	91.4	52.5	227.8	198.2	14.9	322.3	293.6	9.8
5	Balangir	0.0	8.6	-100.0	1.1	13.2	-91.7	0.1	14.6	-99.0	13.4	13.4	-0.4	36.6	27.8	31.5	97.3	202.8	-52.0	336.3	360.5	-6.7
6	Boudh	0.0	17.0	-100.0	0.0	26.8	-100.0	0.0	22.4	-100.0	29.6	16.5	79.6	57.3	38.4	49.3	156.1	233.8	-33.2	507.9	418.5	21.4
7	Cuttack	0.0	9.9	-100.0	0.0	28.6	-100.0	0.0	24.7	-100.0	75.3	28.3	166.0	118.5	71.5	65.7	174.8	210.0	-16.7	458.0	308.3	48.5
8	Deogarh	0.0	14.1	-100.0	0.0	27.0	-100.0	0.7	20.6	-96.8	52.1	21.3	144.6	110.1	41.9	162.8	161.3	242.4	-33.5	403.3	447.7	-9.9
9	Dhenkanal	0.0	10.5	-100.0	0.0	21.9	-100.0	0.5	33.7	-98.6	96.8	41.3	134.5	115.9	69.6	66.6	171.2	225.7	-24.2	422.4	317.9	32.9
10	Gajapati	0.0	8.1	-100.0	0.0	23.0	-100.0	6.6	41.3	-84.0	131.8	65.2	102.1	103.4	107.8	-4.1	149.3	199.7	-25.2	367.3	230.6	59.3
11	Ganjam	0.0	9.4	-100.0	0.0	24.1	-100.0	0.2	32.6	-99.3	68.7	36.6	87.8	61.2	65.4	-6.5	101.4	168.3	-39.8	363.1	220.8	64.4
12	Jagatsinghpur	0.0	14.5	-100.0	0.0	21.7	-100.0	0.0	35.5	-100.0	44.5	25.4	75.2	95.1	78.0	22.0	203.1	202.3	0.4	372.8	277.3	34.4
13	Jajpur	0.0	12.9	-100.0	0.0	25.1	-100.0	0.0	28.4	-100.0	107.0	46.1	132.1	157.6	93.7	68.2	218.5	238.5	-8.4	496.9	350.9	41.6
14	Jharsuguda	0.0	14.1	-100.0	0.0	22.9	-100.0	1.6	17.6	-90.7	27.9	15.1	85.0	113.8	27.9	307.9	176.1	218.8	-19.5	421.2	385.8	9.2
15	Kalahandi	0.0	10.3	-100.0	0.0	14.4	-100.0	0.0	23.7	-100.0	14.5	25.7	-43.5	40.1	41.8	-4.0	106.4	240.4	-55.7	652.1	327.7	99.0
16	Kandhamal	0.0	10.6	-100.0	0.0	29.7	-100.0	0.1	28.0	-99.5	92.6	35.7	159.3	75.3	67.8	11.1	146.2	207.9	-29.7	461.9	325.1	42.1
17	Kendrapada	0.0	10.6	-100.0	0.0	30.2	-100.0	0.0	35.0	-100.0	18.4	33.9	-45.7	100.9	94.2	7.1	251.9	208.3	20.9	383.8	317.1	21.0
18	Keonjhar	0.0	14.6	-100.0	0.0	33.8	-100.0	0.8	33.1	-97.5	133.3	42.1	216.5	95.7	94.8	1.0	185.8	241.4	-23.0	360.6	318.0	13.4
19	Khordha	0.0	12.4	-100.0	0.0	24.3	-100.0	0.0	22.1	-100.0	51.9	28.0	85.3	136.4	60.7	124.7	162.2	196.2	-17.3	577.7	304.9	89.5
20	Koraput	0.0	5.7	-100.0	0.0	8.6	-100.0	0.6	18.3	-96.7	91.4	55.2	65.6	75.5	81.9	-7.9	130.8	206.8	-36.8	493.3	375.6	31.3
21	Malkangiri	0.0	2.7	-100.0	0.0	4.1	-100.0	0.0	8.9	-100.0	63.6	34.8	82.7	47.1	49.1	-4.0	190.9	212.2	-10.0	761.6	465.7	63.5
22	Mayurbhanj	0.0	10.3	-100.0	0.0	28.0	-99.9	0.7	40.2	-98.2	172.1	52.5	227.8	125.3	101.2	23.8	208.8	265.8	-21.4	300.1	337.3	-11.0
23	Nawarangpur	0.0	6.7	-100.0	0.0	14.1	-100.0	0.1	15.1	-99.2	67.0	34.1	96.6	65.4	66.1	-1.1	117.4	251.8	-53.4	386.2	356.6	8.3
24	Nayagarh	0.0	11.7	-100.0	0.0	28.6	-100.0	0.0	30.0	-100.0	60.4	39.9	51.4	106.6	58.8	81.3	101.2	203.5	-50.3	397.8	288.5	37.9
25	Nuapara	0.0	12.0	-100.0	4.0	14.6	-72.3	0.1	19.7	-99.6	26.9	21.8	23.2	59.8	31.2	91.7	123.8	210.3	-41.1	277.0	347.1	-20.2
26	Puri	0.0	10.9	-100.0	0.0	25.4	-100.0	0.0	15.5	-100.0	51.8	18.5	179.9	132.9	62.1	113.9	154.1	188.0	-18.1	641.0	292.0	119.5
27	Rayagada	0.0	9.6	-100.0	0.0	22.9	-100.0	0.5	38.0	-98.7	111.2	52.7	110.9	80.4	87.8	-8.4	136.1	195.3	-30.3	457.9	259.5	76.5
28	Sambalpur	0.0	14.8	-100.0	0.0	24.5	-100.0	1.0	18.2	-94.6	47.6	16.5	188.4	105.4	32.3	226.4	175.6	221.0	-20.6	529.3	429.5	23.2
29	Subarnapur	0.0	12.5	-100.0	4.3	17.2	-75.0	0.5	15.7	-96.8	16.8	15.4	9.1	93.7	29.3	219.9	126.4	217.4	-41.9	556.1	399.6	39.2
30	Sundargarh	0.0	15.1	-100.0	0.7	24.9	-97.0	1.2	16.0	-92.8	38.2	16.0	138.8	106.0	40.6	161.2	150.9	237.4	-36.4	311.9	386.4	-19.3
Total		0.0			12.9			21.9			2055.1			2846.1			4843.4			13144.2		
State Average		0.0	11.4	-100.0	0.4	22.9	-98.1	0.7	25.5	-97.1	68.5	33.1	107.0	94.9	63.3	49.9	161.4	216.5	-25.4	438.1	339.9	28.9

Contd..

Sl. No.	DISTRICT	AUGUST			SEPTEMBER			OCTOBER			NOVEMBER			DECEMBER			Annual		
		Actual	Normal	% of Dev.	Actual	Normal	% of Dev.	Actual	Normal	% of Dev.	Actual	Normal	% of Dev.	Actual	Normal	% of Dev.	Actual	Normal	% of Dev.
1	Angul	299.3	357.5	-16.3	295.0	217.5	35.6	114.3	86.3	32.4	2.7	20.4	-86.8	51.0	3.3	1444.3	1373.4	1401.9	-2.0
2	Balasore	341.1	332.1	2.7	346.5	267.6	29.5	243.3	170.5	42.7	0.0	34.6	-100.0	5.0	5.5	-9.7	1838.6	1592.0	15.5
3	Bargarh	397.3	374.4	6.1	174.2	222.6	-21.7	7.4	52.8	-86.0	0.0	10.4	-100.0	82.8	5.1	1523.7	1357.0	1367.3	-0.8
4	Bhadrak	294.0	311.7	-5.7	455.5	216.8	110.1	229.5	145.3	58.0	0.0	37.3	-100.0	3.3	4.9	-33.5	1775.6	1427.9	24.4
5	Balangir	377.1	333.6	13.0	177.6	237.4	-25.2	31.4	68.4	-54.2	0.0	7.2	-100.0	57.3	2.3	2391.3	1128.1	1289.8	-12.5
6	Boudh	359.1	488.8	-26.5	300.4	244.8	22.7	137.3	90.5	51.7	2.0	21.1	-90.5	72.1	4.4	1539.4	1621.9	1623.0	-0.1
7	Cuttack	302.4	339.1	-10.8	427.4	229.2	86.5	270.3	125.6	115.2	0.0	45.0	-100.0	14.7	4.1	258.7	1841.5	1424.3	29.3
8	Deogarh	396.6	443.4	-10.5	223.5	228.2	-2.0	38.5	84.4	-54.4	11.7	8.0	45.8	79.7	3.5	2178.1	1477.5	1582.5	-6.6
9	Dhenkanal	265.3	344.8	-23.0	359.0	220.6	62.7	154.6	104.4	48.1	0.0	36.2	-100.0	34.3	2.2	1459.7	1620.1	1428.8	13.4
10	Gajapati	325.7	253.6	28.4	202.4	237.9	-14.9	320.2	168.6	89.9	0.9	61.8	-98.5	77.9	5.7	1267.1	1685.6	1403.3	20.1
11	Ganjam	282.5	246.8	14.5	217.8	216.3	0.7	230.2	177.7	29.5	0.1	71.1	-99.9	48.0	7.1	576.4	1373.1	1276.2	7.6
12	Jagatsinghpur	268.9	379.1	-29.1	568.4	241.4	135.4	285.1	151.1	88.7	0.0	80.4	-100.0	0.9	7.9	-88.9	1838.8	1514.6	21.4
13	Jajpur	261.4	341.2	-23.4	604.3	238.0	153.9	239.1	140.2	70.6	0.0	41.0	-100.0	6.8	3.9	75.4	2091.6	1559.9	34.1
14	Jharsuguda	399.5	382.9	4.3	122.3	210.7	-42.0	6.6	54.9	-88.0	0.0	7.7	-100.0	90.5	4.4	1957.7	1359.7	1362.8	-0.2
15	Kalahandi	815.8	355.4	129.5	231.4	204.6	13.1	59.9	74.0	-19.1	0.0	10.9	-100.0	76.2	1.6	4661.5	1996.5	1330.5	50.1
16	Kandhamal	386.0	330.8	16.7	309.5	239.1	29.4	293.3	117.7	149.2	0.0	31.0	-100.0	61.5	4.5	1267.6	1826.4	1427.9	27.9
17	Kendrapada	270.1	333.3	-19.0	653.0	237.3	175.2	204.9	183.7	11.5	0.0	67.2	-100.0	2.8	5.2	-46.6	1885.8	1556.0	21.2
18	Keonjhar	375.1	343.6	9.2	351.5	241.1	45.8	113.4	101.3	11.9	0.2	20.5	-98.8	49.6	3.4	1357.5	1666.0	1487.7	12.0
19	Khordha	296.8	320.6	-7.4	333.7	234.5	42.3	235.0	149.3	57.4	0.0	50.4	-100.0	17.0	5.0	240.4	1810.6	1408.4	28.6
20	Koraput	611.9	393.6	55.5	302.0	256.3	17.8	26.0	126.1	-79.4	1.8	32.6	-94.4	60.8	6.5	834.8	1794.0	1567.2	14.5
21	Malkanagiri	744.6	472.8	57.5	377.1	281.2	34.1	58.5	109.5	-46.6	0.0	23.6	-100.0	16.6	3.0	453.8	2260.0	1667.6	35.5
22	Mayurbhanj	371.3	359.9	3.2	285.2	262.0	8.8	154.1	114.1	35.0	0.0	21.6	-100.0	36.7	7.3	402.6	1654.3	1600.2	3.4
23	Nawarangpur	509.2	407.5	24.9	172.8	225.6	-23.4	5.2	168.6	-96.9	0.0	18.7	-100.0	59.3	4.6	1189.8	1382.7	1569.5	-11.9
24	Nayagarh	188.2	288.2	-34.7	262.8	226.8	15.9	234.5	134.5	74.3	0.0	39.0	-100.0	49.3	4.8	926.3	1400.8	1354.3	3.4
25	Nuapara	480.2	327.8	46.5	145.6	214.5	-32.1	0.0	68.9	-100.0	0.0	15.3	-100.0	75.4	3.2	2256.3	1192.8	1286.4	-7.3
26	Puri	391.0	297.9	31.2	322.7	243.2	32.7	231.3	181.6	27.4	2.9	67.3	-95.7	8.4	6.4	31.5	1936.0	1408.8	37.4
27	Rayagada	392.4	273.7	43.4	153.5	199.1	-22.9	120.0	109.7	9.4	0.9	32.9	-97.4	61.7	4.7	1212.8	1514.5	1285.9	17.8
28	Sambalpur	512.8	442.4	15.9	181.6	224.7	-19.2	13.8	54.7	-74.7	1.1	12.7	-91.4	92.3	4.4	1997.0	1660.4	1495.7	11.0
29	Subarnapur	445.1	408.9	8.8	242.0	228.0	6.1	48.4	59.8	-19.0	0.9	11.4	-92.5	90.4	3.3	2638.9	1624.5	1418.5	14.5
30	Sundargarh	403.3	393.9	2.4	203.1	211.5	-4.0	10.5	67.7	-84.5	0.0	8.7	-100.0	86.5	4.2	1960.1	1312.3	1422.4	-7.7
Total		11763.8			9001.8			4116.7			25.1			1468.8			49299.8		
State Average		392.1	356.0	10.1	300.1	231.9	29.4	137.2	114.7	19.6	0.8	31.5	-97.3	49.0	4.5	988.0	1643.3	1451.2	13.2

Rainfall during Monsoon 2018 (1st June to 30th September)

The State experienced average deficit rainfall of 25.4 percent in June, surplus rainfall of 28.9 percent in July, surplus rainfall of 10.1 percent in August and surplus rainfall of 29.4 percent in September, 2018 compared to the long term average rainfall. The cumulative average rainfall of the State from June to September, 2018 remained 1291.7 mm against the Long Term Average (LTA) of 1144.3 mm registering a surplus of 12.9 percent.

Month	Normal	Rainfall in MM	
		Actual	Deviation in %
June	216.5	161.4	-25.4
July	339.9	438.1	28.9
August	356.0	392.1	10.1
September	231.9	300.1	29.4
Total:	1144.3	1291.7	12.9

Block-wise analysis of the cumulative rainfall from 1st June, 2018 to 30th September, 2018 indicates that out of 314 Blocks in the State, 113 Blocks received surplus rainfall (above 19%), 170 Blocks received normal rainfall (+19% to -19%), 27 Blocks received deficit rainfall (shortfall of >19% to 39%), 4 Blocks received severe deficit rainfall (shortfall of >39% to 59%) and no Block recorded scanty rainfall (shortfall of >59%). Table below indicates district-wise position.

Sl. No.	District	No. of Blocks having Surplus Rainfall (above 19%)	No. of Blocks having Normal Rainfall (+19% to -19%)	No. of Blocks having Deficit Rainfall (shortfall of >19% up to 39%)	No. of Blocks having Severe Deficit Rainfall (shortfall of >39% up to 59%)	No. of Blocks having Scanty Rainfall (shortfall of >59%)
1	Angul	1	4	3		
2	Balasore	3	9			
3	Bargarh	2	8	2		

4	Bhadrak	4	3			
5	Balangir	1	7	3	3	
6	Boudh		3			
7	Cuttack	7	6			
8	Deogarh		3			
9	Dhenkanal	2	6			
10	Gajapati	1	7			
11	Ganjam	8	14			
12	Jagatsinghpur	4	4			
13	Jajpur	8	2			
14	Jharsuguda	1	4			
15	Kalahandi	12	1			
16	Kandhamal	7	5			
17	Kendrapada	9				
18	Keonjhar	6	6	1		
19	Khordha	7	3			
20	Koraput	7	5	2		
21	Malkanagiri	5	1	1		
22	Mayurbhanj	3	18	5		
23	Nawarangpur	1	7	2		
24	Nayagarh		7	1		
25	Nuapara		5			
26	Puri	8	3			
27	Rayagada	3	7	1		
28	Sambalpur	2	6	1		
29	Subarnapur	1	5			
30	Sundargarh		11	5	1	
No. of Blocks		113	170	27	4	0
No. of Districts		25	29	12	2	0

Fig.1.1. District-wise Rainfall for the year 2018

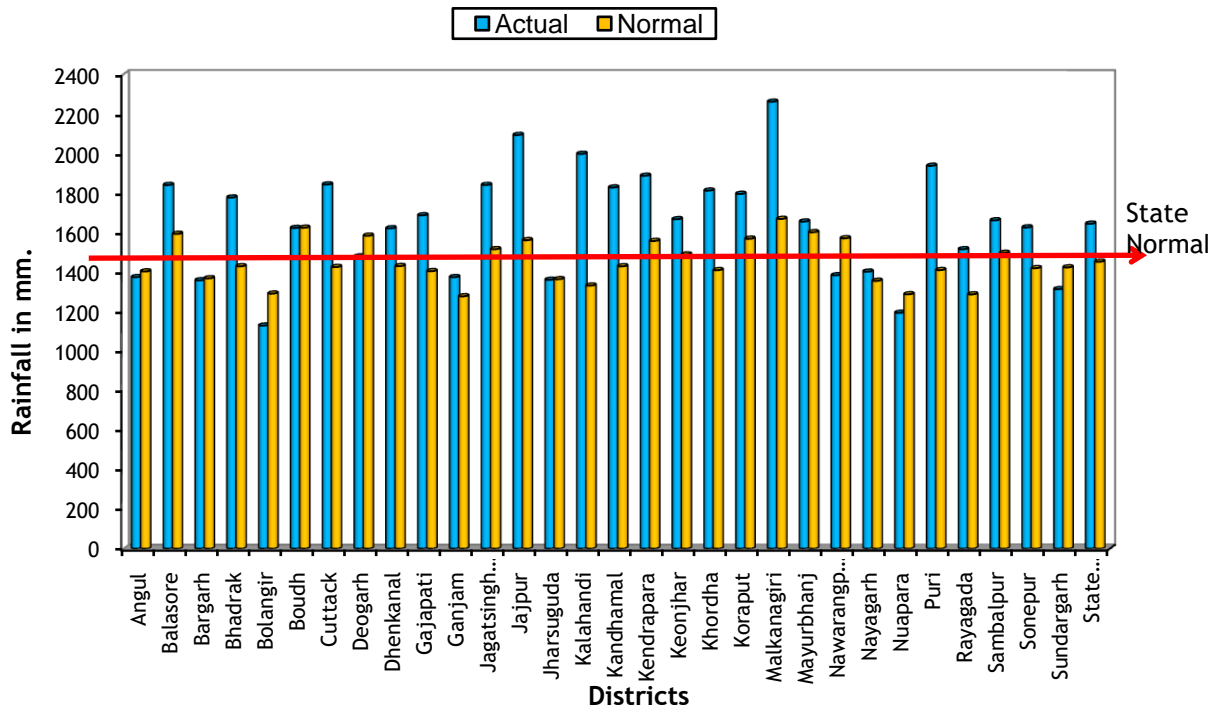


Fig.1.2. Month-wise Rainfall for the year 2018

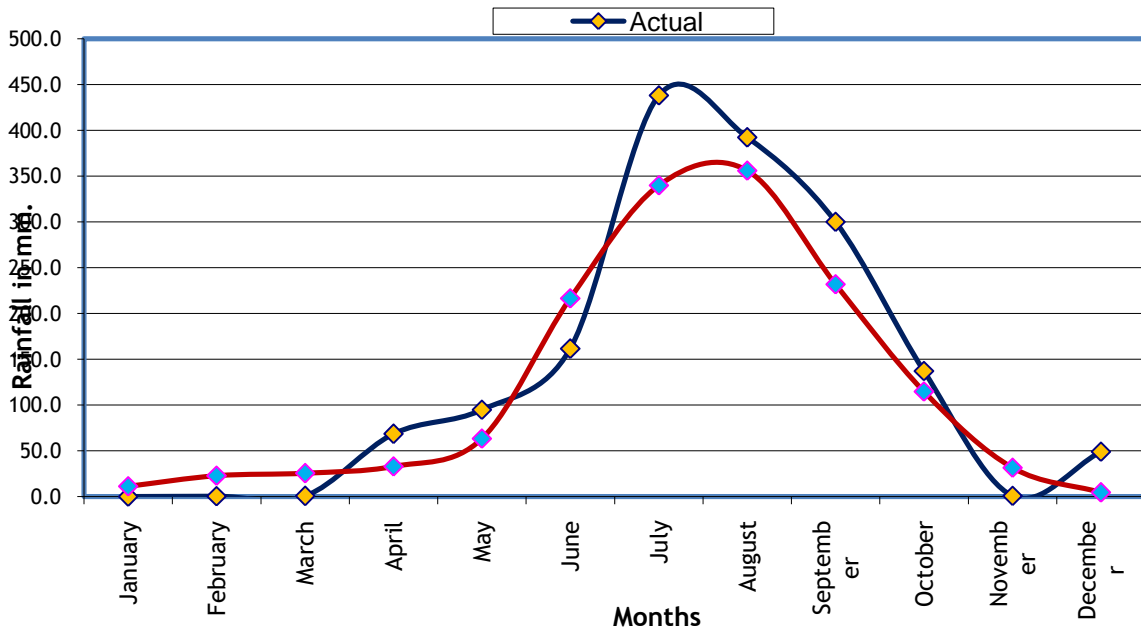
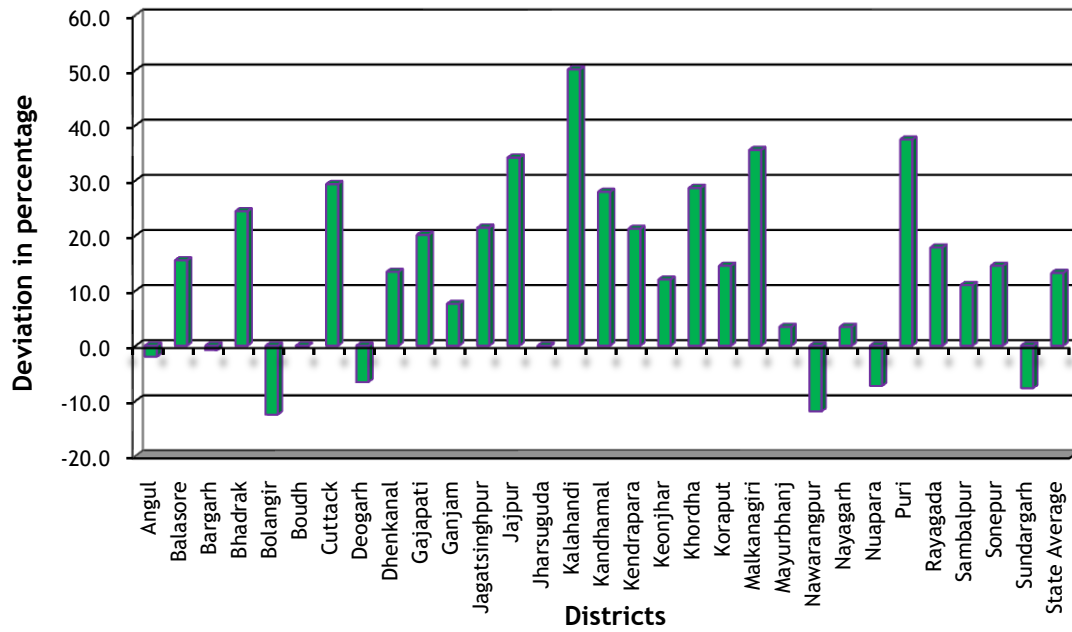


Fig.1.3. Rainfall Deviation of the Districts for the year 2018



CHAPTER – III

HEAVY RAIN & FLOODS

The State of Odisha experienced floods & heavy rain during July, August & September in different spells.

Heavy Rain in July 2018

Heavy rain was experienced in almost all parts of the State during 17th, 21st, 22nd & 23rd July 2018. In some Blocks the amount of precipitation was more than 200 mm and in some blocks also it was more than 100 mm. The date wise rainfall is flows.

Rainfall on 17th July 2018: As many as 8 Blocks were recorded rainfall of more than 100 mm.

Sl.	District	Block	Dist Avg. rainfall (mm) recorded on 17 th July 18
1.	Jajpur	Dasarathpur	198.0
2.	Jajpur	Jajpur	129..0
3.	Jharsuguda	Lakhanpur	156.0
4.	Puri	Satyabadi	123.0
5.	Cuttack	Barang	120.0
6.	Keonjhar	Telkoi	105.2
7.	Sundargarh	Hemgiri	104.0
8.	Kendrapada	Rajkanika	103.0

Rainfall on 20th July 2018: As many as 4 Blocks were recorded rainfall of more than 100 mm.

Sl.	District	Block	Dist Avg. rainfall (mm) recorded on 20 th July 18
9.	Kandhamal	Tikabali	141.0
10.	Kandhamal	Chakapad	110.0
11.	Malkangiri	Korukonda	131.0
12.	Malkangiri	Khoirput	116.0

Rainfall on 21st July 2018:

As many as 16 Blocks were recorded rainfall of 200 mm. & above.

Sl.	District	Block	Rainfall in mm. recorded on 21 st July, 2018
1	Puri	Puri	322.0

2	Puri	Brahmagiri	293.0
3	Kalahandi	Th.Rampur	288.4
4	Kalahandi	Junagarh	256.0
5	Khordha	Jatani	255.0
6	Puri	Delang	245.0
7	Nawarangpur	Tentulikhunti	241.4
8	Puri	Pipili	240.0
9	Kalahandi	Kesinga	237.0
10	Rayagada	Kashipur	223.0
11	Koraput	Boipariguda	220.0
12	Kalahandi	Narla	212.7
13	Kalahandi	Jaipatna	210.0
14	Malkangiri	Korukonda	208.0
15	Cuttack	Barang	205.0
16	Kalahandi	Kalampur	200.0

As many as 35 Blocks were recorded rainfall of more than 100 mm.

Sl.	District	Block	Rainfall in mm. recorded on 21 st July, 2018
1	Kalahandi	M.Rampur	199.0
2	Nawarangpur	Nandahandi	198.0
3	Khordha	Balianta	196.0
4	Puri	Kanas	195.0
5	Puri	Satyabadi	195.0
6	Kalahandi	Karlamunda	191.7
7	Koraput	Koraput	188.0
8	Koraput	Similiguda	187.0
9	Khordha	Khordha	185.0
10	Khordha	Bhubaneswar	180.6
11	Koraput	Lamataput	179.0
12	Malkangiri	Mathili	174.0
13	Cuttack	Banki-Dampada	157.0
14	Gajapati	Nuagada	148.2
15	Koraput	Dasmantpur	148.0

16	Gajapati	Gumma	146.0
17	Koraput	Nandapur	143.4
18	Malkangiri	Khoirput	143.0
19	Koraput	Jeypore	138.0
20	Rayagada	K.Singpur	136.2
21	Koraput	Kotpad	126.0
22	Gajapati	Parlakhemundi	117.0
23	Nawarangpur	Nawarangpur	116.0
24	Kalahandi	Bhabanipatna	114.4
25	Jajpur	Korei	114.4
26	Kalahandi	Koksara	112.2
27	Bolangir	Titilagarh	108.6
28	Gajapati	Gosani	107.0
29	Koraput	Kundra	105.0
30	Rayagada	Kolnara	104.6
31	Malkangiri	K.Gumma	104.5
32	Cuttack	Cuttack Sadar	104.0
33	Bolangir	Gudvella	104.0
34	Khordha	Balipatna	102.4
35	Gajapati	Rayagada	100.6

On 21st July, 2018, some Blocks of Puri, Khordha and Cuttack districts experienced unprecedented rainfall which even surpassed the quantum of rainfall occurred during Cyclone "Phailin" 2013 and Super Cyclone, 1999.

Puri Sadar Block received rainfall of 322.0 mm on 21.7.2018 compared to rainfall of 242.0 mm during Super Cyclone of 1999. This Block had received a rainfall of 130.00 mm on 13.10.2013 during Cyclone "Phailin"2013. Similarly Brahmagiri, Delang and Pipili have received record of rainfall of 293.0 mm, 245.0 mm and 240.0 mm respectively on 21.7.2018 as compared to that of Super Cyclone, 1999 & Cyclone "Phailin". Jatni Block of Khordha and Baranga of Cuttack districts have also recorded of highest rainfall of 255.0 mm and 205.0 mm respectively as compared to Super Cyclone,1999 & Phailin, 2013.

Comparison of rainfall is given below.

Rainfall Comparison

Sl. No.	District	Block	Super Cyclone, 1999		Phailin, 2013		July, 2018
			29th Oct	30th Oct	12th Oct	13th Oct	21st July
1	Cuttack	Barang	25.0	60.0	22.0	120.0	205.0
2	Khordha	Jatani	15.0	213.0	38.0	215.0	255.0
3	Puri	Brahmagiri	20.0	90.0	20.0	132.0	293.0
		Delang	47.0	228.0	120.0	160.0	245.0
		Pipili	15.0	75.0	104.0	110.0	240.0
		Puri	77.0	242.0	52.0	130.0	322.0

Rainfall on 22nd July 2018:

Rainfall of 200 mm and above was recorded in 14 Blocks and rainfall between 100 mm & 200 mm in 49 Blocks.

(Rainfall in mm.)

Sl. No.	District	Block	22.07.2018
Rainfall above 200 mm			
1	Sambalpur	Maneswar	510.0
2	Sambalpur	Dhankauda	487.0
3	Subarnapur	Birmaharajpur	430.0
4	Boudh	Boudh	380.0
5	Baragarh	Attabira	350.4
6	Baragarh	Bargarh	309.8
7	Sambalpur	Rairakhol	304.0
8	Kandhamal	Khajuripada	274.2
9	Subarnapur	Ullunda	262.6
10	Sambalpur	Rengali	258.4

11	Subarnapur	Sonepur	220.0
12	Sambalpur	Jujumura	217.0
13	Subarnapur	Binika	208.3
14	Angul	Athamalik	205.8
Rainfall between 100 mm and 200 mm			
1	Angul	Kishorenagar	190.4
2	Baragarh	Barpali	190.0
3	Ganjam	Jagannathprasad	189.0
4	Baragarh	Bhatli	185.0
5	Puri	Kanas	182.0
6	Kandhamal	Phulbani	180.0
7	Kandhamal	Tikabali	175.0
8	Baragarh	Bheden	174.0
9	Ganjam	Buguda	174.0
10	Puri	Satyabadi	172.0
11	Nayagarh	Odagaon	164.3
12	Kandhamal	Chakapad	164.0
13	Kandhamal	Phiringia	164.0
14	Puri	Brahmagiri	162.0
15	Subarnapur	Dunguripali	158.0
16	Kalahandi	Kalampur	155.0
17	Cuttack	Banki-Dampada	145.0
18	Nayagarh	Nuagaon	145.0
19	Puri	Puri	145.0
20	Sambalpur	Kuchinda	144.0
21	Baragarh	Ambabhona	130.0
22	Nayagarh	Daspalla	127.0
23	Kandhamal	G.Udayagiri	123.0
24	Kendrapara	Kendrapara	123.0
25	Bolangir	Duduka	122.0
26	Jajpur	Dasarathpur	122.0
27	Puri	Krushnaprasad	121.3
28	Jajpur	Jajpur	119.0

29	Jajpur	Rasulpur	118.6
30	Baragarh	Bijepur	115.0
31	Jharsuguda	Laikera	113.2
32	Jajpur	Korei	112.2
33	Jharsuguda	Jharsuguda	112.2
34	Jharsuguda	Kirmira	112.0
35	Sambalpur	Jamankira	112.0
36	Sambalpur	Naktideul	112.0
37	Boudh	Kantamal	111.0
38	Keonjhar	Telkoi	109.4
39	Ganjam	Belaguntha	109.3
40	Ganjam	Bhanjanagar	109.0
41	Kalahandi	Thuamul Rampur	109.0
42	Kendrapara	Derabis	107.0
43	Dhenkanal	Kamakhyanagar	105.0
44	Jharsuguda	Kolabira	105.0
45	Kandhamal	Daringibadi	105.0
46	Kendrapara	Marshaghai	105.0
47	Baragarh	Sohela	103.2
48	Kandhamal	Kotagarh	103.0
49	Dhenkanal	Parjang	102.0

Rainfall on 23rd July 2018:

As many as 2 Blocks were recorded rainfall of more than 100 mm. (109.0 mm at Kusumi of Mayurbhanj district and 103.3 mm at Nuagaon of Sundargarh district.)

Effective Management

On 22nd July, 2018, Sambalpur district received a recorded rainfall as ever seen before in the history of major disasters like floods, cyclones even Super cyclone 1999 and Phailin 2013. Though highest recorded rainfall of 622.0 mm at Burla town paralyzed the day to day life of people, the well prepared district administration was managed such situation effectively.

On analyzing the quantum of rainfall occurred in the two days i.e. 21st & 22nd July 2018, it is observed that the cumulative rainfall experienced in some of the blocks of Malkangiri, Kalahandi, Puri, Sambalpur, Bargarh, Subarnapur, Cuttack and Khurdha districts was more than that occurred in Super Cyclone and Phailin. The highlights of successful management of this unprecedented situation can be summarized as below:

- Weather forecast was widely been communicated to the public at grass root level.
- Timely prepositioning of ODRAF and Fire Services Units at strategic locations and deployment resulted in almost zero casualty.
- Well planned massive dewatering of rainwater through high power pumps from marooned areas of Burla Town, Puri Town, Cuttack and Bhubaneswar city proved the capability of the State Govt. in managing heavy rainfall.
- In Puri town the pumping of rain water at Saradhabali and Badadanda within the shortest possible time helped the return car festival of Lord Jagannath in 22.07.2018.
- Timely evacuation of stranded people from marooned areas was done timely.

There was torrential rain in Sambalpur town and its periphery since 21st night causing flood like situation. About five thousand people were reported to be marooned due to the 560 mm downpour within 12 hours in the night of 21/22.07.2018. The district Administration Sambalpur along with Police, ODRAF team and Fire Service swung into action in time and worked relentlessly in spite of heavy rain and rescued and shifted the people to the identified temporary rehabilitation center.

Worst Affected Malkangiri District:

Heavy Rainfall was experienced in Malkangiri district during July and August 2018. As a result flood like situation occurred in some blocks due to heavy rainfall.

Rainfall :

		Rainfall in mm					
Sl.	Block	20.7.18	21.7.18	8.8.18	16.8.18	20.8.18	21.8.18
1	Malkangiri				147.0		
2	Mathili		174.0	118.0	204.0	183.0	101.0
3	Khairput	116.0	143.0	127.0	225.4	179.0	
4	Kudumulgumma		104.5	126.0	168.0		
5	Korukonda	131.0	208.0	148.0	195.0		
6	Podia				125.0		

Heavy rain lashed entire Malkangiri district during July & August, 2018 as a result of which low lying areas in Mathili, Motu, Podia, Khairput areas experienced flood-like situation. Vehicular traffic was seriously affected as some of the major roads were cut off due to submergence at low lying bridges at Panagam, Poteru, Kanyasharm, MV-37, MV-11, Korukonda and MV-90. Seven GPs of Mathili Block such as Mahupadar, Tailiguda, Permarasi, Kurumpalli, Nuaguda, Sodiguda & Danganarasi of Mahupadar, Kamarpalli & Kiang were badly affected due to submergence.

As many as 433 villages under 73 GPs of five Blocks (Malkangiri, Korukonda, Mathili, Khairput & K. Gumma) & 2 ULBs (Malkangiri and Balimela) in the district have been affected by floods & heavy rain occurred in July & August 2018. Four persons have lost their lives due to floods & heavy rain.

As many as 185 persons were evacuated from Bojaguda, Kamarguda, Pujariguda, Gorakhpalli, Kurti & Nuaguda of Similibanchha GP under Podia Block. 18 persons were rescued and accommodated at Dhaudaguda School and provided with free kitchen. The fire service personnel in the district and one ODRAF team were deployed for rescue operation. Free kitchen was provided to 242 persons. Dry food and other necessities like chuda, sugar, rice, dal, potato candle, match box was provided to 777 affected people of Podia, Khairput & Mathili Blocks. Polythene sheets (temporary shelter material) were provided 1236 households.

19 major roads (Mathili-7, Korukonda-1, Malkangiri-1, Kalimela-2, Podia-6, Khairput-2) were badly damaged due to overtopping of flood water & extremely heavy rain. 13 roads were immediately restored and made trafficable. 65 GP/PS roads with culverts in Malkangiri Block, 15 GP/PS roads with culverts in Korukonda Block and 11 GP/PS roads with culverts in Khairput Block were damaged. Besides, NH-326 and other roads of RD Dept & Works Department at many places were badly damaged.

Hon'ble Minister, ST & SC Development, Minorities & Backward Classes Welfare Sri Ramesh Chandra Majhi, Hon'ble Minister of State (Ind. Charge), Electronics & Information Technology, Sports & Youth Services Sri Chadra Sarathi Behera along with Special Relief Commissioner & Commissioner-cum-Secretary, Disaster Management Sri Bishnupada Sethi proceeded to Malkangiri and conducted review of the flood damage restoration work after an aerial survey of the flood affected areas in the district.

At a Glance:

As many as 20 districts namely Nabarangpur, Khordha, Kandhamal, Sambalpur, Gajapati, Bargarh, Subarnapur, Boudh, Jajpur, Angul, Puri, Deogarh, Kendrapara, Bhadrak, Rayagada, Kalahandi, Koraput, Malkangiri, Nayagarh and Cuttack were affected by flood and heavy rain in July, August and September.

The State Government took immediate steps towards rescue, relief, health & sanitation, animal care and restoration measures and successfully managed the flood situation.

Area and Population affected (July, 2018)

Sl. No	District	No. of blocks affected	No. of GPs affected	No. of villages affected	No. of ULB affected	No. of wards affected	Population affected
1	Bargarh	8	113	260	1	8	5427
2	Boudh	3	63	343			14811
3	Cuttack	3		10	2		13000
4	Deogarh	3	15	20			106
5	Gajapati	3	11	17	0	0	51
6	Jajpur	3	9	14	1	2	737
7	Kalahandi	8	122	691	0	0	83821
8	Nawarangpur	10	27	76	1	1	21915
7	Subarnapur (21-23)	1	4	4	1	1	417
8	Nayagarh	1	1	1	0	0	15
9	Malkangiri (July/Aug)	7	70	262			39023
10	Angul (July)	5	42	69	1	1	1062
11	Sambalpur(July)	9	71	188			164435
	TOTAL	64	548	1955	7	13	344820

Area and Population affected (Aug, 2018)

Sl. No	District	No. of blocks affected	No. of GPs affected	No. of villages affected	No. of ULB affected	No. of wards affected	Population affected
1	Kalahandi(25-27)	9	115	434			35365
	Kalahandi(14-16)	13	226	1079	3	35	216395
2	Nawarangpur	9	65	116	0	0	17331
3	Koraput (July/Aug)	14	162	611			10112
	TOTAL	45	568	2240	3	35	279203

Damage to Private Houses

Sl. No.	Name of the District	Month of Flood/ Heavy Rain	House Damage (in nos)								
			Fully		Severely		Partially		Hut	Cowshed	Total
			Pucca	Kutcha	Pucca	Kutcha	Pucca	Kutcha			
1	Jajpur	Sept				4		5522	253	1943	7722
		17-21 July	0	7	0	0	0	76	4	2	89
2	Bhadrak	Sept						1413	16		1429
3	Baragarh	Sept 6.9.18		1		5		163	19	18	206
		July	0	80	0	33	11	1673	73	102	1972
4	Kalahandi	25.8.18 to 27.8.18	2	1	0	4	3	901	0	6	917
		14.8.18 to 16.8.18	1	19	0	25	12	1668	0	7	1732
		16.7.18 to 21.7.18	2	23	0	2	19	1391	6	63	1506
5	Rayagada	Aug/July		2				52			54
6	Kendrapada			83		293		15635	1117	2632	19760
7	Deogarh	July/Aug/Sept		1				80			81
		21-23 July	0	1	0	0	0	29	0	0	30
8	Kandhamal	Sept					9	137	33		179
		21-23 July	0	0	0	0	7	133	40	1	181
9	Nayagarh	July						15			15
10	Malkangiri	July/ Aug	1	92	0	39	1	1671	20	8	1832
11	Nabarangpur	Aug	0	4	0	0	0	285	0	2	291
		July	0	0	0	0	2	341	0	0	343
12	Koraput	July						252	0	1	253
		Aug	0	5	0	0	0	2497	0	41	2543
13	Sambalpur	21- 23 July	0	151	3	81	20	1613	31	0	1899
14	Puri	21-23 July	0	0	0	2	0	686	15	43	746
15	Angul	July	0	0	0	0	0	23	0	0	23
		July	0	0	0	0	10	168	0	0	178
16	Boudh	22.7.18	0	0	0	5	0	1462	0	0	1467
17	Khordha	21-23 July				81	1	471	1	82	636
18	Subarnapur	21-23 July	0	2	0	14	0	2160	0	4	2180
19	Cuttack	21-22 July	0	0	0	0	0	5	0	0	5
20	Gajapati	21-23 July	0	0	0	5	0	41	0	0	46
	Total		6	472	3	593	95	40563	1628	4955	48315

Crop Area Sand Cast

Sl. No.	Name of District	Month	Area sand cast more than 3 inches (in hectare)
1	Bargarh		858.77
2	Kalahandi	July	681.74
		Aug 25-27	251.8
		Aug 14-16	1678.3
3	Malkangiri	July/ Aug	483.845
4	Nawarangpur		32.0
5	Sambalpur		46.18
6	Koraput	July/ Aug	510.8
	Total		4543.44

Damage to Kharif Crop

Standing Kharif crops were damaged due to heavy rain/ flood occurred during July, August & September, 2018 in the damage reports as mentioned below.

Sl.	District	Month of Occurrence	Damage of Crop Area in hect. (more than 33%)	
			Rainfed	Irrigated
1	Kalahandi	Aug, 2018	405.41	15.24
2	Malkangiri	July/ Aug, 2018	1018.78	72.56
3	Koraput	July/ Aug, 2018	344.9	404.9
4	Kendrapara	Sept, 2018	0	20858.479
		Total	1769.09	21351.179

Human Causality

Sl. No.	Name of the Districts	Name of the Deceased	Name of beneficiary and complete postal address	Relationship
1	Sambalpur	Tapaswini Nag	Phulmati Nag W/o Pandab Nag At –Bhoitikra, PO-Kalamati, Dist-Sambalpur	Mother
2.		Suresh Karna	Basanti Kisaan W/o Suresh Karna, At- Kulipadar, PS-Charmal, Dist-Sambalpur	Wife
3.		Kalia Majhi @ Bijaya	Gurubari Majhi	Wife

		Majhi	W/o Kalia Majhi Vill-Jagannathpur (Uparpatalama) PO/PS-Lanjigarh, Dist- Kalahandi	
4.		Sukru Majhi,	Kemel Majhi S/o Sukru Majhi At/Po-Khamarpadar (Totapada Hamlet), GP-Khamarpadar, PS-Th.Rampur, Dist-Kalahandi	Son
5.		Mala Majhi,	Laki Majhi Vill-Panpadar, PO/PS-Bijepur, Dist-Kalahandi	Husband
6.		Sadashiba Sahu	Jogeshwar Sahu S/o Sadashiba Sahu At-Borgaon, PO-Rupraroad, PS-Narla, Dist-Kalahandi	Son
7.		Siba Majhi,	Kumatadi Majhi W/o Siba Majhi At-Titijhola, PO-Jugsapatna, PS-Sadar, Bhawanipatna, Dist-Kalahandi	Wife
8.		Azad Bag	Rashmita Bag W/o Saroj Bag Vill- Kitpadar, PO-Sagada, PS- Sadar, Bhawanipatna, Dist- Kalahandi	Mother
9.	Malkangiri	Nilkanta Kalkara	Vill- Bhandaripangam Tahasil- Mathili District- Malkangiri	
10.		Ramchandra Pangi	Damai Pangi At-Dolimba, PS-Papermetia, Tahasil-Chitrakonda, Dist-Malkangiri	Wife
11.		Chitibabu Tentapally	Pentamma Tentapally At-Katawaru, PS-Papermental, Tahasil-Chitrakonda, Dist-Malkangiri	Wife
12.		Samari Khara	Abhinash Khara At-Majhiguda, PS-Mudulipada, Tahasil-Khairput, Dist-Malkangiri	Son
13.	Nayagarh	Kalia Naik	Budhei Naik Vill-Lunisara Samili Balisahi, PO- Sikrida, PS-Nuagaon, Dist-Nayagarh	Wife

14.	Rayagada	Mangalu Praska,	Deepa Praska, W/o Mangalu Praska Nuasalu, Gadabaguda, PO- Bisamacuttack, Dist-Rayagada	Wife
15.		Uttar Huika,	Walasi Huika @ Balasi Huika W/o Uttara Huika Vill-Ghantikhal, Po- Hatamuniguda, Dist-Rayagada	Wife
16.		Madhaba Laya	Panchanan Laya Vill-Sulipadar, PO- Karapaa, PS-K.Singpur, Dist-Rayagada	Son
17.		Joshada Laya	Panchanan Laya Vill-Sulipadar, PO- Karapaa, PS-K.Singpur, Dist-Rayagada	Son
18.		Geli Korkoria,	Arjun Korkoria S/o Raimali Korkoria Vill-Badasiguru, Karubai Dist-Rayagada	Father
19.		Sunduru Majhi	Mr. Sabai Majhi W/o Sunduru Majhi Vill-Bahar Kutumi, GP-Sankarpada, PS- Tikiri, Kashipur, Dist-Rayagada	Wife
20.		Hari Kulusika,	Palai Kulusika W/o Late Hari Kulusika At-Bhairavi Colony, K.Singhpur, Dist- Rayagada	Wife
21.		Rama Chandra Bauri	Mr. Kandhuni Bauri W/o Late Arjuna Bauri At-Dhepubauri Street, PO-Gudari NAC, Dist-Rayagada	Mother

Persons injured

Name of the Districts	Sl. No.	Name of the seriously injured person	Address
Kalahandi	1	Miss Nandini Nag D/o Narendra Nag	At-Bagburai, Tahasil – KarlamuraDist-Kalahandi
	2	Puspanjali NegiW/o Bidyadhar Negi	At-Baner, PS-Jaipatna, Dist- Kalahandi

Livestock Causalities:

Sl. No.	Name of the District	No. of livestock lost				Total livestock lost	Poultry lost
		Milch animal		Draught animal			
		Big	Small	Big	Small		
1	Bargarh	0	33	0	0	33	15973
2	Kalahandi	1	0	3	0	4	0
3	Kalahandi (Aug)	12	0	0	0	12	0
4	Kalahandi (July)	1	0	3	0	4	0
5	Malkangiri	26	74	4	6	111	102
	Total	40	107	10	6	164	16075

Damage to Public Properties

Sl.	Name of the District	Length of Roads/ Embankment damaged (in km)	No of Breaches	No of CDs/ Bridges damaged	No of CDs/ Bridges washed away	Total Estimated loss (Rs. in Lakh)		
						Road / Embankment (includes breaches) in km	CDs/ Bridges	Total
1	Kalahandi	1588.62	3129	578	113	5502.592	1574.91	7077.502
2	Bargarh	2.77	27	0	0			44
3	Bargarh (July)	4.31	7	7	0	326.1	17.5	342.6
4	Nabarangpur (14-16Aug)	190.49	24	29	0	829	188	1017
	Nabarangpur (21-23 July)	49.307	23	51	0	143	169	312
5	Koraput	883.15	530	278	236	2625.2	2330.96	4956.16
6	Sambalpur (July)	211.63	169	24	9	1306.15	514.35	1820
7	Angul	22.3	32	0	0	54	0	54
8	Cuttack	70.797	107	457	16	332.75	32	363.8
	Total	3023.374	4048	1424	374	11118.79	4826.72	15987.062

Damage & loss to other infrastructure (Rs. in lakh) :

Sl. No.	Name of District	No. of Infrastructure	PS (school) (Rs in Lakh)	MI(Rs in Lakh)	RWSS(Rs in Lakh)	LI(Rs in Lakh)	Energy(Rs in Lakh)	FARD (Rs in Lakh)	R&B(Rs in Lakh)	Building /partiti on wall/bo undry wall(Rs in Lakh)	ITDA(Rs in Lakh)	Total Estimate d loss (Rs in Lakh)
1	Kalahandi	3907	149	4015	236	717.003	288.76	31.84				5437.603
2	Bargarh	136	73.52		30.7	13.75						117.97
3	Malkangiri	56	23.5				6.99			4	20.5	54.99
4	Nabarangpur (14-16Aug)	104	15			383.9	9.35			16.9		425.15
	Nabarangpur (21-23 July)	99		352.5						39.1		391.6
5	Koraput	248	132	95.1		51.62			22.5	502.5	28.62	832.34
6	Sambalpur (21-23July)	165	48.5			58.72				140		247.22
7	Angul	0	0	0	0	0	0	0	0	0	0	0
8	Jajpur	49							1190			1190
	Total	4764	441.52	4462.6	266.7	1224.993	305.1	31.84	1212.5	702.5	49.12	8696.873

Relief Camp / Free Kitchen :

Sl. No.	District	No. of persons evacuated	No. of shelters used for accommodation of evacuees	Duration of relief camps		Beneficiaries covered (Cumulative)		
				No. of Days	Persons Covered	Adult	Children	Total
1	Bargarh	522	9	18	2742	2299	443	2742
2	Boudh	896	896	6	896	716	180	896
3	Jajpur			2	240	140	100	240
4	Kalahandi	660	3	3	660	500	160	660
	Klahandi (Aug)	33	1	1	33	21	12	33
	Kalahandi(14-16Aug)	1841	36	13	2997	1944	1053	2997
	Klahandi (July)	660	3	3	660	500	160	660
5	Sonepur	417	5	1	417	315	102	417
6	Malkangiri(July /Aug)	1685	10	6	367	282	85	367
7	Nawarangpur (Aug)	1278	6	3.5	1278	869	409	1278
8	Koraput (July/ Aug)	1590	6	5	2696	2115	581	1696
9	Angul (July)	0	1	1	390	180	210	390
	Total	9582	976	62.5	13376	9881	3495	12376

Distribution of Emergent Relief:

Sl. No.	District	Qty. of Emergent Relief (in QTL)			No. of beneficiaries			Polythene distributed	
		Rice	Chuda	Gud	Adult	Child	Total	No. of Sheets	No. of Family
1	Bargarh	9.0	9.0	1.51	1615	333	1948	430	430
2	Boudh	272.5	115	33	500	150	650	283	283
3	Kalahandi	1.0	1 pkt	10kg	150	50	200	1084	886
	Kalahandi (Aug)	18.0	0	0	21	12	33		
	Kalahandi (14-16 Aug)	23.5	230	28	2408	1788	4196	1324	665
4	Nawarangpur 9 July/Aug)	0	21.6	6.85	869	409	1278	120	120
5	Sonepur	221.0	20.0	9.0	315	102	417	12	10
6	Malkangiri	170.5	171.36	84.1	775	199	974	1500	606
7	Sambalour	14.9	21.25	6.8	4620	1980	6600	1020	1020
8	Angul (July)	125	20	0	513	399	942	117	117
	Total	855.4	608.71	169.36	11786	5422	17238	5890	4137

Gratuitous Relief in Cash

Hon'ble Chief Minister, Odisha directed that Gratuitous Relief shall be provided at the rate of Rs.60/- per adult per day and Rs.45/- per child below 12 years of age per day for a period of seven days to the people of Bhadrak, Jajpur & Kendrapara districts affected by flood. The amount was credited to the bank accounts of the affected families by the District Administration. Rs. **1439,81,880/-** was released out of SDRF towards GR in Cash for the following districts.

Sl. No.	Districts	No. of Adult	No. of Children	Total affected persons	Total Funds Allotted towards GR (Rs)
1	Bhadrak	1,18,507	59,138	1,77,645	684,01,410/-
2	Jajpur	1,28,811	60,464	1,89,275	731,46,780/-
3	Kendrapara	4,503	1,722	6,225	24,33,690/-
	Total	2,51,821	1,21,324	3,73,145	1439,81,880/-

Distribution of Emergent Relief by NGOs:

Sl. No	Name of the district	Village	Name and other details of the NGO	Details of Relief Distribution (Specify item-wise Qty)			No. of People Covered
				Food Pkt. (in Pkt)	Dry Food	Other Materials (Specify)	
1.	Cuttack	Munda sahi & Gadagadi Ghat	IRCS, Odisha State Branch, BBSR	Biscuits – 400	Chuda-400 Guda-400	Matchbox- 400 Candle -400	
2		Sutahat	Purbanchal Santi Committee		Chuda-1000 Guda-1000		
3		Brundaban Hall	Ruchi Company		Chuda-500 Guda-500		
4		Idgha	Marwari Juba Mancha		Chuda-700 Guda-700		
5		Odiya Bazar, Kathagada Sahi, Makamaba Sahi	Arati Steel & Bichi Marwari	Biscuits – 400 Bread- 600			
6		Mariabazar, Petin Sahi, Makaraba sahi	Tangi Muskan & Samal Babu	Biscuits – 200 Bread- 200			
7		Idgha, Sati Choura & Kathajodi Bihar	M/s Jayabharata spices, Jagatpur	Biscuits – 200 Bread- 200			

8	Radhakrishnapur, Bidanasi Mangala Sahi, Sagadia Sahi, Dear Park	M/s Jayabharata spices, Jagatpur	Biscuits – 300 Bread- 300			
9	Sagadia Sahi, Dear Park	Gayatri Sakti Pitha Chata		Chuda-100 Guda-100		
10	CDA Krushak Bazar, Cuttack	Lady Governor Lions Club, Cuttack	Biscuits –200			
11	Patapole	Akshysa Patra Foundation				1000
12	Kesharpur Pirababa Harizan Sahi	Akshysa Patra Foundation				700
13	Sidheswar Sahi & Manisingha Patana	Akshysa Patra Foundation				600
14	Nimasahi, Pithapur Harizan Sahi & Dhobi lane	Akshysa Patra Foundation				700
15	Kesharpur ^& Ghasia Sahi	Akshysa Patra Foundation				1200
16	Sutahat & Dear Park	Akshysa Patra Foundation				1000
17	Krshak Bazar	Akshysa Patra Foundation				400
18	Press Chhak	Akshysa Patra Foundation				200
19	Chhatra Bazar Behera sahi	Akshysa Patra Foundation				800
20	Bhaktabandhu Bidyapitha	Akshysa Patra Foundation				400
21	Dhobilane	Akshysa Patra Foundation				600
22	Mewriabazar	Akshysa Patra Foundation				650
		Total	Biscuits – 1900 pkt Bread- 1300	Chuda- 2700 Guda- 2700	Matchbox- 400 Candle -400	8250

Drinking Water Measures:

Sl. No.	District	No. of Tube Wells restored	No. of PWS restored	No. of Water Tankers engaged	No. of Water Pouches distributed	No. of Halogen Tabs distributed	Qty. of Bleaching Power supplied (Kg.)	No. of Drinking Water sources disinfected			
								Tube Well	PWS	Well	Pond
1	Bargarh	0	0	4	800	0	0	68	4	0	0
2	Nawarangpur (July/Aug)	2	0	4	400	0	177.6	814	9	331	0
3	Malkangiri	9	0	0	0	0	2155	5212	233	28	0
4	Koraput (July/ Aug)	0	0	4	1200	5000	500	798	84	127	4
5	Kalahandi (14-16 Aug)	29	5	0	0	48000	2442.5	9253	135	128	0
6	Sambalpur (July)	0	0	24	0	0	5120	14519	285	2	0
	Total	40	5	36	2400	53000	8062.5	30664	750	616	4

Health Measures:

Sl. No	District	No. of Medical Relief Centres opened	No. of doctors engaged	No. of Mobile Medical Teams deployed	No. of Para-medical Staff engaged	No. of Persons treated	ORS Packets distributed	Halogen Tablets distributed
1	Bargarh	1		1				
2	Kalahandi	1	1	1	2	38	38	38
3	Nawarangpur	4	7	5	23	463	5405	22450
4	Sambalpur	15	6	3	15	344	1000	8000
5	Malkangiri	4	8	8	25	604	4296	4000
	Koraput	24	10	3	12	486	420	15000
	Total	48	32	21	77	1935	11159	49488

Funds Released to Collectors (Rs. In Lakh)

Funds out of State Disaster Response Fund (SDRF) were released to districts towards relief and repair/restoration of private properties. The district wise details are mentioned below.

SI	District	HBA	Clothing	Utensils	Sand Cast	Replace-ment of Animals	Replace-ment of Boat/ Net	Gr in kind	Ex-gratia	TC
1	Khordha	93.918								
2	Sambalpur	277.702	2.718	3.020	0.260			3.061	4.00	0.048
3	Gajapati	0.128								
4	Koraput	94.393	0.090	0.100	32.317			1.530		0.416
5	Nabarangpur	23.53	0.072	0.08	3.904			3.230	4.00	
6	Baragarh	171.985	1.80	2.00	104.770	1.040	2.196	2.579	4.00	
7	Sonepur	85.612	0.036	0.040				0.236		
8	Kalahandi	392.203	1.062	1.18	190.952			0.208	4.00	0.05
9	Boudh	32.84								
10	Jajpur	917.587	0.072	0.08				50.952		
11	Angul	3.20								
12	Puri	18.683								
13	Rayagada	13.387	0.090	0.100					8.00	
14	Kandhamal	12.35	0.36	0.40	205.110				4.00	
15	Malkangiri	189.020	1.674	1.860	59.029				20.00	
16	Deogarh	3.579								
17	Kendrapara	958.965	1.494	1.66					24.337	
	Total	3289.082	9.468	10.52	596.342	1.04	2.196	61.796	72.337	0.514

Release of PMNRF deceased/ injured persons:

Hon'ble Prime Minister of India had sanctioned ex-gratia assistance of Rs. 200,000/- each to the next of kin of the persons deceased and Rs.50,000/- each to the persons, who got seriously injured due to floods/ landslides/ in 2018 in Odisha. Accordingly Rs.43.00 lakh was released to following districts under PMNRF received from GOI. Besides this amount, Rs 4.00 lakh out of SDRF also had been sanctioned to NOK of the bereaved families.

Sl.	District	No. of Human Causality	No. of Seriously Injured Persons	Total Amount (PMNRF) Released (Rs. In lakh)
1	Sambalpur	2	0	4.00
2	Kalahandi	6	2	13.00
3	Malkangiri	4	0	8.00
4	Nayagarh	1	0	2.00
5	Rayagada	8	0	16.00
	Total	21	2	43.00

Kerala Flood Relief, August, 2018

Kerala experienced worst floods during 2nd-3rd week of August 2018. The floods paralyzed the normal life of people. More than 2 lakh people sheltered in relief camps and thousands were stranded.

The Govt. of Odisha extended relief support for Kerala Floods for the affected people. Rs.10.00 crore from Chief Minister's Relief Fund was provided to Govt. of Kerala towards relief assistance.

244 Fire Service Personnel with 65 power boats along with search & rescue equipments were sent to Kerala through two nos. of Indian Air Force Flight – IL- 76 on 18.08.2018. The details of search & rescue items despatched is mentioned below.

1.	Boat (IRB / OBM)	65 nos.
2.	Fire Service Personnel	244 nos.
3.	Under water breath apparatus (for Scuba diving)	8 nos.
4.	Power Saw	35 nos.
5.	Compressor	2 nos.
6.	Tower Light	10 nos.
7.	Torch Light	14 nos.
8.	Tent Accessories	3 Pkt.
9.	Lifebuoy	234 nos.
10.	Lifejackets	137 nos.
11.	Life line Rasi	35 nos.
12.	Argonet	10 nos.
13.	Tent cover	6 nos.
14.	Sleeping tent	30 nos.

Besides this, the Govt. of Odisha sent 500.1 MT (57040 sheets) of polythene sheets (temporary shelter materials) to Alleppey (Kerala) through 12 wagons of Indian Rail Way on 22.08.2018 for flood affected people of Kerala.

Helpline for people of Odisha trapped in Kerala Floods:

It was ascertained that some people of our State were trapped at different places due to Kerala floods. The State Govt opened **a toll free** help line **Telephone No.1077** and another helpline in **Telephone No. 0674-2534177** in the office of the Special Relief Commissioner to coordinate help for the people.

Officials from Labour & ESI department went to Kerala for facilitating the safe return of Odia worker people. They helped about 500 workers to board (special reserved coaches) for Odisha.

CHAPTER – III

Very Severe Cyclonic Storm "TITLI"

CYCLONE FORECAST

India Meteorological Department (IMD) reported on 7.10.2018 about formation of a low pressure area over south east of Bay of Bengal and adjoining North Andaman Sea and likely formation of a well marked during next 12 hours and intensification into a deep depression. The low pressure area became a well marked low pressure area over the same region at 17.30 of 7.10.2018. It was predicted that the system would very likely to concentrate into a Depression during next 24 hours and very likely to move north-westwards towards Odisha coast during next 72 hours.

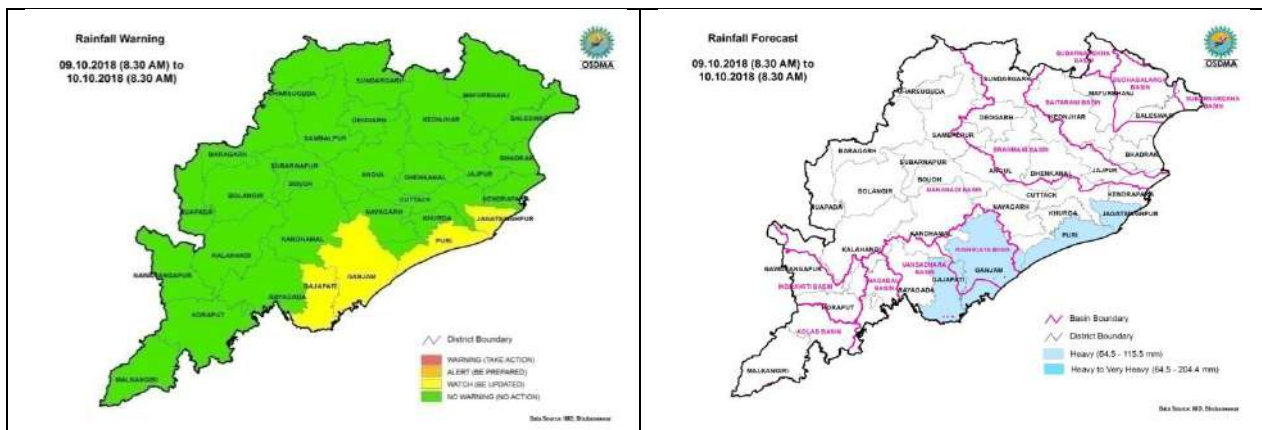
On 8.10.2018 at 2.00 PM, IMD informed that the well marked low pressure area over southeast and adjoining east-central Bay of Bengal concentrated into a depression and laid centred at 0830 hrs IST of 8th October 2018 over east-central Bay of Bengal, near latitude 14.0°N and longitude 88.8°E, about 720 km south-southeast of Gopalpur (Odisha) and 690 km southeast of Kalingapatnam (Andhra Pradesh). It would very likely to intensify further into a Deep Depression during next 24 hours and into a Cyclonic Storm during subsequent 24 hours. It would very likely to move north-westwards towards Odisha and adjoining north Andhra Pradesh coasts during next 72 hours. The forecast was as follows:

Date	Time	Max. sustained surface winds speed (KMPH)	Category of cyclonic disturbance
08.10.18	0830 IST	40-50 gusting to 60	Depression
08.10.18	1730 IST	45-55 gusting to 65	Depression
09.10.18	0530 IST	50-60 gusting to 70	Deep Depression
09.10.18	1730 IST	55-65 gusting to 75	Deep Depression
10.10.18	0530 IST	60-70 gusting to 80	Cyclonic Storm
10.10.18	1730 IST	65-75 gusting to 85	Cyclonic Storm
11.10.18	0530 IST	70-80 gusting to 90	Cyclonic Storm

After getting this information from the IMD, the State Government started closely monitoring the situation. Based on the forecast issued from IMD and other international Agencies, the tracking of the system was thoroughly done by the Experts of Odisha State Disaster Management Authority (OSDMA) in GIS platform, possibility

of its likely impact over the Odisha. The position and movement of the system was intimated to all the Collectors and to the print and electronic media.

On 9.10.2018 at 8.00 AM, IMD reported that the depression over east central Bay of Bengal intensified into deep depression at 2330 hrs IST of 8th October,2018 and moved further west-northwestwards with a speed of about 11 kmph in last 03 hours, and laid centered at 0230 hrs IST of 9th October 2018 near latitude 14.6°N and longitude 87.3°E, about 570 km southeast of Gopalpur (Odisha) and 530 km southeast of Kalingapatnam (Andhra Pradesh). It would very likely to intensify into a Cyclonic Storm during next 24 hours. It would very likely to move westnorthwestwards for some more time and then northwestwards towards Odisha & adjoining north Andhra Pradesh coasts during next 72 hours. The rainfall prediction with colour code was given by IMD in its bulletin. Maps were prepared and shared to the districts for taking further action.

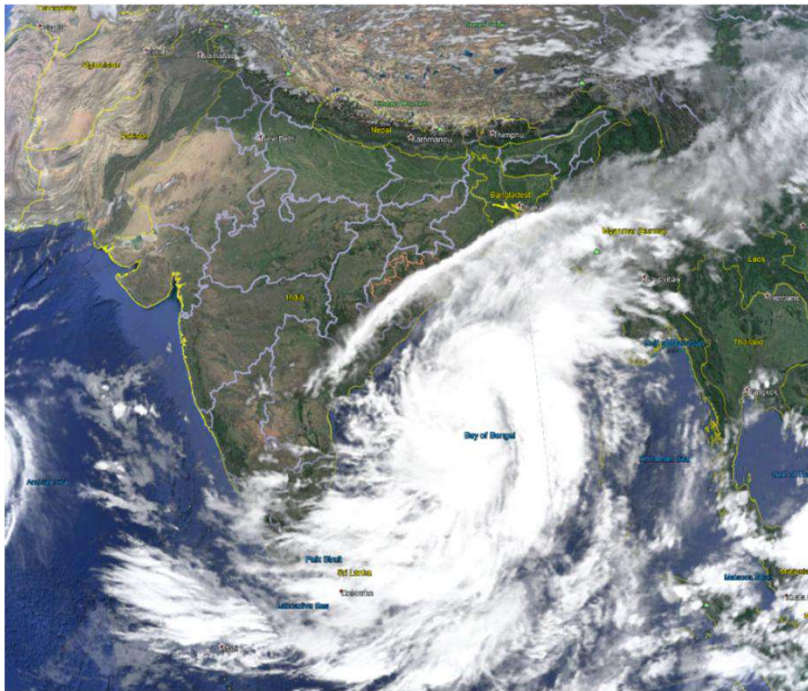


The warning message regarding the intensity of cyclone was changed suddenly after 6 hours by IMD. Earlier predicted landfall as a cyclonic storm was changed into Severe Cyclonic Storm. An “Orange Message” (Cyclone warning) was issued at 4.00 PM on 9.10.2018 that the



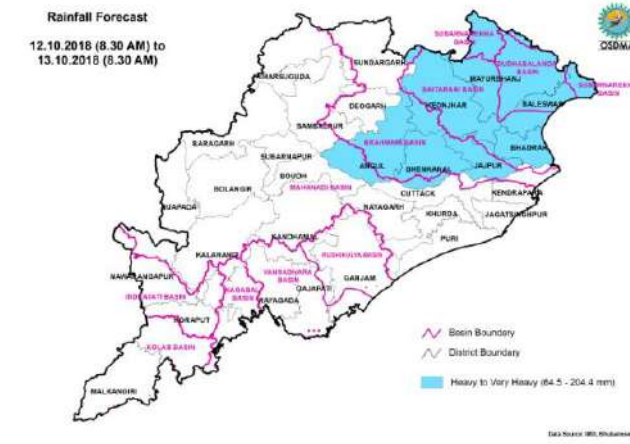
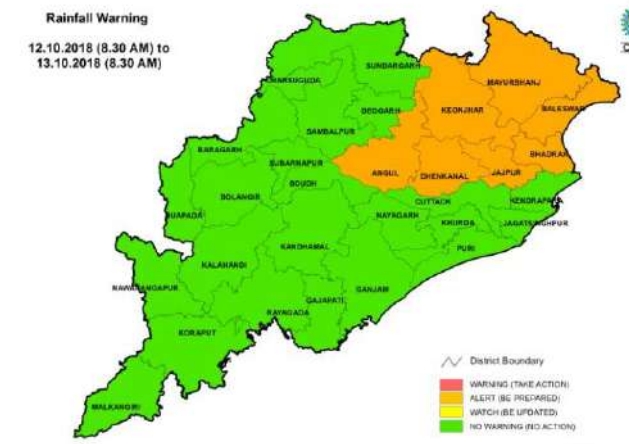
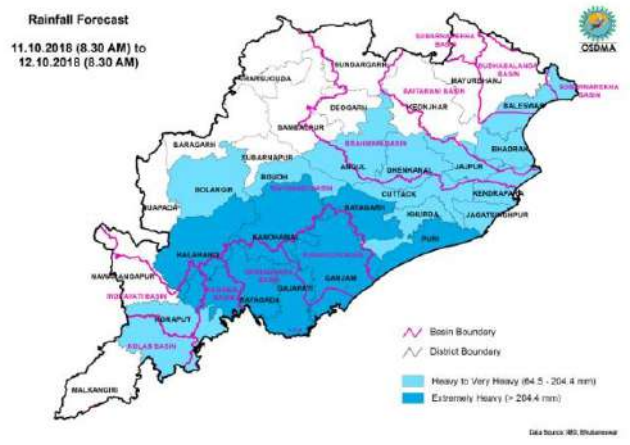
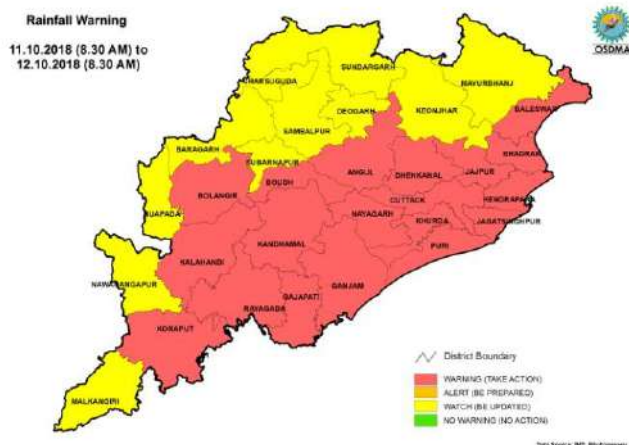
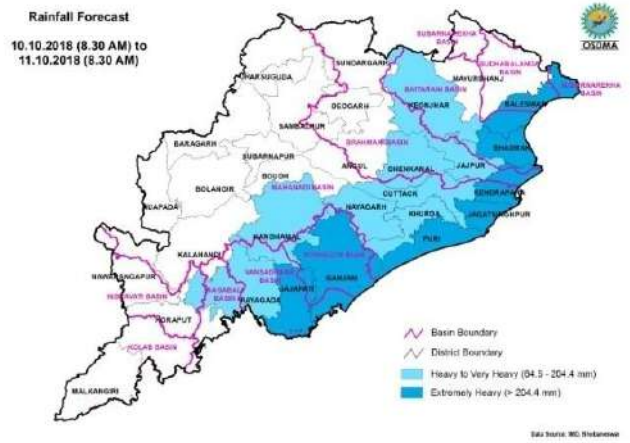
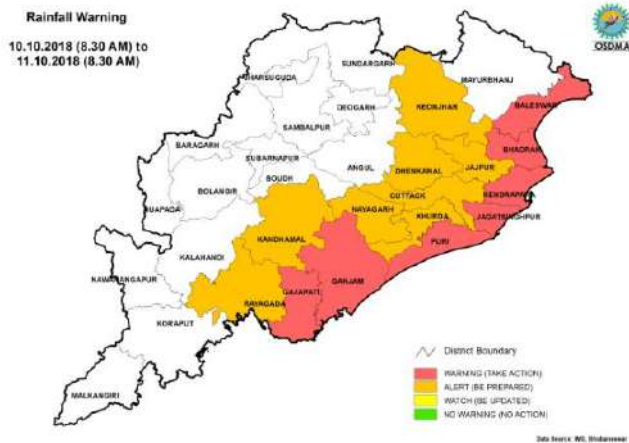
Deep Depression had intensified into a Cyclonic Storm named as "TITLI", centered over west-central Bay of Bengal at latitude 14.8⁰N and longitude 86.7⁰ E, about 530 km southeast of Gopalpur, Odisha and 489 km east-southeast of Kalingapatnam, Andhra Pradesh. It would likely to be intensified into Severe Cyclonic Storm during 24 hours and cross Odisha and adjoining North Andhra Pradesh coast between Gopalpur and Kalingapatnam around morning of 11th October, 2018.

Date: 09.10.2018 Time: 13.30 IST



The same message about the landfall warning was continued up to 6.00 AM of 10.10.2018. Suddenly, at 9.45 AM, IMD issued a red message for intensification of the Titli as severe Cyclonic Storm and forecasted its intensification as Very Severe Cyclonic Storm with a wind speed of 120-130 kmph during next 18 hours. The earlier forecasted rainfall was modified as follows:

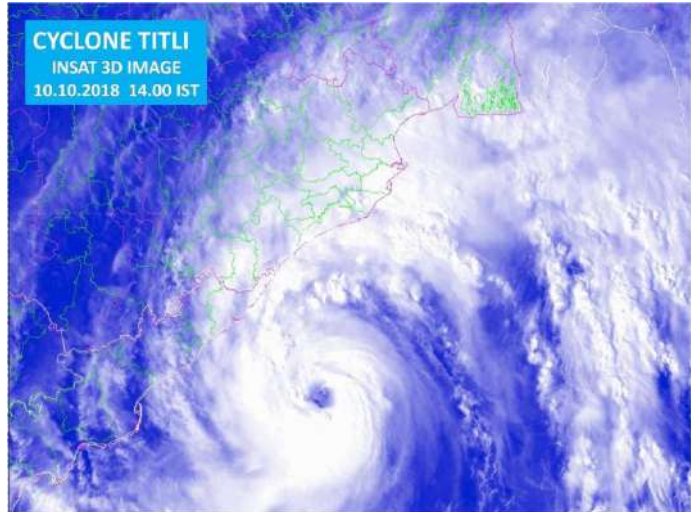
Date	Time	Max. sustained surface winds speed (KMPH)	Category of cyclonic disturbance
10.10.18	0530 IST	100-110 gusting to 125	Severe Cyclonic Storm
10.10.18	1130 IST	105-115 gusting to 130	Severe Cyclonic Storm
10.10.18	1730 IST	110-120 gusting to 135	Severe Cyclonic Storm
10.10.18	2330 IST	120-130 gusting to 145	Very Severe Cyclonic Storm
11.10.18	0530 IST	120-130 gusting to 145	Very Severe Cyclonic Storm
11.10.18	1730 IST	70-80 gusting to 90	Cyclonic Storm
12.10.18	0530 IST	50-60 gusting to 70	Deep Depression



Accordingly, all the Collectors were informed about the system well in advance. They were directed to take all precautionary/ preparatory measures to meet the cyclone impact.

As per the national Bulletin issued by IMD at 1.30 PM on 10.10.2018, the Severe Cyclonic Storm 'TITLI' over westcentral Bay of Bengal moved northwestwards

with a speed of about 15 kmph during past 06 hours, intensified into a Very Severe Cyclonic Storm and lay cantered at 1130 hrs IST 10th October 2018 over west-central Bay of Bengal near latitude 16.8°N and longitude 85.6°E, about 280 km southsoutheast of Gopalpur (Odisha) and 230 km



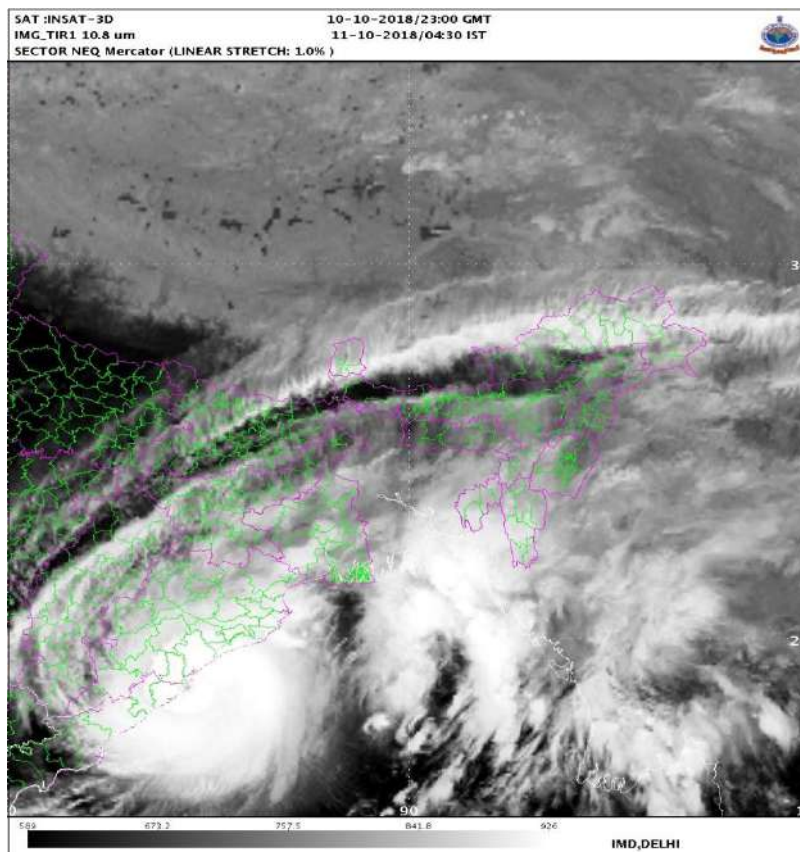
southeast of Kalingapatnam (Andhra Pradesh). It would very likely to intensify further during next 12 hours. It would very likely to move north-northwestwards and cross Odisha & adjoining north Andhra Pradesh coasts between Gopalpur&Kalingapatnam around morning of 11th October. Thereafter, it would very likely to re-curve northeastwards, move towards Gangetic West Bengal across Odisha and weaken gradually. The cyclone was closely monitored at the State Emergency Operation Center.

The cyclone 'Titli' crossed between north Andhra Pradesh and south Odisha coast near 18.8⁰ N and 84.5⁰ E (near Palasa, Srikakulam district) to the southwest of Gopalpur, as a Very Severe Cyclonic Storm with estimated maximum sustained surface wind speed of 140-150 kmph gusting to 165 kmph between 0430 and 0530 hours IST of 11th October 2018. Gopalpur reported 102 kmph and Kalingapatnam reported 56 kmph surface wind speed at 0530 hrs IST of 11th October.

The Cyclone moved further northwestwards with a speed of about 14 kmph during past 06 hours, weakened into a Severe Cyclonic Storm and laid centred at 1130 hrs IST of 11th October 2018 over south Odisha near latitude 19.3°N and longitude 83.8°E, about 110 km west of Gopalpur and 140 km southwest of Phulbani. Then, it remained practically stationary, weakened slightly further and laid centred at 1430 hrs IST 11th October 2018 over south Odisha near latitude 19.3°N and longitude 83.8°E, about 110 km west of Gopalpur and 140 km southwest of Phulbani. Gopalpur reported 65 Kmph surface wind at 1430 hours IST of 11th October 2018. After that it moved northeastwards in past six hours with speed 15 kmph and laid centred at 2030 hrs IST

of 11th October 2018 over south Odisha near latitude 20.1°N and longitude 84.0°E, 90 km east-northeast of Bhawanipatna and 50 km west-southwest of Phulbani.

The deep depression weakened into depression and moved northeast words in past six hours with a speed of 12kmph and centred near latitude 20.9⁰ N and longitude 85.5⁰ E about 80 km south of Kenonjhar on 12.10.2018 at 14.30 IST. Then it moved east northeast word with a speed of 17 kmph and continued to move the same path. The deep depression weakened into a depression near latitude 20.19⁰ N and longitude 85.5⁰ E. Further it moved northeast toward and weakened into a well mark low pressure area over Gangetic West Bengal and neighborhood at 5.30 hrs of 13.10.2018. It further weakened into a low pressure area and laid over Gangetic West Bengal and adjoining Bangaldesh and north Bay of Bengal at 8.30 hrs of 13.10.2018.

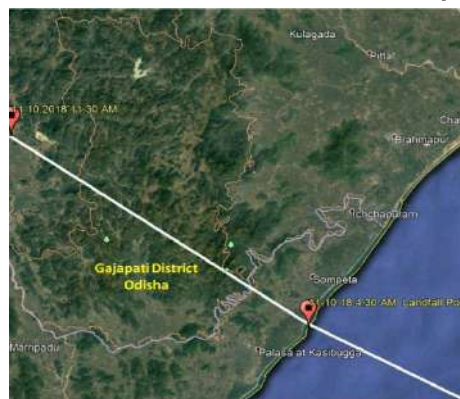


Satellite image of cyclone Titli during Landfall on 11.10.2018 at 4.30 AM.

OCCURRENCE & INTENSITY

Landfall & Wind Speed

The Cyclone "Titli" made landfall at 0430AM on 11th October 2018 between north Andhra Pradesh and south Odisha coast near Palasa of Srikakulam District (AP) as a Very Severe Cyclonic Storm. As reported by IMD, the maximum sustained surface wind speed of 140-150 kmph gusting to 165 kmph during landfall. Gopalpur, Odisha reported 102 kmph surface wind speed at 05.30 AM on 11th October. After passing through coast the storm entered into the Gajapati district which is about 18km from the coastline. It continued in its path for 5 hours in Gajapati district maintaining about 130-140 kmph and gradually weakened in to Severe Cyclonic storm.



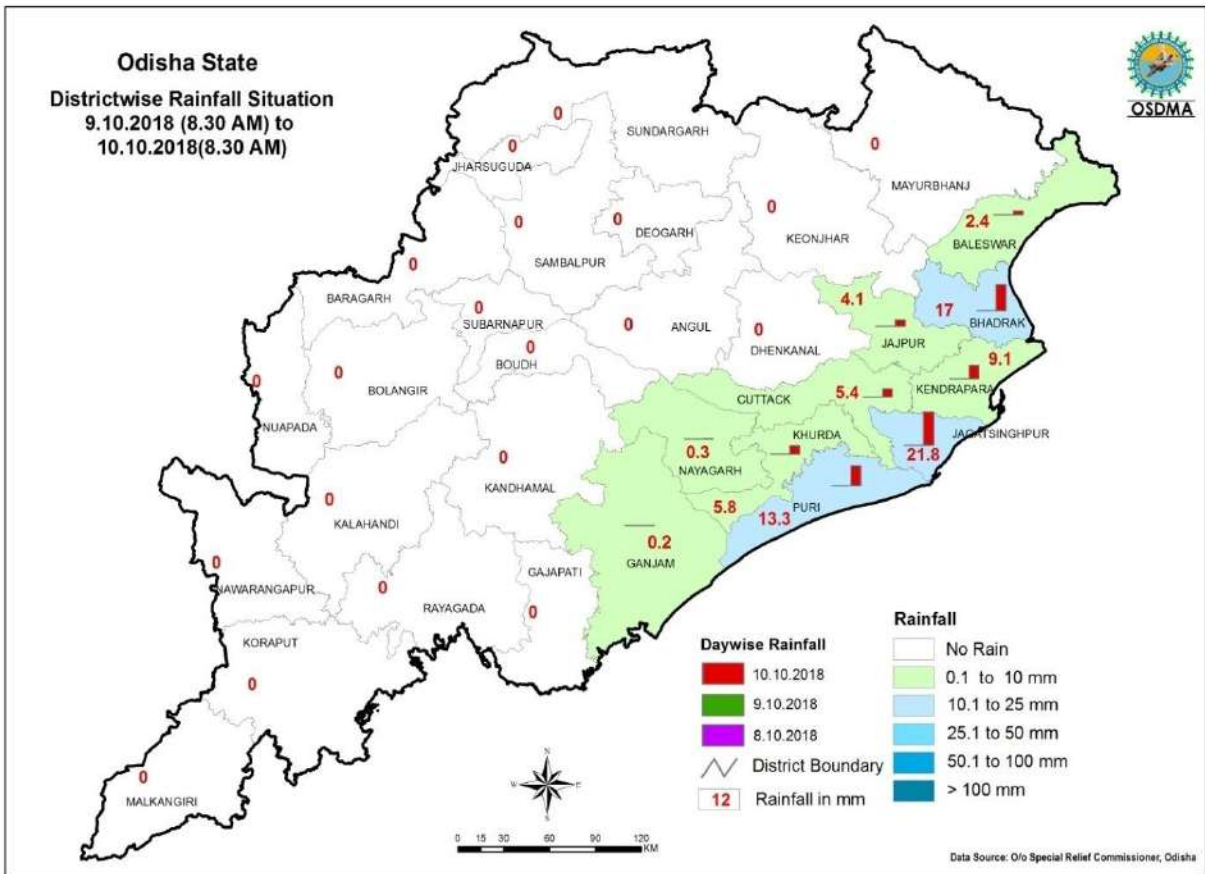
The cyclone recurved its path between Rayagada&Kandhamal district and passed through Nayagarh, Cuttack, Dhenkanal, Jajpur, Bhadrak, Balasore and Mayurbhanj districts of Odisha and entered into the Gangetic West Bengal on 13.10.2018. The coastal and adjoining districts of the state experienced high wind and very heavy rainfall during period 11th to 13th October, 2018.

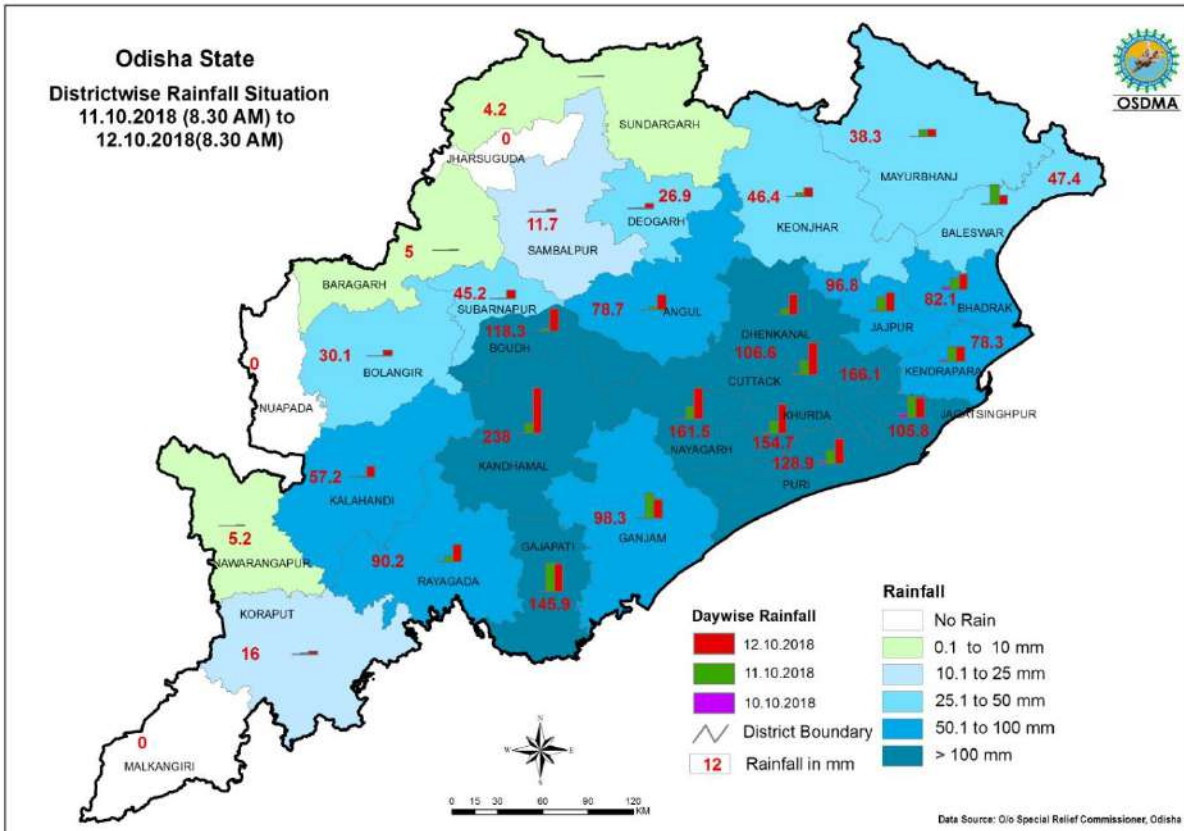
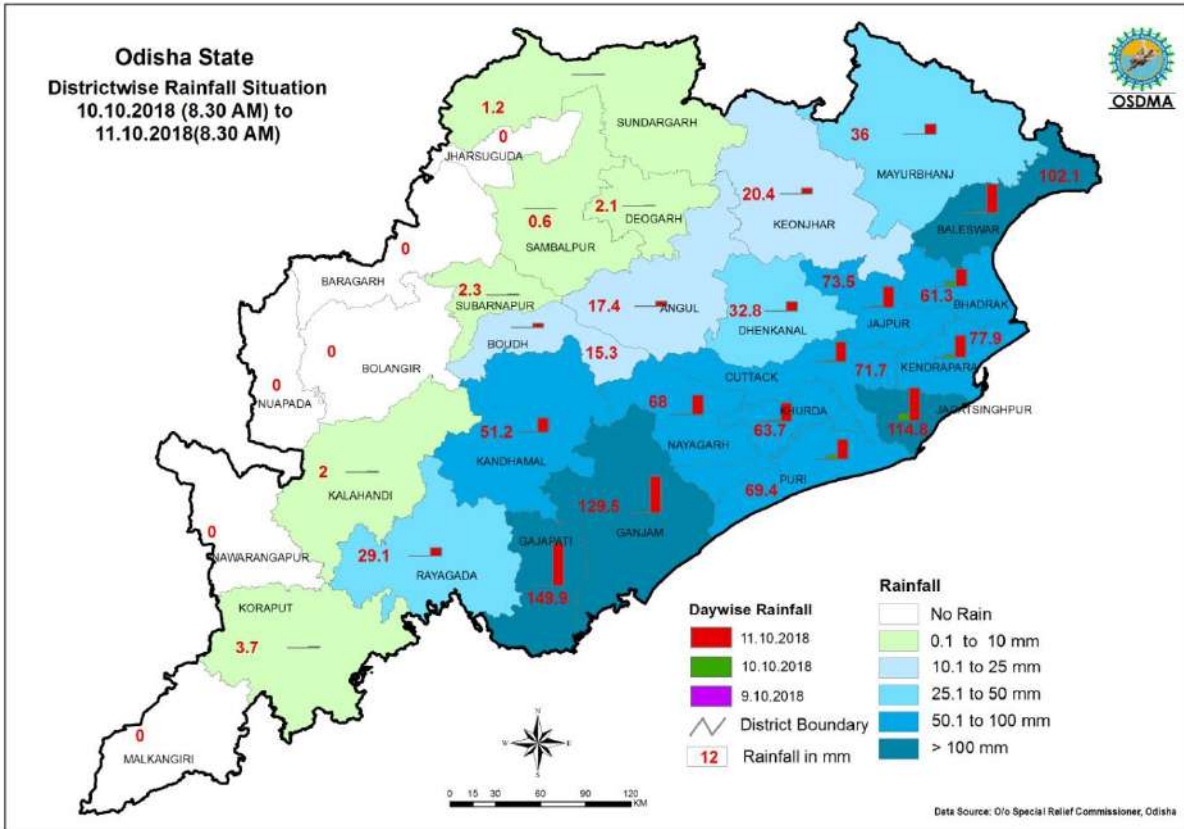
Rainfall (from 10th to 13th October 2018)

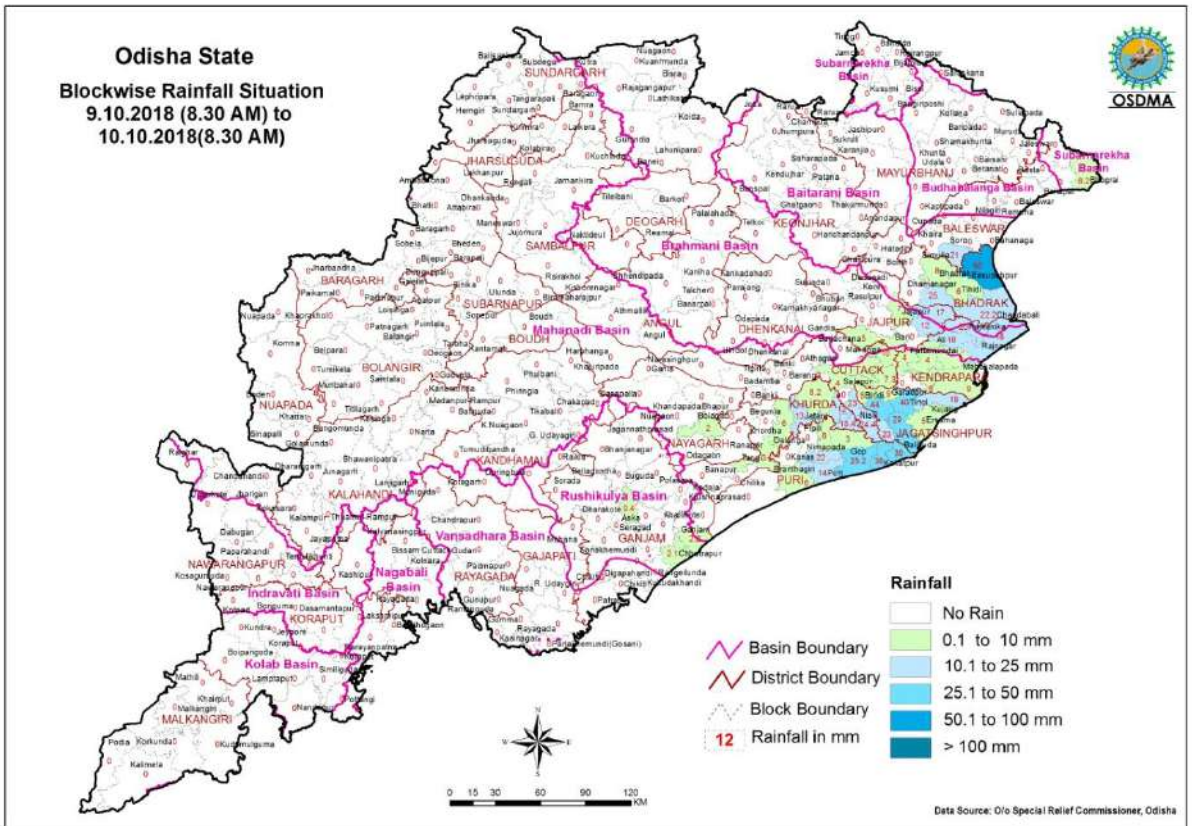
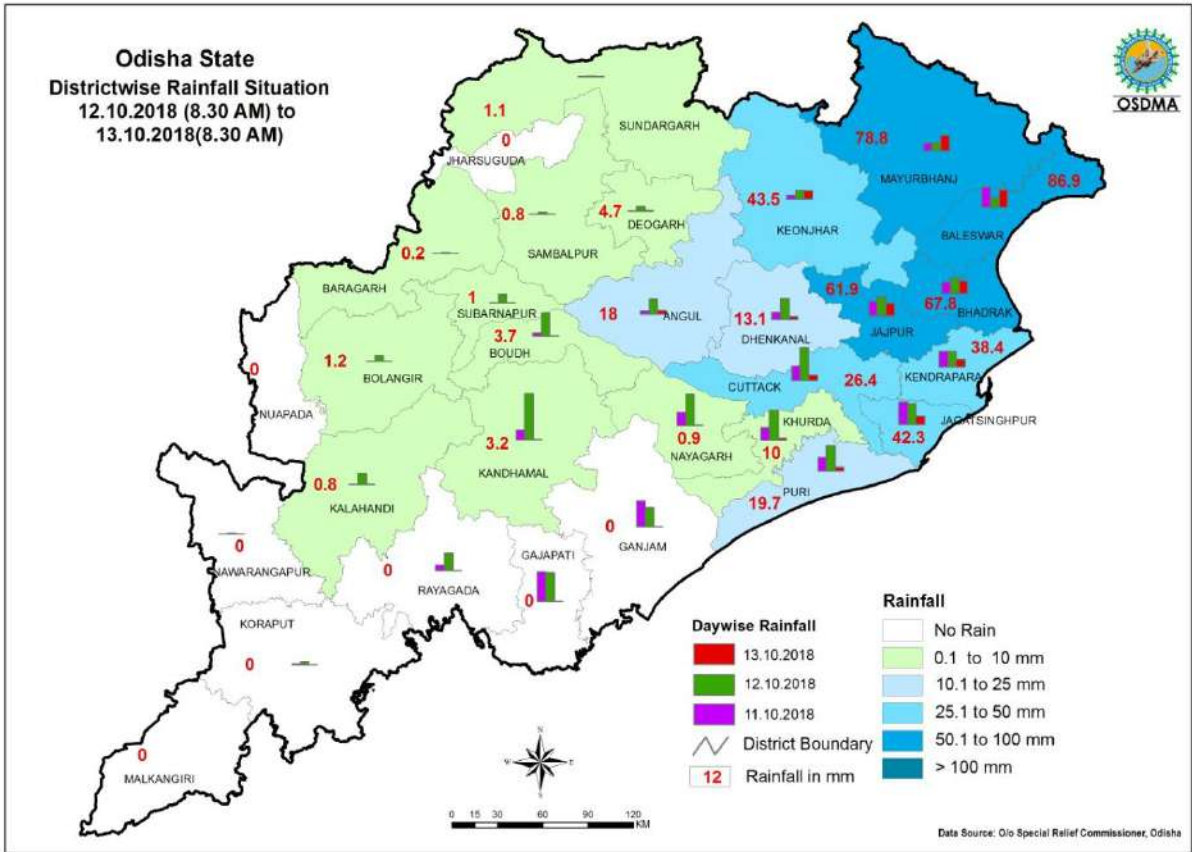
Under the influence of the cyclone, very heavy rainfall occurred in many parts of the state from 10th to 13th October 2018. The cumulative amount of rainfall during this period was as high as 295.8 mm in Gajapati district followed by 292.4 mm in Kandhamal District. The average rainfall of the affected districts recorded from 10th to 13th, October 2018 is indicated below:

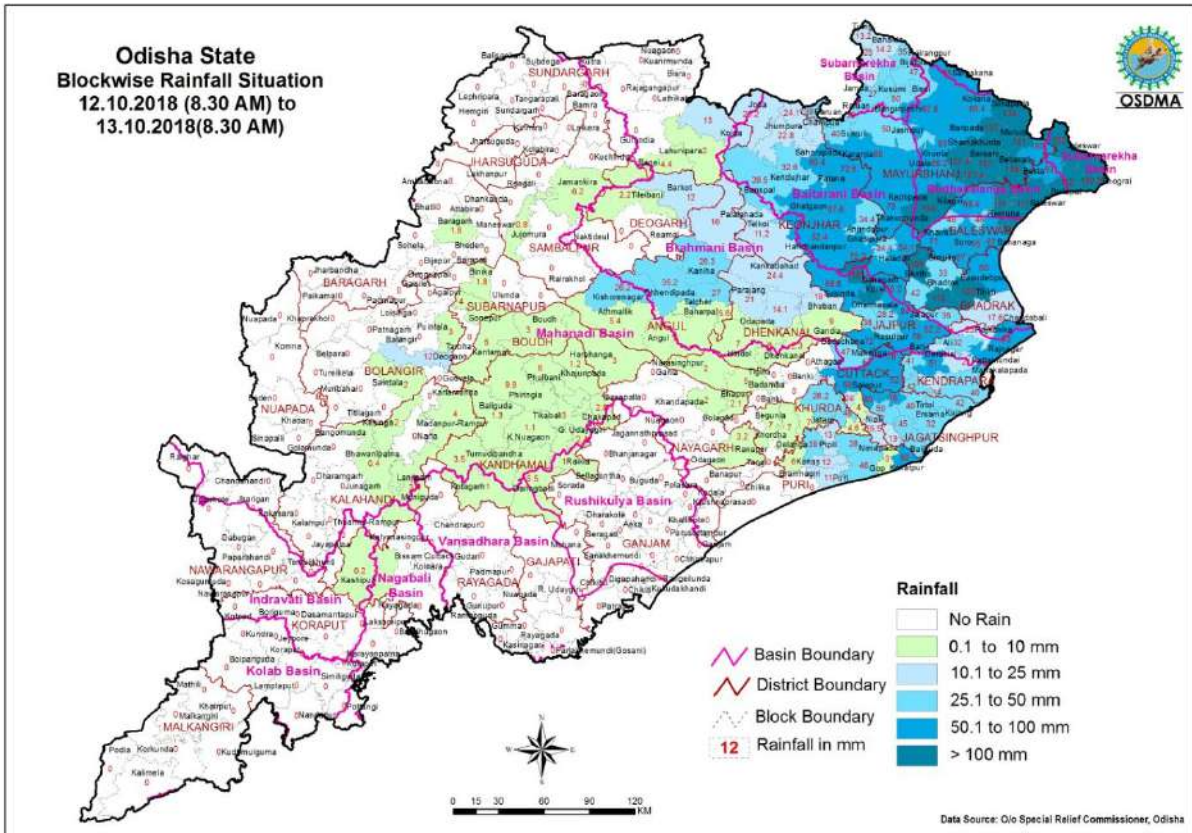
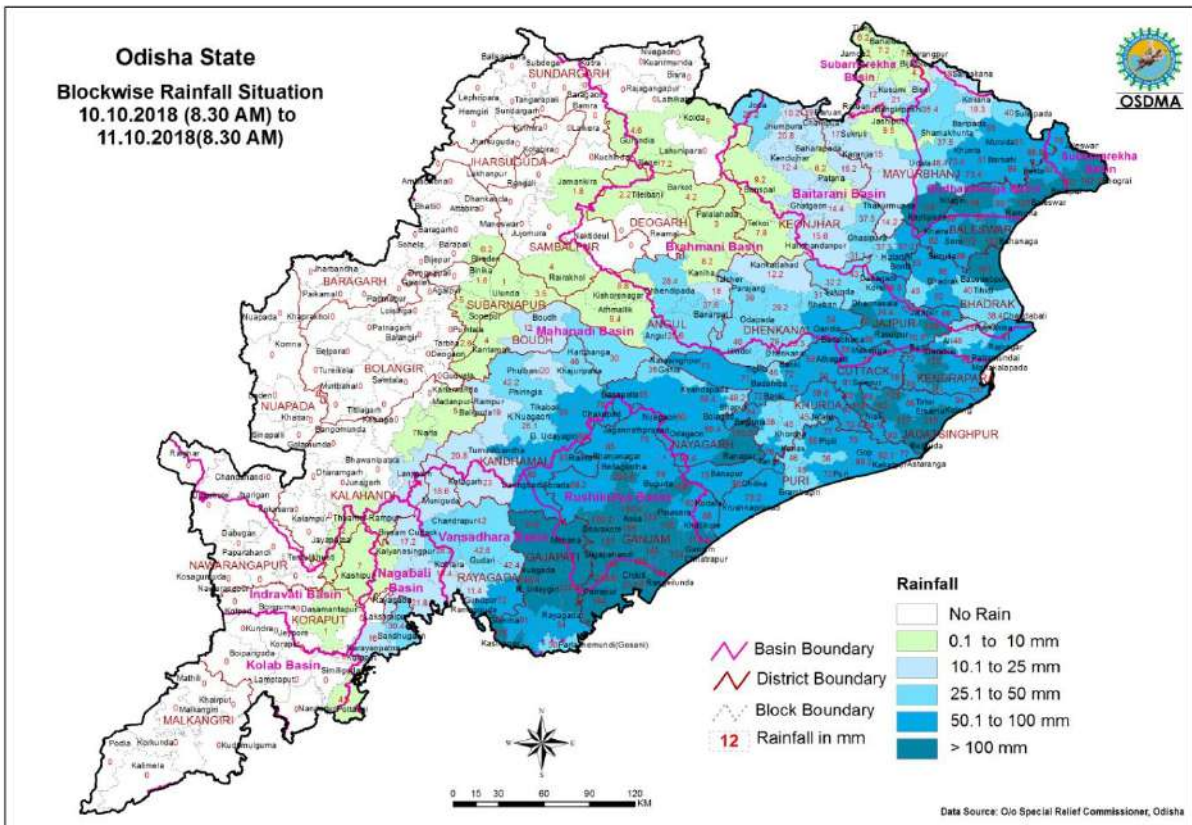
SI No	District	Rainfall in mm				Total Rainfall in mm
		Oct 10 th	Oct 11 th	Oct 12 th	Oct 13 th	
1	Gajapati	0.0	149.9	145.9	0.0	295.8
2	Kandhamal	0.0	51.2	238.0	3.2	292.4
3	Jagatsinghpur	21.8	114.8	105.8	42.3	284.5
4	Cuttack	5.4	71.7	166.1	26.4	269.6
5	Balasore	2.4	102.1	47.4	86.9	238.8
6	Jajpur	4.1	73.5	96.8	61.9	236.3

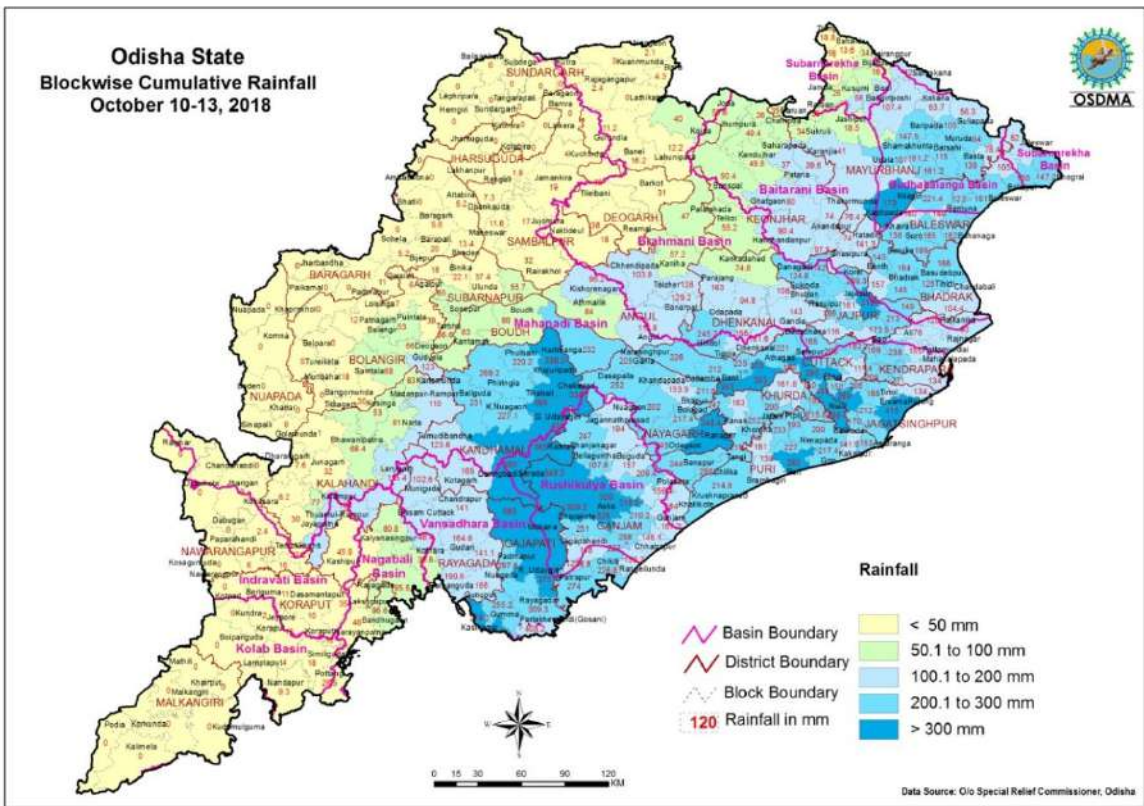
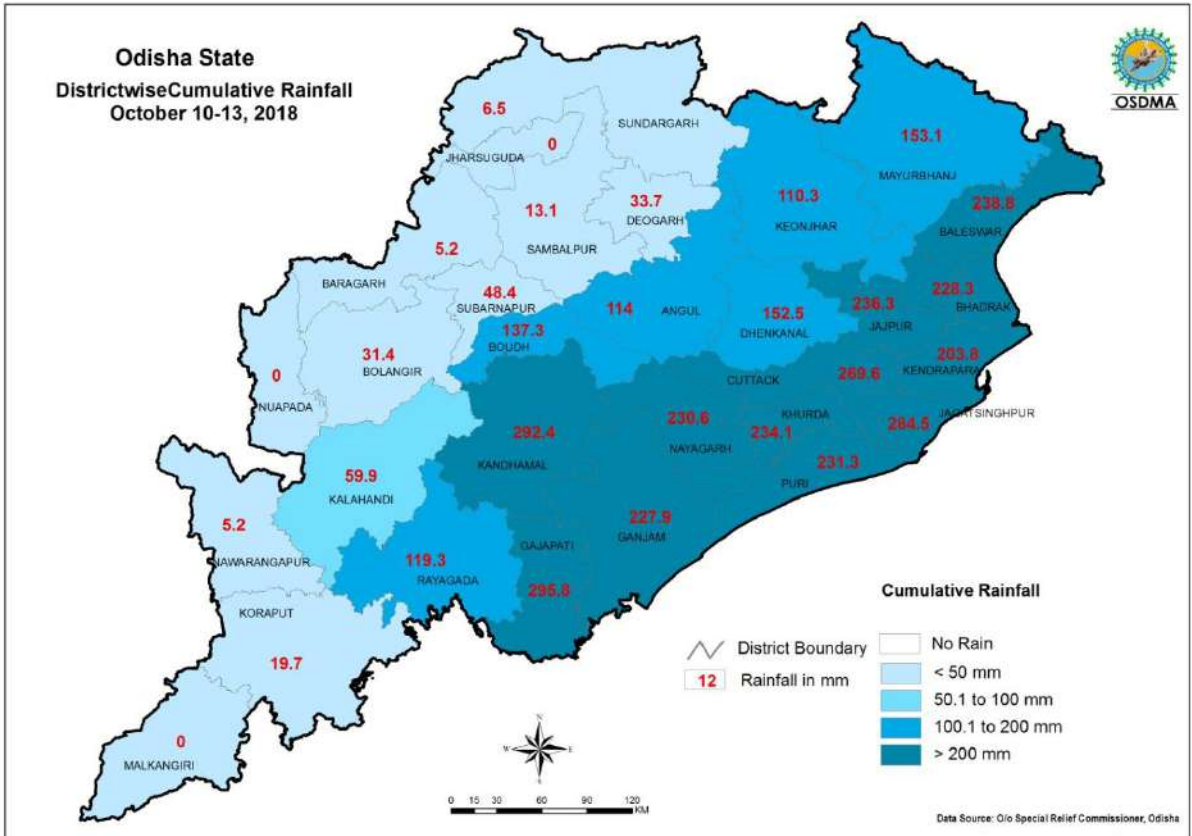
7	Khordha	5.8	63.7	154.7	10.0	234.1
8	Puri	13.3	69.4	128.9	19.7	231.3
9	Nayagarh	0.3	68.0	161.5	0.9	230.6
10	Bhadrak	17.0	61.3	82.1	67.8	228.3
11	Ganjam	0.2	129.5	98.3	0.0	227.9
12	Kendrapara	9.1	77.9	78.3	38.4	203.8
13	Mayurbhanj	0.0	36.0	38.3	78.8	153.1
14	Dhenkanal	0.0	32.8	106.6	13.1	152.5
15	Rayagada	0.0	29.1	90.2	0.0	119.3
16	Angul	0.0	17.4	78.7	18.0	114.0
17	Keonjhar	0.0	20.4	46.4	43.5	110.3











Rivers flooding

Due to heavy rainfall from 11th to 13th October 2018, Rusikulya, Vansadhara, Baitarani, Budhabalanga and Jalaka rivers witnessed flood situations. The torrential downpour in the upper catchment of Rushikulya River caused heavy flood situations in the many blocks of Ganjam district. The highest water level recorded in different Rivers during this period is given below:

River	Forecast station	DL	WL	Water Level in Meter		
				Oct 11	Oct 12	Oct 13
Rushikulya	Purushottampur	16.83	15.83	18.23	18.60	17.48
Vansadhara	Gunupur	84.0	83.0	85.15	84.91	84.0
	Kashinagar	54.6	53.6	56.12	56.30	54.47
Baitarani	Akhuapada	17.83	16.83	16.34	17.38	18.05
Budhabalanga	N.H-5 (Govindpur)	8.13	7.21	3.30	8.02	8.24
Jalaka	Balasore (Mathani)	5.50	-	6.0	6.41	6.88

Rainfall on the effect of Titli

Due to the effect of cyclonic storm the State faced torrential rainfall from 11th to 13th October 2018. Many of the Blocks in the State received rainfall of more than 100.00mm. The details of rainfall recorded at various stations are given below:

RAINFALL STATUS OF THE NINETEEN DISTRICTS FROM Dt.11.10.2018 to Dt.13.10.2018					
District – Angul		(Rainfall in mm.)			
Sl. No.	Name of the Block/ Station	DATE			Total
		11	12	13	
1	Angul	25.6	87.2	2.0	114.8
2	Banrapal	37.6	91.6	5.6	134.8
3	Chhendipada	28.4	75.4	35.2	139.0
4	Talcher	18.0	120.0	27.0	165.0
5	Kaniha	8.2	49.0	26.3	83.5
6	Athamallik	9.4	74.6	5.4	89.4
7	Kishorenagar	8.8	87.4	26.2	122.4
8	Pallahara	3.0	44.0	16.0	63.0
Average		17.4	78.7	18.0	114.0

District - Balasore					
1	Bhograi	143.2	4.0	130.3	277.5
2	Basta	92.0	13.0	93.0	198.0
3	Jaleswar	76.0	6.0	102.0	184.0
4	Baliapal	130.0	0.0	112.0	242.0
5	Balasore	126.0	25.0	111.0	262.0
6	Remuna	89.0	34.0	111.0	234.0
7	Nilagiri	118.0	103.4	69.4	290.8
8	Soro	113.0	72.0	55.0	240.0
9	Bahanaga	122.0	60.0	67.0	249.0
10	Simulia	98.0	91.0	67.0	256.0
11	Khaira	62.0	76.0	77.0	215.0
12	Oupada	56.0	84.0	48.0	188.0
Average		102.1	47.4	86.9	236.4
District - Bhadrak					
1	Bhadrak	86.0	78.0	33.0	197.0
2	Bhandaripokhari	49.0	108.0	42.0	199.0
3	Basudevpur	101.0	65.0	60.0	226.0
4	Bonth	53.0	90.0	105.0	248.0
5	Chandbali	38.4	66.0	17.6	122.0
6	Dhamnagar	62.0	83.0	112.0	257.0
7	Tihidi	40.0	85.0	105.0	230.0
Average		61.3	82.1	67.8	211.3
District - Boudh					
1	Boudh	12.0	74.0	3.0	89.0
2	Kantamal	4.0	79.0	5.0	88.0
3	Harabhanga	30.0	202.0	3.0	235.0
Average		15.3	118.3	3.7	137.3
District - Cuttack					
1	Athagarh	58.0	163.0	0.0	221.0
2	Banki-Dampada	72.0	281.0	0.0	353.0
3	Barang	70.0	110.0	24.0	204.0
4	Baramba	71.0	141.0	5.0	217.0
5	Cuttack Sadar	81.0	214.0	59.0	354.0
6	Kantapara	116.0	319.0	4.0	439.0

7	Mahanga	57.0	125.0	78.0	260.0
8	Niali	84.5	185.2	15.5	285.2
9	Nischintakoili	78.2	33.2	52.1	163.5
10	Narasinghpur	73.0	153.0	2.0	228.0
11	Salipur	71.0	135.0	57.0	263.0
12	Tangi-Choudwar	55.0	110.0	47.0	212.0
13	Tigiria	45.0	190.0	0.0	235.0
Average		71.7	166.1	26.4	264.2
District - Dhenkanal					
1	Dhenkanal	28.3	103.3	2.3	133.9
2	Gondia	54.0	89.0	9.0	152.0
3	Odapada	29.0	126.0	8.0	163.0
4	Hindol	40.0	205.2	7.0	252.2
5	Kamakhyanagar	29.2	65.6	14.1	108.9
6	Bhuban	31.0	77.0	19.0	127.0
7	Parjang	39.0	124.0	21.0	184.0
8	Kankadahad	12.2	62.4	24.4	99.0
Average		32.8	106.6	13.1	152.5
District - Gajapati					
1	Kashinagar	275.0	117.0	0.0	392.0
2	Parlakhemundi	30.0	100.3	0.0	130.3
3	Rayagada	54.0	148.3	0.0	202.3
4	Gumma	91.0	120.0	0.0	211.0
5	Nuagada	146.4	95.3	0.0	241.7
6	R.Udaygiri	223.8	151.2	0.0	375.0
7	Mohana	315.0	265.0	0.0	580.0
8	Gosani	64.0	170.0	0.0	234.0
Average		149.9	145.9	0.0	295.8
District - Ganjam					
1	Chhatrapur	134.0	12.1	0.0	146.1
2	Ganjam	113.2	54.0	0.0	167.2
3	Purusottampur	135.0	75.2	0.0	210.2
4	Kabisuryanagar	133.0	185.5	0.0	318.5
5	Polasara	108.0	101.4	0.0	209.4
6	Kodala	82.0	74.4	0.0	156.4

7	Khallikote	88.0	76.0	0.0	164.0
8	Hinjilicut	145.0	135.0	0.0	280.0
9	Rangeilunda	124.0	26.2	0.0	150.2
10	Kukudakhandi	155.0	72.0	0.0	227.0
11	Chikiti	213.6	13.2	0.0	226.8
12	Patrapur	144.0	87.0	0.0	231.0
13	Sanakhemundi	157.0	94.0	0.0	251.0
14	Digapahandi	140.0	8.0	0.0	148.0
15	Bhanjanagar	95.0	152.0	0.0	247.0
16	Belaguntha	203.6	19.2	0.0	222.8
17	Jagannathprasad	75.0	119.0	0.0	194.0
18	Buguda	69.0	88.0	0.0	157.0
19	Aska	150.4	0.0	0.0	150.4
20	Dharakote	100.2	209.0	0.0	309.2
21	Sheragada	195.0	130.0	0.0	325.0
22	Sorada	88.2	261.0	0.0	349.2
Average		129.5	90.6	0.0	220.0
District - Jagatsinghpur					
1	Jagatsinghpur	102.0	187.0	50.0	339.0
2	Biridi	68.0	82.0	60.0	210.0
3	Raghunathpur	129.0	77.0	56.0	262.0
4	Balikuda	137.0	75.0	45.0	257.0
5	Naugaon	90.0	80.0	13.0	183.0
6	Tirtol	88.0	100.0	40.0	228.0
7	Kujanga	94.0	40.0	42.0	176.0
8	Erasama	210.0	205.0	32.0	447.0
Average		114.8	105.8	42.3	262.8
District - Jajpur					
1	Jajpur	70.0	148.0	84.0	302.0
2	Binjharpur	109.0	104.0	52.2	265.2
3	Dasarathpur	68.0	81.0	35.0	184.0
4	Korei	98.6	110.7	50.2	259.5
5	Danagadi	43.0	99.0	115.0	257.0
6	Sukinda	32.2	102.4	68.6	203.2
7	Rasulpur	76.4	84.6	28.2	189.2

8	Dharmasala	111.0	75.0	38.0	224.0
9	Barachana	56.0	60.0	72.0	188.0
10	Bari	70.5	103.0	76.0	249.5
Average		73.5	96.8	61.9	232.2
District - Kalahandi					
1	Bhawanipatna	0.0	68.4	0.4	68.8
2	Kesinga	0.0	53.0	2.0	55.0
3	Karlamunda	0.0	83.0	0.0	83.0
4	Madanpur Rampur	5.0	105.0	4.0	114.0
5	Narla	7.0	74.0	0.0	81.0
6	Langigarh	11.4	104.0	3.4	118.8
7	Thuamul Rampur	2.0	100.0	0.0	102.0
8	Dharmagarh	0.0	7.6	0.0	7.6
9	Junagarh	0.0	32.0	0.0	32.0
10	Kalampur	0.0	77.0	0.0	77.0
11	Jaipatna	0.0	30.0	0.0	30.0
12	Koksara	0.0	8.2	0.0	8.2
13	Golamunda	0.0	1.0	0.0	1.0
Average		2.0	57.2	0.8	59.9
District - Kandhamal					
1	Baliguda	19.0	212.0	1.3	232.3
2	Chakapad	70.0	260.0	2.8	332.8
3	Daringibadi	89.0	316.0	5.5	410.5
4	G.Udayagiri	80.0	351.0	2.4	433.4
5	Khajuripada	46.0	292.2	1.2	339.4
6	Kotagarh	23.0	142.0	1.0	166.0
7	Nuagan	26.1	201.0	1.1	228.2
8	Phiringia	42.2	227.0	9.8	279.0
9	Phulbani	20.0	200.2	6.0	226.2
10	Raikia	83.0	282.0	1.0	366.0
11	Tikabali	95.0	270.0	3.0	368.0
12	Tumudibandh	20.8	102.8	3.5	127.1
Average		51.2	238.0	3.2	292.4
District - Kendrapara					
1	Kendrapara	122.0	116.0	51.0	289.0

2	Derabis	72.0	97.0	41.0	210.0
3	Marshaghai	111.0	100.0	14.0	225.0
4	Mohakalpara	100.0	34.0	40.0	174.0
5	Garadapur	65.0	140.0	42.0	247.0
6	Pattamundai	87.0	68.0	21.0	176.0
7	Aul	48.0	28.0	32.0	108.0
8	Rajnagar	51.0	42.0	83.0	176.0
9	Rajkanika	45.0	80.0	22.0	147.0
Average		77.9	78.3	38.4	194.7
District - Keonjhar					
1	Keonjhar	12.4	37.4	32.6	82.4
2	Banspal	9.2	41.2	26.5	76.9
3	Telkoi	7.8	47.4	11.2	66.4
4	Patna	8.2	28.8	69.4	106.4
5	Saharpada	15.2	24.4	72.6	112.2
6	Ghatgaon	14.4	65.6	67.6	147.6
7	Harichandanpur	15.6	74.8	52.4	142.8
8	Anandapur	37.5	54.7	34.4	126.6
9	Ghasipura	31.1	66.4	75.2	172.7
10	Hatadihi	57.2	84.1	54.1	195.4
11	Champua	10.2	15.8	24.1	50.1
12	Joda	25.2	34.4	23.2	82.8
13	Jhumpura	20.8	28.6	22.8	72.2
Average		20.4	46.4	43.5	110.3
District - Khordha					
1	Balianta	67.0	115.0	48.0	230.0
2	Balipatna	70.4	145.4	4.6	220.4
3	Bhubaneswar	58.6	103.2	26.2	188.0
4	Jatani	45.0	155.0	7.0	207.0
5	Banapur	75.0	169.0	0.0	244.0
6	Begunia	38.0	125.0	7.0	170.0
7	Bolagarh	64.0	183.0	0.0	247.0
8	Chilika	98.0	201.0	0.0	299.0
9	Khordha	45.0	207.0	7.0	259.0
10	Tangi	76.0	143.0	0.0	219.0

Average		63.7	154.7	10.0	228.3
District - Mayurbhanj					
1	Samakhunta	37.5	110.0	83.0	230.5
2	Badasahi	51.0	64.0	141.0	256.0
3	Betanati	89.0	50.0	158.0	297.0
4	Morda	81.0	13.0	141.0	235.0
5	Rasgovindapur	66.8	11.6	63.0	141.4
6	Kuliana	19.3	44.4	89.4	153.1
7	Sarasakana	18.0	24.0	65.0	107.0
8	Suliapada	40.0	16.3	134.0	190.3
9	Bangriposi	35.4	72.0	82.8	190.2
10	Baripada	55.0	50.0	137.0	242.0
11	Khunta	73.4	87.8	121.4	282.6
12	Gopabandhunagar	73.4	87.8	121.4	282.6
13	Udala	48.4	52.6	69.2	170.2
14	Kaptipada	113.0	60.0	134.0	307.0
15	Besoi	21.0	37.0	50.0	108.0
16	Bijatala	4.1	12.1	47.1	63.3
17	Rairangapur	7.0	27.0	35.0	69.0
18	KusumI	12.0	14.0	27.0	53.0
19	Jamda	2.0	14.0	23.0	39.0
20	Bahalda	7.2	6.4	14.2	27.8
21	Tiring	6.2	12.6	13.2	32.0
22	Joshiipur	9.5	9.0	50.0	68.5
23	Karanjia	15.0	26.0	95.0	136.0
24	Thakurmunda	14.2	62.2	75.0	151.4
25	Sukuruli	17.0	17.0	40.0	74.0
26	Raruana	19.0	16.0	39.0	74.0
Average		36.0	38.3	78.8	153.1
District - Nayagarh					
1	Bhapur	48.2	163.4	2.1	213.7
2	Daspalla	55.0	197.0	0.0	252.0
3	Gania	36.0	169.0	0.0	205.0
4	Khandapara	56.4	97.5	2.0	155.9
5	Nayagarh	66.4	151.0	0.0	217.4

6	Nuagaon	60.0	142.0	0.0	202.0
7	Odagaon	91.4	153.6	0.0	245.0
8	Ranpur	130.2	218.2	3.2	351.6
Average		68.0	161.5	0.9	230.3
District - Puri					
1	Astarang	77.0	76.0	59.0	212.0
2	Brahmagiri	45.0	94.0	0.0	139.0
3	Delang	86.0	147.0	39.0	272.0
4	Gop	99.2	118.2	46.0	263.4
5	Kakatpur	82.1	59.2	3.0	144.3
6	Kanas	46.0	135.0	6.0	187.0
7	Krushnaprasad	73.2	141.6	0.0	214.8
8	Nimapara	70.0	130.0	28.0	228.0
9	Pipili	77.0	116.0	13.0	206.0
10	Puri	72.0	210.0	11.0	293.0
11	Satyabadi	36.0	191.0	12.0	239.0
Average		69.4	128.9	19.7	218.0
District - Rayagada					
1	Raygada	21.8	73.8	0.0	95.6
2	Kolnara	19.4	61.4	0.0	80.8
3	Kalyansingpur	17.2	63.6	0.0	80.8
4	Kashipur	7.0	38.9	0.2	46.1
5	Gunupur	72.0	94.0	0.0	166.0
6	Padmapur	42.4	98.7	0.0	141.1
7	Gudari	42.6	122.0	0.0	164.6
8	Ramanaguda	11.4	179.2	0.0	190.6
9	Bissam Cuttack	26.2	77.2	0.0	103.4
10	Muniguda	18.6	84.0	0.0	102.6
11	Chandrapur	42.0	99.0	0.0	141.0
Average		29.1	90.2	0.0	119.3

(Note: The rainfall is recoded at 08.30 AM for the past 24 hours)

RESPONSE ACTIVITIES

Preparedness Measures Undertaken:

All Collectors were instructed to ensure the following measures.

- Zero casualty must be ensured.
- Identify people living near the coast in **Ganjam, Khordha&Puri** and shift them to safe shelters.
- People living in kutcha houses who are likely to be affected by the cyclone shall also be evacuated to cyclone/ flood shelters and other safe puccabuildings in **Gajapati, Ganjam, Khordha, Nayagarh and Puri.**
- District authorities to assess the situation in their respective districts and take steps to evacuate the people living in vulnerable conditions to safe shelters.
- Special care must be taken to shift the old, infirm, physically challenged, women and children to shelters much before the cyclone approaches.
- Cooked food through free kitchen, safe drinking water, health and sanitation facilities must be arranged at the shelters. Lighting arrangement may also be made.
- Availability of sufficient food stuff in hostels of all residential schools including those of ST & SC Development Department should be ensured.
- Provision of food and other essential relief items may also be made for other affected people in need of assistance.
- All cyclone and flood shelters should be made ready to house the people. Generator, inflatable tower light, mechanical cutters and other equipment available in shelters should be put to test run.
- The livestock and domestic animals in vulnerable should be evacuated to safer places. No cattle should be left tied in kutcha house.
- District Emergency Operation Centre and control rooms of the offices of other Departments must operate round the clock.
- Flood is always associated with cyclone. Hence, necessary arrangement to address the flood situation, if any, may also be made.
- 300 power boats with crew and adequate quantity of POL of SRC was ready & prepositioned in different districts.

- All offices should make their back-up power arrangement for peak period. Generators available in the different offices including health institutions should be immediately checked and adequate fuel stored.
- Necessary advance arrangements may be made through the concerned departments for restoration of the damaged roads immediately after the cyclone subsides.
- Steps should be taken to disseminate correct information about the upcoming cyclone among the people and with advice not to panic.
- Fisheries and ARD Department to take necessary steps to communicate the warning messages to marine fishermen

Dissemination of Warnings

- All cyclone bulletins and warning messages shared by IMD disseminated with Key State level Officers, Collectors and Media
- DD, AIR and other electronic media made arrangements for broadcast/ telecast the same for information of Public
- District Administration disseminated the warning through official channels and PRI members
- Public address systems were used for dissemination at local level
- Fisheries and ARD Department communicated the warning messages to marine fishermen

10.10.2018

- The Collectors were specifically directed to ensure complete evacuation of people living in low lying areas and in kutcha houses to safer places by 10.10.2018 evening.
- **About 3.00 lakh** people were shifted in the 24 hours preceding the landfall of the cyclone.
- Free Kitchen centers were opened from the night of 10th October 2018 for the evacuated people.
- The cattle population was also shifted to safety and cattle feed/ fodder arrangements were made for them.

Deployment of Disaster Response Force

26 Teams of ODRAF, 14 Teams of NDRF with emergency equipment were deployed to 16 districts for search, rescue & relief operation in the areas affected by cyclone & flood. The district wise deployment is given below.

Sl.No.	District	NDRF Teams	ODRAF Teams
1	Ganjam	4	4
2	Gajapati	2	2
3	Puri	2	-
4	Kendrapara	1	-
5	Nayagarh	-	-
6	Bhadrak	1	-
7	Jagatsinghpur	1	3
8	Jajpur	1	-
9	Khordha	-	3
10	Cuttack	-	1
11	Balasore	1	3
12	Mayurbhanj	-	3
13	Kalahandi	-	2
14	Boudh	-	2
15	Sambalpur	1	-
16	Rayagada	-	3
	Total	14	26

Besides the above deployment, Fire Services Teams in each block of the districts were kept in readiness for any eventuality.

Relief & Rescue Operation

Evacuation

360132 People were evacuated to safer places during cyclone/ flood. Evacuated persons were kept in temporary shelters. They were provided with adequate quantity of dry food as well as cooked food through free kitchen at **1612** centers.

Emergent Relief

Emergent relief was distributed in the flood affected villages. 6827.85 MT of rice, 66.93 MT of Chuda (flattened rice), 6.675 MT of Guda (Juggery) were distributed to the affected people of Gajapati district. In addition to that the dry foods, candles, matchboxes, kerosene and other materials were distributed.

Food Assistance (GR in Cash)

All affected families of Ganjam, Gajapati and Gunupur Sub- Division of Rayagada were given relief for 15 days. Food assistance @ Rs. 60/- per adult per day and Rs. 45/- per child per day were given to the affected persons.

Air Dropping

Two helicopters of Indian Navy were requisitioned for airdropping of food packets in the inaccessible and marooned areas of Aska, Purusottampur & Patrapur blocks of Ganjam district. 2120 of dry food packets had been air-dropped.

Closure of schools

Keeping in view the possible adverse impacts of the impending Severe Cyclonic Storm "TITLI", on 09.10.2018, it has been decided for closure of all schools, colleges and anganwadi centres in the districts of Gajapati, Ganjam, Puri and Jagatsinghpur kept closed on 10th and 11th of October, 2018. On 10th October, again keeping in view the adverse effect of this cyclone, Govt. had decided for closure of all Anganwadi Centres, Schools & Colleges on 11 – 12 October, 2018.

Polythene Sheet Distribution

1,54,528 polythene sheets were distributed in Gajapati and Ganjam districts to cyclone, flood & landslide victims.

Health and Sanitation Measures

In addition to the stock of medicines in the districts headquarters stored prior to the cyclone, essential drugs like halogen tablets, antibiotics, paracetamol tablets, antacids, snake bite injections, bleaching powders and ORS packets were rushed to all the affected districts. Medical teams were deployed in affected districts. Essential medicines and vaccines were distributed in the affected areas to prevent epidemics. State level officers visited and camped in the cyclone & flood affected areas. Dis-

infection of drinking water sources were carried out regularly. The detail health care measures undertaken by Health Department are as follows.

Medical Relief Centers opened	:	193
Mobile Team Deployed	:	86
No. pregnant women shifted to Maa Gruha/ Delivery point	:	348
ORS packet distributed	:	1230000
Halogen tablets distributed	:	5070000
Minor Ailment Treated	:	46361
Inj. ASV supplied	:	2500
I.V Fluids Supplied	:	80000
Bleaching Powder (25kg. bag) Supplied	:	5450
Cleaning Activities conducted	:	5659 villages
Drinking Water Sources disinfected	:	113103

Animal Care

The detail measures undertaken in veterinary sector is as follows.

Cattle feed supplied to affected areas for distribution (Ganjam & Gajapati)	:	711 MT
Animal vaccinated	:	208462
Animals treated	:	129637
Veterinary Team deployed	:	158
No. of veterinary camps opened	:	1798
Carcass disposed	:	48858 (including poultry)

Drinking Water

Piped water supply sources in rural as well as urban area were submerged under floodwater. The pumps and pipes were filled with sand in some places causing severe damage to the water supply system. However, efforts were made to restore the system either temporally or permanently. However, water were supplied through

tankers. Mobile vans were deployed for disinfections and repair of tube wells. The detail measures undertaken in drinking water sector is as follows.

Water pouches distributed :621900

Water tanker deployed : 62

Mobile Van/ Team Engaged :37

PWS Restored :655

Tube wells disinfected :29696

Mobile Water Treatment Plant deployed to Ganjapati District : 2 nos.

Repair and restoration of power supply

Power supply to 8,86,606 consumers were restored.

Restoration Measures

Extensive damage was occurred to public properties, mainly roads, river/canal embankments, power supply/water supply installations and telecommunication infrastructure. The concerned departments were advised to take up restoration work on war-footing with the available funds.

Sl. No.	Department	Restoration Measures Undertaken
1	Works Dept.	Breach Closed on PWD Roads- 67 out of 67 occurred in Ganjam, Rayagada, Gajapati & Kandhamal districts. Breach Closed on NH roads - 6 out of 6 occurred in Ganjam&Gajapati districts
2	RD Dept.	568 roads were cleared out of 570 roads damaged in Rayagada, Gajapati, Kandhamal & Ganjam districts.
3	Forest & Environment	8165 uprooted trees were cut to clear the roads in Gajapati, Ganjam and Rayagada district and made trafficable.
4	Energy Dept.	No. of Consumers Restored- 8,86,606 consumers.

CHIEF MINISTER'S PACKAGE

To ameliorate the suffering of the affected people, the State Government decided to implement the following package:

Agriculture Sector:

1. Agriculture Input subsidy will be provided to the small and marginal farmers who have sustained crop loss of 33% and above @ Rs. 6,800/- per hectare of land in rainfed/non irrigated areas, Rs.13,500/- per ha of land in areas under assured irrigation, and Rs.18,000/- per hectare for all types of perennial crops. Perennial crops will include mango, cashew, coconut, Kewra, Betel vine etc. The assistance shall be provided to the actual cultivators. **[Action: SRC / Agriculture & FE Deptt.]**
2. Agricultural input subsidy to any affected farmer shall not be less than Rs.2000/- for perennial crops and Rs.1000/- for other crops. **[Action: SRC]**
3. 1,20,000 no. of pulses, 30,000 oilseed minikits, and 50,000 vegetable seed kits totalling to 2,00,000 nos. of special minikits shall be supplied to the Titili affected farmers during Rabi 2018-19. **[Action: Agriculture & FE Deptt.]**
4. 20,000 hectares of demonstration programmes of different crops will be taken up in Titili affected districts in the ensuing Rabi season. **[Action: Agriculture & FE Deptt.]**
5. 20,000 hectares of plantation crops (cashew, mango, coconut, kewra, sericulture plantations etc.) affected by cyclone Titili will be rejuvenated along with support for inter-cropping package for three years, in order to provide income support in the initial period to the farmers, while the plantations become fruit-bearing. **[Action: PR & DW Deptt. / Agriculture & FE Deptt. / HT&H Deptt.]**
6. Special assistance will be provided to the affected area of 2,000 hectares under sugarcane for demonstration on Sustainable Sugarcane Initiative @ Rs.20,000/- per Ha. or Ratoon Crop Management @ Rs.12,500/- based on the farmer's requirement. **[Action: Agriculture & FE Deptt.]**
7. Incentive will be provided to 2,000 farmers @ Rs.7,000/- per unit for cultivating Root and Tuber crops. **[Action: Agriculture & FE Deptt.]**
8. Incentive @ Rs.10,000/- unit will also be provided for repair and renovation of shednet and thatched structure for restoration of mushroom units to 500 farmers. **[Action: Agriculture & FE Deptt.]**

9. 1000 pump sets shall be provided with 50% subsidy limited to a maximum of Rs.15,000/-. **[Action: Agriculture & FE Deptt.]**
10. 1000 nos. of Solar pump sets (0.5 HP) will be made available to affected farmers @ 90% subsidy limited to Rs.54000/- per pump set under Saura Jalanidhi.**[Action: Agriculture & FE Deptt.]**
11. 5000 Sprayers will be made available to the affected farmers in the "Titili" affected areas at a subsidy of 50% limited to maximum of Rs.3800/- for battery operated sprayers and Rs.600/- for hand operated sprayers.**[Action: Agriculture & FE Deptt.]**
12. For pulses and oilseeds crops, Government has decided to train 75,000 nos. of affected farmers by conducting 750 number of camps to adopt seed treatment with free supply of seed treatment chemicals to cover 75,000 acres for increasing production in Rabi crops.**[Action: Agriculture & FE Deptt.]**
13. Fruit saplings will be distributed to sustain livelihoods of 50,000 affected farmers @ 5 mango grafts and @ 4 coconut seedlings per family. **[Action: Agriculture & FE Deptt.]**
14. Immediate steps will be taken to arrange and distribute quality seeds in sufficient quantity for alternate cropping in Rabi season.**[Action: Agriculture & FE Deptt.]**
15. Odisha Lift Irrigation Corporation shall take immediate steps to repair the Lift Irrigation Points in all the affected villages on priority. Steps shall be taken to operate all LI points during Rabi season. Energy Department shall energised the LI Points immediately. **[Action: Water Resources Deptt. /Energy Deptt.]**

Farm Credit:

16. Short Term Kharif loans advanced in the affected areas during Kharif 2018 having crop loss of 33% and above shall be converted into Medium Term (Conversion) Loan.**[Action: Cooperation Deptt.]**
17. Due date of Kharif short term loan advanced in the affected areas shall be extended up to 30th September, 2019 to facilitate conversion of such loans into Medium Term (Conversion) Loans. **[Action: Cooperation Deptt.]**
18. Expeditious steps will be taken to organise Joint Liability Groups(JLG) by covering maximum number of share croppers / Oral lessees to provide them credit during current Rabi season.**[Action: Cooperation Deptt.]**

19. Expeditious steps will be taken to conduct crop cutting experiments to settle the claims of the affected insured farmers under crop insurance scheme, PMFBY, with risks of localized calamity and mid-season adversity. [Action: Agriculture & FE Deptt./Cooperation Deptt.]

Animal Resources Development Sector:

20. **Assistance to farmers for replacement of animals** - Compensation shall be provided towards loss of animal @ Rs.30,000/- per milch cow and buffalo (up to 3 animals), Rs.25,000/- per draught animal (up to 3 animals), Rs.16,000/- per calf (up to 6 animals), Rs.3,000/- per goat (up to 30 animals), Rs.50/- per bird (maximum Rs.5,000/-). [Action: F & ARD Deptt.]
21. **Construction of cow shed damaged during cyclone** – 10,000 farmers will be supported @ Rs.1.13 lakh for restoration of cow sheds. [Action: F & ARD Deptt. / PR & DW Deptt.]
22. **Construction of goat shed damaged during cyclone** – 10,000 farmers will be supported with construction of goat shed @ Rs.44,000/- per shed. Affected farmer will get assistance for only one animal shed, either for cow shed or goat shed. [Action: F & ARD Deptt.]
23. 75% subsidy will be given to 1000 farmers to assist them with 10 goats and 1 buck at a unit cost of Rs.66,000/- [Action: F & ARD Deptt.]
24. For nourishing milch cattle to overcome the stress, 5000 farmers will be supported with 500 kgs of cattle feed to the Dairy farmers in the affected areas. [Action: F & ARD Deptt.]
25. **Livelihood through backyard poultry** – 20,000 farmers in the affected areas will be provided with 50 nos. of 4 weeks old chicks and Rs.500/- towards night shelter. [Action: F & ARD Deptt.]
26. **Support to farmers for dairy farming:** About 350 dairy cows will be provided to those dairy farmers who have lost dairy cows for restoring their livelihoods. [Action: F & ARD Deptt.]

Fisheries Sector:

27. To provide input assistance to the affected fish farmers whose tanks/ponds have been damaged with loss of fish and fish seeds, it is envisaged to provide financial assistance up to 75% @ Rs.1.125 lakh per ha. [Action: F & ARD Deptt.]

28. Financial assistance of @ Rs.22,500/- per boat and Rs. 15,000/- per net will be provided for fully and partially damaged boats and nets.[Action: F & ARD Deptt.]
29. Financial assistance of @ Rs.60,000/- per boat and Rs. 15,000/- per net will be provided for fully and partially damaged boats and nets of Marine and Chilka Fishermen .[Action: F & ARD Deptt.]

Handicrafts & Handlooms:

30. Under Handicrafts/Handloom sector, assistance of Rs.4100/- per artisan for replacement of tools/equipment and Rs.4100/- per artisan for loss of raw material/goods in process/finished goods shall be provided.[Action: HT & T Deptt.]

Sericulture:

31. Sericulture farmers shall be given input subsidy @ Rs.4,800/- per hectare for Eri, Mulberry, Tussar. [Action: HT&T Deptt.]
32. **Rearing house for sericulture farmers:** About 125 no. of affected sericulture farmers will be supported @ Rs.1.75 lakh for completed damaged Rearing house and Rs.0.57 lakh for partially damaged Rearing house. [Action: PR & DW Deptt. / HT & H Deptt.]

Support to Groups:

33. In order to intensify the interventions, 200 Producers' Groups will be promoted covering 30,000 farmers. Each Producer Group will be supported with Rs. 3.00 lakh towards establishment and institution development.[Action: PR & DW Deptt.]
34. Additional seed money of Rs.5000/- will be given to the affected women SHGs in the affected areas who have taken up cultivation and sustained crop loss.[Action: WCD & MS Deptt.]

Land Revenue:

35. 100 percent remission in respect of cess on land revenue and compulsory basic water rate will be given to farmers where the crop loss is 33% or more.[Action: Revenue & DM Deptt.]

Education:

36. School fees and School examination fees up to High School level in Government Schools shall be waived in the affected areas.[Action: School & Mass Education Deptt.]
37. Two pairs of School uniforms and text books shall be provided to the children up to Elementary School level in the affected areas.[Action: School & ME Deptt.]

IMPACT

Area Affected:

Sl. No.	District	Blocks Affected	Villages Affected	ULBs Affected	Population Affected	Houses Damaged	Human Casualty
1	Balasore	7	222		46784	539	
2	Cuttack	11	382	3	332971	977	
3	Dhenkanal	3	66	2	463	814	
4	Gajapati	7	1636	2	577817	34278	47
5	Ganjam	22	3250	18	3950000	14314	19
6	Jagatsinghpur	1	30		13923	6	
7	Jajpur	1	2		123	195	
8	Kandhamal	10	385		6780	905	02
9	Kendrapara	9	461		381337	0	
10	Keonjhar	2	6		60	38	01
11	Khordha	9	242	3	38347	1361	
12	Mayurbhanj	10	57		3080	688	01
13	Nayagarh	5	130	1	1577	768	01
14	Puri	11	464	2	340210	1641	
15	Angul	4	55		925	869	01
16	Rayagada	9	860	3	161377	2194	
17	Bhadrak	7	443	2	175380	2786	
	Total	128	8691	36	6031154	62373	72

Livestock Affected:

7.60 Lakh livestock were affected due to cyclone & floods. The district-wise figures of affected livestock are given in following table.

Sl.	District	Livestock Affected			Total
		Large	Small	Poultry	
1	Puri	1896	76	3250	5222
2	Gajapati	193708	121831	214822	530361
3	Ganjam	91646	48428	50275	190349
4	Kandhamal	6649	7764	3480	17893
5	Rayagada	5611	3090	7581	16282
6	Cuttack	285	84	150	519
	Total	299795	181273	279558	760626

Land Slide:

Land slide occurred at village Baraghara under Gangabada GP of Gajapati District and at Bengedangaghat, Daringibadiin Kandhamal District due to heavy rainfall.

The major casualties under the influence of the cyclone "Titli" and accompanied extremely heavy rain was occurred in village Baraghara under Gangabada GP of Gajapati District. 61 families of the village moved to safe places but 13 families did not go out of their houses in spite of repeated warnings. On 11.10.2018 at 1.00 AM, huge landslide took place. 18 persons have died.

Detail list of human casualties:

List of Casualty due to Cyclone "TITLI" & subsequent floods-2018			
Sl. No	Name of the district	Name & address of the deceased	Age
1	2	3	4
1	Gajapati	Ritu Sabara, D/o Satrugana Sabara, Vill-Didingguda, GP-Alada, Block- Kasinagar	16
2	Gajapati	Uditi Sabara, S/o Gedia Sabara, Vill-Engarada, GP-Ragidi, Gumma Block	16
3	Gajapati	Satya Chandra Mohapatra, S/o Karunakar Mohapatra, Basudevpur, Bhadrak	30
4	Gajapati	Kausalya Sethi, Basudevpur, Bhadrak	21
5	Gajapati	Laxmi Sabara, W/o-Narasingha Sabar, Vill-Bengasahi, GP-Gangabada, Block-Rayagada	23
6	Gajapati	Srinibas Sabara, S/o-Late Endu Sabara, Vill-Badapachadia, GP-Gangabada, Block-Rayagada	60
7	Gajapati	Sumitra Bhuyan, W/o-Dandapani Bhuyan, Vill-Baraghara, GP-Gangabada, Block-Rayagada	40
8	Gajapati	Dandapani Bhuyan, S/o- Late Hari Bhuyan, Vill-Baraghara, GP-Gangabada, Block-Rayagada	35
9	Gajapati	Lalu Behera, S/o-Gangadhar Behera Vill-Baraghara, GP-Gangabada, Block-Rayagada	5
10	Gajapati	Gangadhar Behera, S/o-Late Madhaba Behera, Vill-Baraghara, GP-Gangabada, Block-Rayagada	45
11	Gajapati	Dilli Sabara, S/o-Rama Sabara, Vill-Baraghara, GP-Gangabada, Block- Rayagada	8
12	Gajapati	Gangadhar @Ganga Jani, S/o-Somanath Jani, Vill-Baraghara, GP-Gangabada, Block- Rayagada	18

13	Gajapati	Jaya Chandra Bhuyan, S/o-Late Baya Bhuyan, Vill-Baraghara, GP-Gangabada, Block- Rayagada	
14	Gajapati	Basanti Bhuyan, W/o-Krushna Bhuyan, Vill-Baraghara, GP-Gangabada, Block- Rayagada	50
15	Gajapati	Minakshi Sabara, D/o-Rama Sabara, Vill-Baraghara, GP-Gangabada, Block- Rayagada	18
16	Gajapati	Dinesh Kumar Bhuyan, S/o-Krushna Bhuyan, Vill-Baraghara, GP-Gangabada, Block- Rayagada	7
17	Gajapati	Somanath Jani, S/o-Laxman Jani, Vill-Baraghara, GP-Gangabada, Block- Rayagada	55
18	Gajapati	Debendra Bhuyan, S/o-Raju Bhuyan, Vill-Baraghara, GP-Gangabada, Block- Rayagada	5
19	Gajapati	Sirimani Jani, D/o-Late Somanath Jani, Vill-Baraghara, GP-Gangabada, Block- Rayagada	22
20	Gajapati	Basumati Bhuyan, D/o Krushna Bhuyan, Vill-Baraghara, GP-Gangabada, Block- Rayagada	18
21	Gajapati	Champa Bhuyan, W/o Late Baya Bhuyan, Vill-Baraghara, GP-Gangabada, Block- Rayagada	63
22	Gajapati	Smt. Chandramani Sabara, W/o Sundar Sabara, Vill-Gurusahi, GP-Lailai , Block-Rayagada	34
23	Gajapati	Daya Raita, Vill-Mada, GP-Koinpur, Block-Rayagada	55
24	Gajapati	Tuna Sabara, Vill-Mada, GP-Koinpur, Block-Rayagada , Gajapati	3
25	Gajapati	Patra Sabara, Vill-Mada, GP-Koinpur, Block-Rayagada , Gajapati	65
26	Gajapati	Puni Behera, W/o Rama Chandra Behera, Bhuyan Sahi, GP-Ramagiri, R.Udayagiri Block, Gajapati	50
27	Gajapati	Malati Raita, W/o Trinath Raita, Vill-Mada, GP-Koinpur, Block-Rayagada , Gajapati	25
28	Gajapati	Sambit Raita, S/o Trinatha Raita, Vill-Mada, GP-Koinpur, Block-Rayagada , Gajapati	2
29	Gajapati	Sabita Sabara, W/o Hari Sabara, Vill-Mada, GP-Koinpur, Block-Rayagada	35
30	Gajapati	Sekhara Sabara, Vill-Lengasahi GP-Koinpur, Block-Rayagada , Gajapati	42
31	Gajapati	Biju Jani, @ Karjee, S/o Somanath Mandala, Vill-Talamunda, GP-Gandahati, Block-Rayagada	12
32	Gajapati	Bonita Dora, Vill-Atankapur, GP-Laxmipur, Block-Rayagada	7
33	Gajapati	Sukru Dalai, S/o Karjee Dalai, Vill-Dalaisahi, GP-Khanaga, R.Udayagiri Block	50
34	Gajapati	Jagadish Karada, S/o Janardan Karada, Village- Parisala, Village- Parisala	50

35	Gajapati	Pradhani Bhuyan, S/o Late Tarun Bhuyan, Village- Koinpur, Village- Koinpur, GP- Koinpur, Block- Rayagada	56
36	Gajapati	Demi Behera, Vill-Sanasada, Block - R. Udayagiri	55
37	Gajapati	Jutani Mandal, W/o Saiban Mandal Vill-A.Antarali, Block-R.Udayagiri	65
38	Gajapati	Ashri Jani, Vill-Suaba, GP-Koinpur, Tahasil-Rayagada	75
39	Gajapati	Jamini Bhuyan, Vill-Madaba, GP-Koinpur, Block - Rayagada	45
40	Gajapati	Chandra Bhuyan, Vill-Madaba, GP-Koinpur, Block - Rayagada	60
41	Gajapati	Hadi Badamundi, Vill-Sanasada, Block - R. Udayagiri	80
42	Gajapati	Dukha Bisoyi, Vill-Patar, GP-Ramagiri, Block - R. Udayagiri	65
43	Gajapati	Arjuna Ragasa, S/o Sri Ramada Ragasa, Vill-Kanheipur, GP-Kujasingh, Tahasil-Gumma, PS-Sarango	39
44	Gajapati	Didima Sabar, S/o-Late Kumar Sabar	59
45	Gajapati	Sunil Raita, S/o Trinatha Raita, Vill-Mada, GP-Koinpur, Block-Rayagada , Gajapati	4
46	Gajapati	Purnami Mandala, D/o Mantu Mandala, Vill-Mada, GP-Koinpur, Block-Rayagada	6
47	Gajapati	Lunguri Mandala, W/o Late Gumma Mandala, Vill-Talamunda, GP-Gandahati, Block-Rayagada	55
48	Gajapati	Pramita Bhuyan, D/o Dandapani, Village- Baraghara, GP-Gangabada, Block Rayagada	6
49	Ganjam	Rajeswari Nayak, D/O-Sudarshan Nayak, Vill-K. Nuagam, Block/ Tahasil -Chikiti	14
50	Ganjam	Prafulla Malik, S/o Prahallad Malik, Vill-Ambakona, Block/ Tahasil - Surada	45
51	Ganjam	Smt. Rajani Mallik, W/o-Bijaya Mallik, Vill-Bhutapankal, Block /Tahasil - Surada	45
52	Ganjam	S. Ramu, S/o S. Laxhmeya, Vil- Boripeta, Dist.- Vijayanagaram, Andhra Pradesh	21
53	Ganjam	B. Sateya, S/o B. Daneya, Vil- Boripeta, Dist- Vijayanagaram, Andhra Pradesh	29
54	Ganjam	Saranga Bhuyan, S/o Ramachandra Bhuyan, Vill.-Tadingi, GP-Burutal, Thl.- Patrapur	40
55	Ganjam	Sania Sabara @ Karjee, S/o Laba Sabara, Vill. – Abandia, GP-Burutal, Tahasil- Patrapur	38
56	Ganjam	Parbati Pradhan, W/o Kantaru Pradhan, Village- Sanagam, Tahsil- Patrapur	60
57	Ganjam	Mangu Karjee @ Babana Karjee, S/o Chandra Karjee, Village-Babanasahi, GP- Tumba, Tahasil-Patrapur	55

58	Ganjam	Lingaraj Pradhan, S/ o Bira Pradhan, Village- Kuragada, GP- Burutal, Tahasil- Patrapur	75
59	Ganjam	Nakula Malik, S/o Sukuta Malik, Vill- Bhutapankal, Tahsil- Surada	45
60	Ganjam	Kantaru Pradhan, S/o Jada Pradhan Village- Sanagam, GP- Ankuli, PS- Jarada, Tahasil-Patrapur	67
61	Ganjam	V. Laxman Rao, S/o Late V. Naraya, Village- Baripeta, PS- Poos petirega, Dist.- Vijayanagaram, Andhrapradesh	36
62	Ganjam	Bijay Malik, S/o Sukadev Malik, Vil- Bhutapankal, Tahsil- Surada	50
63	Ganjam	Madhu Malik, S/o Bijay Malik, Vil- Bhutapankal, Tahsil- Surada	25
64	Ganjam	Pupi Malik, S/o Ananda Malik, Vil- Bhutapankal, Tahsil- Surada	22
65	Ganjam	Hadiani Nayak, W/o Krushna Nayak, Vil- Haridapatu, GP- Burutal, PS- Jarada, Tahsil- Patrapur	63
66	Ganjam	Sita Bhuyan, W/o-Kailas Bhuyan, Vill.- Kamalakote, GP- Burutal, PS- Jarada, Tahsil- Patrapur	24
67	Kandhamal	Janaka Kanhar, S/o-Jitendra Kanhar, Vill-Jiginagaon, GP- Kainjhar, PS/ Tahasil-Tikabali	19
68	Kandhamal	Sriram Behera, S/o Sunadha Behera, Vill-Nanigunda, (Baradakhole) Kandhamal	35
69	Keonjhar	Subhalaxmi Mahanta, D/o-Kamalakanta Mahanta, Vill- Maniabindha	
70	Nayagarh	Abhimanyu Majhi, S/o-Mahadeb Majhi, Vill- Landabadu, Tahasil-Odagaon, Nayagarh	60
71	Angul	Sampei Das, W/o-Bijaya Das, Vill-Anganbandha	
72	Mayurbhanj	Sameer Sing, S/o-Krushna Sing, Vill-Singarpur, PS-Baisinga, dist-Mayurbhanj	

Release of PMNRF deceased/ injured persons:

Hon'ble Prime Minister of India had sanctioned ex-gratia assistance of Rs. 200,000/- each to the next of kin of the persons deceased and Rs.50,000/- each to the persons, who got seriously injured due to cyclone " TITLI" & landslides in 2018 in Odisha. Accordingly Rs.142.00 lakh was released to following districts under PMNRF received from GOI. Besides this amount, Rs 4.00 lakh out of SDRF also had been sanctioned to NOK of the bereaved families.

Damage to Private Properties

Crop Area Affected:

3.97 lakh hect. of agriculture area were affected due to cyclone/ flood. Out of this 2.79 lakh hectares of cropped area sustained crop loss of more than 33% in 10 districts. Similarly, 1325.10 hectares of cropped area were sand cast.

Sl. No.	Districts	Total Agricultural area Affected [in Hect.]	Area with crop loss more than 33% (in Hect.)	Area with sand cast more than 3" (in Hect.)
1	Balasore	17100.00	2220.81	0.00
2	Bhadrak	29160.30	26120.63	0.00
3	Cuttack	14686.00	263.98	6.00
4	Gajapati	52310.00	52814.80	808.10
5	Ganjam	193768.41	193768.41	456.00
6	Jagatsinghpur	13982.00	0.00	0.00
7	Jajpur	3641.00	2301.00	0.00
8	Kandhamal	18917.00	661.71	25.00
9	Kendrapara	136.00	0.00	0.00
10	Khurda	7586.00	617.39	0.00
11	Mayurbhanj	6798.00	89.00	0.00
12	Nayagarh	7123.00	0.00	0.00
13	Puri	2760.00	0.00	0.00
14	Rayagada	28802.00	12962.64	0.00
Total		396769.71	278857.72	1325.10

House Damage:

62,373 houses were damaged due to cyclone & floods and landslide out of which 20,047 houses were fully & severely damaged and 62,115 kutcha and 5,320 pucca houses were partially damaged. 1,514 huts and 3,245 cowsheds were damaged.

Sl. No	Name of the Affected District	Fully/ severely damaged Pucca/ Kutcha houses	Partially Damaged Pucca houses	Partially damaged Kutcha houses	Hut damaged	Cow Shed damaged	Total
1	Angul	0	0	869	0	0	869
2	Balasore	16	2	474	31	16	539
3	Bhadrak	62	275	2154	208	87	2786
5	Cuttack	8	3	959	4	3	977
6	Dhenkanal	11	0	812	0	0	814

7	Gajapati	19594	1853	12060	771	0	34278
8	Ganjam	1114	2862	35253	342	2855	14314
9	Jagatsinghpur	0	0	6	0	0	6
10	Jajpur	0		187	5	3	195
11	Kandhamal	23	7	1691	53	11	905
12	Kendrapara	0	0	0	0	0	0
13	Keonjhar	0	0	38	0	0	38
14	Khurda	36	0	1242	7	76	1361
15	Mayurbhanj	46	0	550	72	20	688
16	Nayagarh	3	30	677	12	46	768
17	Puri	9	0	1582	0	50	1641
18	Rayagada	239	288	3561	9	78	2194
	Total	20047	5320	62115	1514	3245	62373

Loss of Livestock:

392 nos. of large animals, 2396 small animals & 34764 poultry birds had lost lives due to Cyclone, floods& landslide.

Sl. No.	Name of the District	No. of Livestock/ Birds lost				
		Milch animal		Draught Animal		Poultry Birds
		Buffalo/ Cow	Sheep/ Goat	Camel/ Horse/ Bullock	Calf/ Donkey/ Pony	
1	Ganjam	42	75	5	60	26258
2	Gajapati	117	2111	198	68	5076
3	Rayagada	5	22	4	27	30
4	Kandhamala	2	22	18	8	
5	Puri	1	0	0	3	3250
6	Cuttack	0	0	0	0	150
	Total	167	2230	225	166	34764

Damage to Fisheries Sector:

37 nos. of boats & 161 nos. of nets were fully damaged and 398 nos. of boats & 308 nos. of nets were partially damaged due to cyclone. 85.49 Hectares of fish seed farms were damaged due to cyclone & flood. 456.45 Hectares of fish ponds were damaged due to this cyclone & flood.

Damage to Handloom, Handicraft and sericulture Sector:

In handloom sector 12 farmers lost their Raw material/ goods in process/ finished product and 2 farmers lost their tool & equipment. In handicraft sector 15

farmers lost their raw material/ goods in process/ finished product and 7 farmers lost their tool & equipment. Similarly, in sericulture sector 133 hectares of Mulberry/ Eri plantation of 544 farmers were damaged.

Damage to public infrastructure:

Massive and unprecedented damage occurred to public properties like canal/ river embankments, roads, bridges, culverts, drains, water works, tube wells, LI points, electrical installations, telecommunications infrastructure, Govt. buildings etc. The Dept.wise damages caused to public infrastructure are given below.

Departments	Sector	Items	Damage in physical terms
Works	PWD Roads	No. of breaches	67 nos
		Length of Road damaged	2486.37
		No. of culverts damaged	25 nos.
		No. of culverts washed away	430 nos.
	NH Roads	No. of breaches	7 nos.
		Length of Road damaged	395.24 km
		No. of culverts damaged	13 nos.
		No. of culverts washed away	1 nos.
		Land Slides	3.150 km
Rural Development	Rural Roads	No. of Roads damaged	1406 nos
		Length of Road damaged	2743.22 km
		No. of breaches	828 nos
		No. of CD/Bridge damaged	600 nos
		No. of CD/Bridge washed away	40 nos
	Buildings (Health, Revenue, Education, RD, Finance, Home, FARD & others)	No. of building damaged	378
Housing & Urban Development	Urban Roads	Length of drain damaged	536 nos
	Urban Water Supply System	Repair of water supply system , hire charges of Water Tanker & Gen Sets	151
Panchayati Raj & Drinking Water	Panchayat Roads	No. of Roads damaged	27298.33 km
		No. of culverts damaged	2193 nos
	Buildings	PS/ GP Building Damaged	5486

		Primary School Building Damaged	2322
		AWC Damaged	1119
	Drinking Water	Pipe Water Supply System/ Tube Wells	3360
Water Resources	River Embankments	No of breaches	125 nos
		Length of breach in Km	13.09 KMs
		No of partial damage	564 nos
		Length of partial damage in Kms	346.05
	Canal Embankments	No of breaches	189 nos
		Length of breach in Km	6.43 kMs
		No of partial damage	574 nos
		Length of partial damage in Kms	246.03
	River/ canal Roads	No. of roads damaged	67
		Length of roads damaged	178.58 Kms
	Buildings	No. of Building Damaged	55
	M I projects (Flow)	No of Minor Irrigation projects damaged(AfluxBund,CanalBanks, Head Works)	289 nos
		No. of Buildings Damaged	6
	MI Projects(Lift)	No. of LIPs Damaged (Head Works, Distribution System)	1767 nos
Clearance of Drainage channels	Length of drainage channels congested with vegetative materials (Out flanking of Drainage channel at check dam points)	11031 meter	
Energy	33 KV Electrical lines	Lines damaged	176.7 kms
		Nos. of Pole damaged	1077 Nos.
	11 KV Electrical lines	Lines damaged	903.46 kms.
		Nos. of Pole damaged	7462 Nos.
		Distribution Transformers damaged	2598 Nos.
		LT lines damaged	1968.5 kms
		LT line pole damaged	10415 Nos.
Agriculture & FE	Water Harvesting Structure	Structure damaged	322
	Damage to Seed Storage Godown at Paralakhmundi& Farm approach & internal roads		
	Damage to Infrastructure such as Buildings, roads, culverts of horticulture Sector		

ST & SC Dev., Minorities & Backward Classes	School Building	No. of School Building Damaged	158
Textile, Handlooms & Handicrafts	Sericulture	Loss to Plantation	248 Ha.
		Loss to DFL	8400 Nos.
		Loss to Loom	60 Kahan, 4600 Kg & 2500 DFL
		Loss to Infrastructure	5 Nos.
		Loss to Equipment	41 Nos.
		Loss to rearing House	108 Nos.
		Loss to Fencing	399 Ha.
	Handloom	Loss to houses	6 Nos.
		Loss to raw material	12.875bundles
		Loss to Fabrics on Loom	21 Nos.
		Loss to finished products	372 Nos.
		Loss to Loom & accessories	2 Nos.
	Handicrafts	Loss to Teracota cane & Bamboo	
Co-operation	Damaged to Godown-cum-office Building of Cooperative Society in Balasore, Bhadrak, Gajapati, Ganjam, Kandhamal, Khordha, Mayurbhanj, Nayagrah Building of MARKFED in the district of Gajapati, Ganjam&Rayagada		
	Damage to Aska Cooperative Sugar industries		
	Damaged to ARCS Office, Gunupur, Rayagada		
	Damage to Assets of RMC of Gajapati, Ganjam, Rayagada, Boudh, Kandhamala		

Assessment of loss to the life & properties

As per the assessment made by different departments of the State Government as well as the Collectors of the respective affected districts, the total amount required towards different relief measures and immediate repair and restoration of damaged infrastructure in permissible sectors as per the Norms of assistance from SDRF and NDRF was arrived at **Rs.2779.32 crores**. The Department wise assessment of damages is given below.

Sl.	DEPARTMENTS	Loss (Rs. in lakh)
1.	Water Resources Department	
	Loss to rivers & canal embankment	30033.68
	Loss to drainage channels	364.20
	Loss Repair to Minor Irrigation Project	2827.65

	Loss to buildings of MI Sector	120.00
	Loss to Lift Irrigation Projects	1657.38
	Loss to river & canal embankment roads	629.25
	Loss to damaged buildings of WR sector	667.90
2.	Works Department	
	Loss to Roads, Culverts	11695.99
	Loss to NHs maintained by State	1421.00
3	Rural Development Department	
	Loss to Roads, Culverts	28641.53
	Loss to Buildings (PHC/ CHC etc)	1776.20
4	Housing & Urban Development Department	
	Damages to urban roads, drains & culverts	5633.37
	Repair of water supply system tube wells	1712.00
5	Panchayati Raj & DW Department	
	Repair of GP/ PS Roads	44236.33
	Repair of Drinking water supply system	5039.65
	Loss to Panchayat Ghars	8229.02
	Repair of School Buildings	3482.63
6	Agriculture Department	
	Repair/ restoration of damaged Water Harvesting Structure	893.99
	Loss to Seed storage Godown	46.50
	Damage to lift irrigation	7.65
	Damage to infrastructures	204.00
7	Energy Department	
	Repair/ restoration of Electrical lines	13303.18
8	Fisheries & Animal Resources Department	
	Provision of cattle feed	148.98
	Medicines & Animal Care	143.84
	Loss of net and boats	28.70
	Animal/ livestock Loss (Replacement of animal)	314.47
	Disposal of Carcasses	16.29
	Damage to Veterinary Institutions like VD, LAC etc.	253.00
	Repair of damaged fish pond	55.69
	Repair of fish seed farm	4.593

	Loss to Govt. Fish farms & fish fed ice plant	58.25
9	ST & SC Dev., Minorities & Backward Classes Department	
	Repair of School Buildings	684.09
10	Women & Child Dev. Dept.	
	Repair of Anganwadi Centres& other buildings	1728.50
11	Textile & Handloom Dept.	
	Loss to Rural Artisans (Handicraft Sector)	0.86
	Loss to Handloom Sector (Weavers)	7.24
	Loss to Sericulture Sector	341.80
12	Cooperation Department	
	Damage to Buildings of cooperative society	1348.23
	Damage to Buildings of MARKFED	62.65
	Damage to Aska Co-operative Sugar Industries	1510.84
	Damage to ARCS office , Gunupur, Rayagada	1.00
	Damage to assets of RMCs of Gajapati, Ganjam, Rayagada, Kandhamal	85.00
13	Special Relief Commissioner	
	HB Assistance	20944.17
	Ex-gratia for loss of lives	284.00
	Emergent Relief (Gratuitous Relief)	37581.00
	Search & Rescue	1000.00
	De-silting of Agriculture land (Sand cast)	161.662
	Provision of input subsidy to farmers	30766.58
	Provision of Temporary accommodation, food, clothing & medical care	15500.00
	Emergency Supply of Drinking Water	1000.00
	Clearing of Debris	500.00
	Clothing & Utensils	777.21
	Grand Total	277931.75

Submission of Memorandum to GOI:

The State Government submitted a Memorandum to Government of India with a request to release Central Assistance of Rs.2779.32 crore out of National Disaster Response Fund (NDRF).

Visit of Inter-Ministerial Central Team:

In response to Memorandum, an Inter-Ministerial Central Team led by Shri S.K. Shahi, Joint Secretary, Ministry of Home Affairs, Government of India visited the State from 31.10.2018 to 2.11.2018 for an on the spot assessment of the damages in the wake of Very Severe Cyclonic Storm "TITLI" and associate disasters.

Assistance Received From GOI:

An amount of Rs. 341.72 crore was received from Govt. of India out of NDRF towards relief & restoration of lives & properties in the aftermath of cyclone.

Rarest Cyclone "TITLI"

During October 2018, two very severe cyclones were formed on the two sides of the Indian mainland-Luban in the Arabian Sea (7-13 October) – in what the India Meteorological Department called one of the "rarest of rare" occurrences given the unique movement of both these cyclones. While Titili changed its direction and moved towards the northeast after making of landfall at Gapalpur in Odisha, Luban took multiple recurvatures before making a landfall on the Gulf coast.

Hon'ble Prime Minister of India while reviewing the activities of NDMA in its 6th Meeting held on 18th October, 2018 appreciated the effective strategies adopted during the preparatory phase by Govt. of Odisha for ensuring unified action by multiple agencies and speedy mobilization of additional rescue teams, relief material and equipment, and restored normalcy within a short span of time.

Release of Funds :

1. Fund Released to Districts

Sl. No.	Name of the district	Ag. Input subsidy	Sand Cast	HBA	Utensils	Clothing	Ex-Gratia	Replacement of animals	Replacement of net & boat	Fish Pond	Fish Seed Farm	GR in Kind	Free Kitchen (GR)
1	Angul	0		2780800	0	0	400000						
2	Balasore	15101508		3209500	32000	28800				74420	36900		186210
3	Bhadrak	210377871		15254500	124000	111600							
5	Cuttack	2063037	73200	3867900	16000	14400		5000	19200		86100		665841
6	Dhenkanal	0		3644500	4000	3600							
7	Gajapati	570363465	9858820	191477810 0	3918800 0	35269200	19200000	16134800	306900	1474370	27880	476700000	
8	Ganjam	209672268 8	5929200	247491100	2228000	2005200	5200000	3120000	1808400	3165900	19680	3269437000	
9	Jagatsinghpur	0		19200	0	0			36700	512400	213200		
10	Jajpur	28551000		625200	0	0							
11	Kandhamal	4538903	305000	8031700	46000	41400	800000	704000	28600	41480			179315
12	Kendrapara	0		0	0	0					23206		
13	Keonjhar	0		121600	0	0	400000						
14	Khurda	4267074		7586300	72000	64800			467400	19520	45920		69615
15	Mayurbhanj	865428		6471800	210000	189000	400000						75318
16	Nayagarh	0		2753500	6000	5400	400000		205200	14640	39032		
17	Puri	0		6023300	18000	16200		83000					386042
18	Rayagada	108276377		37447600	478000	430200		674500		269620	209100	14000000	26010
19	Angul	0		2780800	0	0	400000						
	Total	3041127351	16166220	2260106600	42422000	38179800	26800000	20721300	2872400	5572350	701018	3760137000	1588351

2. Fund Released to Departments

Sl. No.	Name of the Dept.	Purpose	Amount (Rs.)
1	FS & CW	Cost of Rice, Chuda, Gur etc. (GR-in-Kind)	203149630
2	Energy	Repair restoration of electrical utilities	428552000
3	Handlooms, Textile & Handicraft	Assistance for handloom/ handicraft/ sericulture sector	690000
4	Fisheries & ARD	Organising veterinary health camp	27177000
5	H & UD	Emergency supply of drinking water and repair of drinking water projects	42666000
6	Rural Development	Repair of roads and CDs/bridges	671026000
7	Works	Repair of roads and CDs/bridges	495534000
		Repair of NH maintained by State	101087000
		Repair of Indradyumna & Markandeswar Tank	23382354
8	PR & DW	Emergency supply of drinking water and repair of drinking water projects	503950000
		Repair of roads and CDs/bridges	4402368000
		Repair of School Buildings	348263000
		Repair of AWCs	165350000
		Repair of PS/ GP Buildings	822902000
9	ST& SC Dev.	Repair of School Building	32000000
10	Water Resources	Repair/ Restoration of Major/ Medium irrigation projects	151808000
		Repair/ Restoration of LIPs	77406000
		Repair/ Restoration of MIPs	37558000
11	Home	Cost of Search, rescue, ration allowance etc	4456007
12	OSDMA	Cost of Search, rescue, ration allowance etc	70645
		Total	8539395636

Cyclone "Phethai"

Due to effect of Cyclonic Storm "PHETHAI" over Bay of Bengal, heavy rain was occurred in many Districts of the State during 17 – 18 December, 2018. The heavyrain caused damages to standing Kharif crops. An area of 46644.16 hectares sustained crop loss of 33% & above in 5016 villages under 913 Gram Panchayats of 65 Blocks and 102 wards of 15 ULBs in 13 districts namely Balangir, Bargarh, Boudh, Deogarh, Dhenkanal, Ganjam, Jharsuguda, Kandhamal, Koraput, Nawarangpur, Sambalpur, Subarnapur and Sundargarh as affected due to Unseasonal Cyclonic Rain during 17-18 December, 2018.

Damage to crop due to Unseasonal Cyclonic Rain during 17-18 December, 2018 due to Cyclone "Phethai"

Sl. No.	Name of the affected district	No. of Block affected	No. of GP affected	No. of Village affected	No. of ULBs affected	No. of Ward affected	Paddy Crops (Area in Ha.)			Non-Paddy (Area in Ha.)			Paddy + Non-Paddy
							Area Damaged, 33% & above			Area Damaged, 33% & above			Total area Damaged, 33% & above
							Rainfed	Irrigated	Total	Rainfed	Irrigated	Total	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Bolangir	14	317	1706	5	29	11795.00	1444.00	13239.00	6402.00	0.00	6402.00	19641.00
2	Bargarh	11	140	423	0	0	758.72	1638.25	2396.97	0.00	0.00	0.00	2396.97
3	Boudh	3	67	1046	1	2	4989.33	6905.69	11895.02	0.00	0.00	0.00	11895.02
4	Deogarh	3	35	115	1	1	127.76	195.55	323.31	0.20	10.20	10.40	333.71
5	Dhenkanal	1	7	7	0	0	16.05	0.00	16.05	0.00	0.00	0.00	16.05
6	Ganjam	1	20	34	0	0	14.00	37.35	51.35	0.00	0.00	0.00	51.35
7	Jharsuguda	4	47	114	1	1	502.68	4.46	507.14	0.00	0.00	0.00	507.14
8	Kandhamal	4	8	20	0	0	13.33	3.02	16.35	0.00	0.00	0.00	16.35
9	Koraput	3	6	12	0	0	1.17	11.78	12.95	4.86	0.00	4.86	17.80
10	Nawarangpur	0	0	0	1	1	0.00	5.20	5.20	0.00	0.00	0.00	5.20
11	Sambalpur	9	110	634	3	44	1718.35	3339.13	5057.48	119.85	0.50	120.35	5177.83
12	Subarnapur	6	113	752	3	24	2762.63	2825.95	5588.58	0.00	0.00	0.00	5588.58
13	Sundargarh	6	43	153	0	0	911.17	6.00	917.17	55.00	25.00	80.00	997.17
Total		65	913	5016	15	102	23610.18	16416.38	40026.56	6581.91	35.70	6617.61	46644.16

Cyclone" DAYE"

Tracking of Cyclone

Date: 20.09.2018: As per information received from the Indian Meteorological Department (IMD), the deep depression over west central Bay of Bengal was likely to intensify into a Cyclonic Storm. It was very likely to move west-north westwards and cross south Odisha- north Andhra Pradesh coasts between Kalingapatna &Puri, close to Gopalpur around mid-night of the 20th September 2018 as a Cyclonic Storm with wind speed of 60-70 kmph gusting to 80 kmph.

Date: 21.9.2018: The cyclonic storm "DAYE" crossed south Odisha and adjoining north Andhra Pradesh coast close to Gopalpur during 0030 to 0130 hours IST of 21st September, Lay centered at 0530 hrs IST of today, the 21st September, 2018 over south interior Odisha and neighborhood near latitude 20.0 N and longitude 83.7 E about 65 km east-southeast of Titlagarh (Odisha).

High Level Review Meeting:

The Chief Secretary reviewed the situation at 3.30 PM on 20.09.2018 with Secretaries of key departments and the response forces. All departments were instructed to be in readiness for the situation.

Action Taken at State Level:

- Instructions were issued from the Special Relief Commissioner (SRC) to all Collectors to be in readiness to meet any eventuality.
- Collectors of districts likely to be affected by the cyclonic storm had been asked to assess the situation and evacuate people from low lying areas and those under kutcha hut/ house in vulnerable condition to safe shelters and arrange all basic needs like cooked food, safe drinking water and ensure health & hygiene.
- It had also been instructed to keep Satellite phones ready for fail proof communication and to depute mobile teams for close watch in low lying areas.
- Fishermen were advised not to venture into the sea during next 24 hours. SRC's power boats were ready with crew for relief activity. Multipurpose Flood/ Cyclone shelters were kept in readiness with all necessary arrangements.

- Taking the situation into account, NDRF and ODRAF were deployed in different districts. One NDRF team each has been deployed in Kalahandi, Rayagada, Gajapati, Puri, Nayagarh and Kandhamal districts with a total 17 nos. of boats. One ODRAF team each was deployed to Nabarangpur and Malkangiri Districts. Remaining ODRAF units are in readiness for deployment on short notice.
- Fire Service Units in the respective districts were in readiness to be deployed for search and rescue work where required.
- Holiday of all Government Offices on 21st September 2018 was cancelled in Gajapati, Ganjam, Khurdha, Nayagarh and Puri districts. Collectors of other districts have been advised to take decision for cancelling the holiday after due assessment of the situation at their end.
- The situation was closely monitored at the State Emergency Operation Centre (SEOC) in the Office of the Special Relief Commissioner.

Impacts on Districts:

All the districts received rain on the impact of cyclone "DAYE". In Malkangiri districts, Korkunda Block received 403.0 mm rainfall. The average rainfall of Malkangiri districts was 166.3 mm

Situations on the impact of Daye :

1. MALKANGIRI

- No. of Block affected: 05 (Malkangiri, Kalimela, Kourkonda, Podia & Chitrokonda)
- No. of GPs Affected : 13
- No. of ULBs Affected : 1 (Malkangiri Municipality)
- No. of Wards Affected ; 68
- No. of Village affected : 44 villages
- Population affected: 5200
- No. of House Damaged : 412 (Fully- 129, Partially- 283)-
- No. of Villages Marooned ; 25 (population – 3080)
- Road Communication situation:
 - NH- 326 was cut off between Malkangiri to Kalimela at MV-7 by flood water.

- Road between Potteru to Kalimela was cutoff at Kangurkonda bridge due to over topping of flood water.
- State Highway from Malkangiri to Balimela road was cutoff at 3 places MV-11, Koukonda and MV- 37.
- Malkangiri to Chhattisgarh interstate road was cutoff at Challanguda (Odisha).

Action Taken

- 3080 persons were evacuated to relief camps.
- 11 relief camps opened.
- 10 free kitchen centers opened .
- ODRAF team were deployed at Potteru
- No. of Boats Deployed : 2
- Fire Services team was deployed in Podia.
- No. of Medical Teams Deployed: 8
- Govt. sanctioned seven days Gratuitous Relief to the people affected by cyclone & consequent heavy rainfall/ flood.

2. BALASORE

- Number of Blocks affected: 4 (Nilagairi, Bahanaga, Balasore, Remuna)
- Number Villages affected : 168
- Number of Population affected: 129344
- Number of Houses damaged: 72 (Fully-27, Partially-45)

Action Taken

- Number of persons evacuated: 627
- Number of boats deployed for evacuation: 02
- Number of relief camps opened: 03
- Number of persons accommodated in relief camps: 627
- Free kitchen/ cooked food provided for one day to 627 persons in 2 blocks- Balasore and Nilagiri
- 01 number of cattle camp opened at Baincha and 30 cattle has been accommodated therein.
- Fire Services Unit deployed for evacuation at Baicha and Buanal village of Balasore Block.
- ODRAF team deployed for evacuation at villages Badanuapur of Remuna Block.

3. MAYURBHANJ

- No. of Block affected: 05 (Badasahi, Udala, GB Nagar, Khunta, Kaptipada)
- No. of GPs Affected : 22
- No. of Village affected : 38
- Population affected: 560
- No. of Villages Marooned today : 06 (Population marooned today- 245)
- No. of House Damaged : 47

Gratuitous Relief in Cash

Hon'ble Chief Minister, Odisha directed that Gratuitous Relief was provided at the rate of Rs.60/- per adult per day and Rs.45/- per child below 12 years of age per day for a period of seven days to the people in Malkangiri district affected by cyclone "DAYE" and consequent heavy rainfall/ flood. The amount was credited to the bank accounts of the affected families by the District Administration. Rs.14,83,965/- was released out of SDRF towards GR in Cash for 3792 affected persons.

CHAPTER – IV

DROUGHT

The South West Monsoon, which usually sets in the State in around 10th of June, covered some parts of Malkanagiri district on 8th June 2018 and covered most of the districts on 12th June 2018. The State experienced deficient rainfall of 25.5 percent in the month of June, but surplus rainfall of 28.9 percent in July, 10.1 percent in August, 29.4 percent in September and 19.6 percent in October, 2018 from the long term average rainfall. The cumulative average rainfall of the State from June to October 2018 accounts for surplus of 13.5 percent.

Month	Normal	Rainfall in MM	
		Actual	Deficiency in %
June	216.5	161.4	-25.5
July	339.9	438.1	28.9
August	356.0	392.1	10.1
September	231.9	300.1	29.4
October	114.7	137.2	19.6

Impact on Kharif Crops

Though there was deficit rain in the month of June in most parts of the State, the farmers broadcasted the paddy seeds in medium and low lands. Paddy seeds were also sown in nursery bed to take up transplanting operation. In some Blocks, although the rain gauges located at the Block headquarters recorded good rainfall, it was not evenly distributed throughout the Block area. Such large local variation in rainfall left part of the Block areas rain-starved. Thus, the crop coverage area though fairly met its target, the crops especially the paddy crops were severely hit in some areas.

Drought Monitoring

As per the provisions of Manual for Drought Management 2016, a State Drought Monitoring Cell (SDMC) has been set up in the Odisha State Disaster Management Authority (OSDMA). An expert committee has also been constituted under the chairmanship of Managing Director, OSDMA with experts from various departments and organisations as follows:

1. Managing Director, OSDMA - Chairman
2. Director, Agriculture & Food Production - Member
3. Director, Horticulture - Member
4. Director, Soil Conservation & OWDM - Member
5. Director, India Meteorological Department, Odisha - Member
6. Professor, Agro-meteorology, OUAT - Member
7. Director, National Rice Research Institute (NRRI) - Member
8. DGM, Agriculture Insurance Company - Member
9. Representative from NABARD - Member
10. Deputy Relief Commissioner - Member
11. Engineer in Chief, Water Resources - Member
12. Nodal Officer, SDMC - Member Convener

The SDMC collected available data on various parameters as per the Manual from various agencies and analysed those data for monitoring of the drought situation. The officers of SDMC with members of related Departments also regularly participated in the video conferencing held every Wednesday by the Ministry of Agriculture and Farmers Welfare, Government. Besides, the State Government have constituted the Crop Weather Watch Group Committee under the Chairmanship of the Agriculture Production Commissioner with the following members to monitor the progress of Kharif crop during 2018 on weekly basis.

1. Agriculture Production Commissioner - Chairman
2. Principal Secretary, Department of Agriculture & FW - Member
3. Principal Secretary, Department of Water Resources - Member
4. Special Relief Commissioner - Member
5. Commissioner-cum-Secretary, Department of Cooperation - Member
6. Commissioner-cum-Secretary, Department of Fisheries & ARD - Member
7. Special Secretary, Department of Agriculture & FW - Member
8. Director, Agriculture & Food Production - Member
9. Director, Horticulture - Member
10. Director, Odisha Livelihood Mission, Dept. Of PR & DW - Member
11. Director, Economics & Statistics - Member
12. Director, India Meteorological Department - Member
13. Professor, Agro Metrology, OUAT - Member
14. Managing Director, OSSC Ltd - Member
15. Managing Director, OAIC - Member
16. Agriculturist - Nodal Officer

Mitigation measures taken by the State Government

In response to the severe drought situation, the State Government announced a comprehensive package for mitigation of the drought situation as follows:

- Agriculture input subsidy will be provided to the small and marginal farmers who have sustained crop loss of 33% and above @Rs. 6,800/- per hectare of land in rainfed/ non irrigated areas, Rs.13,500/- per hectare of land in areas under assured irrigation, and Rs.18,000/- per hectare for all types of perennial crops. Agriculture input subsidy will also be provided to farmers other than small and marginal farmers at the same rates subject to a ceiling of two hectares per farmer. The assistance shall be provided to the actual cultivators.
- Agricultural input subsidy to any affected farmer shall not be less than Rs.2,000/- for perennial crops and Rs.1,000/- for other crops.
- One lakh no. of pulse minikits, 30,000 oilseed minikits, and 20,000 vegetable minikits shall be supplied to the affected farmers during Rabi 2018-19.
- 3,000 nos. of pump sets shall be provided with 50% subsidy limited to a maximum of Rs.15,000/-.
- 1,000 nos. of Solar pump sets (0.5 HP) will be made available to affected farmers @ 90% subsidy limited to Rs.54,000/- per pump set under Saura Jananidhi.
- 3,000 Sprayers will be made available to the affected farmers at a subsidy of 50% limited to maximum of Rs.3,800/- per sprayer for battery operated sprayers and Rs.600/- per sprayer for hand operated sprayers.
- Immediate steps will be taken to arrange and distribute quality seeds in sufficient quantity for alternate cropping in Rabi season.
- Odisha Lift Irrigation Corporation shall take immediate steps to repair the Lift Irrigation Points in all the affected villages on priority. Steps shall be taken to operate all LI points during Rabi season. Energy Department shall energise the LI Points immediately.
- Steps shall be taken to energise all the pending Deep Bore Wells in the affected villages on priority.

- Short Term Kharif loans advanced in the affected areas during Kharif 2018 having crop loss of 33% and above shall be converted into Medium Term (Conversion) Loan.
- Due date of Kharif short term loans advanced in the affected areas shall be extended up to 30th September, 2019 to facilitate conversion of such loans into Medium Term (Conversion) Loans.
- Government of India will be requested to provide interest incentive of 3% for Medium Term (Conversion) Loans i.e. at par with crop loans for prompt paying farmers.
- Farmers affected by drought in Kharif shall be provided fresh finance for Rabi cultivation during current Rabi season, which has commenced from 01.10.2018.
- Expeditious steps will be taken to organise Joint Liability Groups (JLG) by covering maximum number of share croppers / oral lessees to provide them credit during current Rabi season in the drought affected areas.
- Expeditious steps will be taken to conduct crop cutting experiments to settle the claims of the affected insured farmers under crop insurance scheme, PMFBY, with risks of localized calamity and mid-season adversity.
- 20,000 numbers of landless, marginal and small farmers in the drought affected GPs will be provided livelihood support in terms of backyard poultry. At the same time, intensive fodder cultivation will be taken up in these GPs through distribution of suitable fodder kits.
- Works will be taken up under MGNREGA by the Panchayati Raj and Drinking Water Department to establish water harvesting structures / de-silting of field channels, diversion weirs etc. Additional 50 mandays will be provided under MGNREGA.
- 100 percent remission in respect of cess on land revenue and compulsory basic water rate will be given to farmers where the crop loss is 33% or more.
- District administration shall keep close watch on money lenders and other unscrupulous elements causing financial hardship to the farmers and Police will initiate tough action against such elements under the Odisha Money Lenders Act and various sections of the I.P.C. The SPs will have the responsibility to proactively deal with this. DIGs will review the matter.

- Tuition fees and examination fees in Government and aided schools and colleges in drought affected areas shall be waived.

The concerned Departments of the Government and the Collectors of the affected Districts were instructed to implement the package announced by the Government to assist the affected farmers.

Drought Declaration

In this situation, there was hue and cry in the field and agitation by farmers with regard to drought situation arisen in some pockets. Also there were reports in Media and representations received from people's representative and farmers' organisations about the drought situation. As such, the District Collectors were directed to conduct joint field enquiry through Revenue & Agriculture field functionaries and report the situation of the districts.

As per the reports received from the District Collectors on the basis of the joint field enquiry by the Revenue and Agriculture field functionaries under the active supervision of the district level officers, it is found that an area of 366081.67 ha. in 6759 villages under 72 Blocks & 106 wards under 21 ULBs of 10 districts have suffered crop loss of 33% and more due to deficient rainfall during Kharif 2018. The Collectors have also furnished corroborative evidences including photographs about the drought situation. The district-wise details of the drought affected areas are given below.

LIST OF DISTRICTS DECLARED AS DROUGHT AFFECTED DURING KHARIF 2018

Sl. No.	District	No. of affected Blocks	No. of affected GPs	No. of affected Villages	No. of affected ULBs	No. of affected wards	Sown area with damage between 33% to 50% to crops	Sown area with damage above 50% to crops	Total sown area with damage >33% to crops
1	2	3	4	5	6	7	8	9	10
1	Bargarh	10	140	678	2	3	38008.00	0.00	38008.00
2	Bolangir	11	254	1423	3	19	51165.00	7526.00	58691.00
3	Deogarh	1	15	141	0	0	2151.03	0.00	2151.03
4	Jharsuguda	5	78	331	3	9	18239.40	12837.50	31076.90
5	Kalahandi	7	149	592	1	4	13973.53	8294.95	22268.48

6	Nabarangpur	10	181	816	2	9	30237.00	2731.00	32968.00
7	Nuapada	5	127	626	3	12	54559.80	5349.00	59908.80
8	Sambalpur	9	141	1148	4	36	53140.51	0.00	53140.51
9	Subarnapur	1	11	58	0	0	328.95	0.00	328.95
10	Sundergarh	13	197	946	3	14	31554.00	35986.00	67540.00
TOTAL		72	1293	6759	21	106	293357.22	72724.45	366081.67

A Memorandum on Drought 2018 has also been submitted to the Govt. of India seeking Central Assistance of Rs.1534.82 crore under different heads to tide over the Drought situation arisen in the State of Odisha. But the same has not been considered by the Govt. of India.

Relief and Rehabilitation

An amount of 88.29 crore has been released towards Agricultural Input Subsidy to the affected districts for disbursement among the farmers who have sustained crop loss of 33% and above due to drought in 2018.

CHAPTER – V

PEST ATTACK

In addition to Drought, the State of Odisha did also experience the menace of pest attack in Kharif-2018.

Declaration of Pest Attack

Based on the reports received from different Collectors, the State Government have declared 21427.50 hectares of crop area in 2874 villages of 625 GPs under 33 blocks and 35 wards under 8 ULBs of 5 districts as affected due to pest attack where farmers have sustained crop loss to the extent of 33% and above due to pest attack during 2018-19.

An amount of 7.11 crore has been released towards Agricultural Input Subsidy to the affected districts for disbursement among farmers who have sustained crop loss of 33% and above due to pest attack. The list of the affected districts is as follows.

LIST OF DISTRICTS DECLARED AS AFFECTED DUE TO PEST ATTACK DURING KHARIF 2018

Sl. No.	District	No. of affected Blocks	No. of affected GPs	No. of affected Villages	No. of affected ULBs	No. of affected wards	Sown area with damage between 33% to 50% to crops (in Ha.)	Sown area with damage above 50% to crops (in Ha.)	Total sown area with damage >33% to crops (in Ha.)
1	2	3	4	5	6	7	8	9	10
1	Bargarh	1	1	1	0	0	160.00	0.00	160.00
2	Bolangir	14	305	1520	4	15	9008.00	1294.00	10302.00
3	Deogarh	1	14	47	0	0	154.64	0.00	154.64
4	Kalahandi	11	211	841	3	13	5590.99	1726.66	7317.65
5	Subarnapur	6	94	465	1	7	3243.71	249.50	3493.21
TOTAL		33	625	2874	8	35	18157.34	3270.16	21427.50

CHAPTER- VI

FIRE ACCIDENT AND OTHER DISASTERS

As many as 65 persons lost their lives due to fire accidents during the year 2018-19. Steps were taken to provide ex-gratia assistance @ Rs 4,00,000/- per deceased to Next of kins out of the SDRF. Besides, funds were provided to different Collectors for disbursement of house building assistance along with assistance for clothing and utensils as per the Norms of Assistance from SDRF.

Loss of property due to Fire Accident and Account of Relief given during the year 2018-19

[In Rs.]

Sl.No.	Name of the District	No. of accident	No. of villages affected	No. of families affected	Approximate value of properties lost	No. of persons died	No. of cattle died	Relief provided
								HBA & Others
1	Angul	229	192	371	1,11,53,950	1	15	40,26,500
2	Balasore	197	172	197	90,61,100	0	8	88,71,300
3	Bargarh	26	26	28	13,82,200	2	0	13,18,700
4	Bhadrak	344	319	584	8,60,15,200	1	0	1,58,26,441
5	Bolangir	11	11	17	13,88,300	2	0	9,66,100
6	Boudh	19	19	43	7,41,900	0	0	6,41,900
7	Cuttack	243	188	255	83,56,000	1	0	28,50,500
8	Deogarh	12	12	12	9,23,000	2	0	3,68,300
9	Dhenkanal	221	158	284	1,33,92,500	4	6	65,74,100
10	Gajapati	18	18	44	17,69,500			8,400
11	Ganjam	178	171	412	79,55,800	0	0	39,60,700
12	Jagatsinghpur	295	234	265	1,09,58,000	2	15	16,17,200
13	Jajpur	334	255	334	1,90,06,900	2	1	81,27,700
14	Jharsuguda	1	1	1	96,900	0	0	0
15	Kalahandi	12	12	13	3,68,000	4	0	
16	Kandhamal	46	40	56	18,00,450	0	11	6,86,700
17	Kendrapara	464	298	480	1,85,86,300	2	11	63,28,300
18	Keonjhar	131	72	131	61,59,500	13	0	70,09,500
19	Khordha	42	42	106				56,23,010
20	Koraput	38	35	39	7,65,500	6	0	3,28,600
21	Malkangiri	5	5	5	1,15,500			10,000
22	Mayurbhanj	276	182	276	2,24,24,250	11		1,28,18,600
23	Nawarangpur	60	60	55	11,95,500	5	0	7,52,500
24	Nayagargh	65	59	108	28,95,800			6,76,400
25	Nuapara	04	04	04	35,000	3	0	12,00,000
26	Puri	251	193	286	55,40,390	0	16	13,92,010
27	Rayagada	25	25	50	1,88,10,000	2	0	1,20,47,000
28	Sambalpur	36	34	36	12,63,000	2	0	17,07,500
29	Subarnapur	34	34	55	15,27,000	03	0	46,900
30	Sundargarh	2	2	2	10,400	0	0	0
Total		3619	2873	4549	236768840	68	83	94942561

Hailstorm

As many as 11 districts namely Sambalpur, Mayurbhanj, Malkangiri, Keonjhar, Dhenkanal, Bolangir, Jajpur, Angul, Kandhamal, Kalahandi and Bargarh were affected due to hailstorm accompanied by whirlwind and 8 persons have lost their lives under the impacts of the disaster during the year 2018-19. Steps have been taken for payment of ex-gratia @ Rs.4.00 lakh to next of kins of each of the deceased. Besides, funds have been placed with the concerned Collectors for payment of assistances like agriculture input subsidy, house building assistance, assistance for clothing and utensils to the affected people as per the Norms of assistance from SDRF.

Landslide

Land slide occurred in the month of March in Mayurbhanj district. Only one people died due to that incident. Steps have been taken to provide ex-gratia assistance @ Rs 4,00,000/- from SDRF to the Next of kins of the deceased.

CHAPTER - VII

STATE SPECIFIC DISASTERS

Heat Wave

Preparatory measures on Heat wave

In 2018, heat-wave condition prevailed in the State in the months of April, May and June. In order to encounter such condition, the State Government undertook various preparedness/ preventive measures as follows:

- Public Awareness Campaign through electronic and print media was undertaken. Civil Society Organizations and PRI members were involved in awareness campaign and other measures to tackle the situation arising out of Heat Wave. The general public were made alert to the set of "Do's and Don'ts" issued by Health & Family Welfare Department through print and electronic media.
- Women & Child Development Department launched public awareness campaign with special focus on children, pregnant and lactating mothers in order to protect them from dehydration. Similarly, Fisheries and Animal Resources Department launched public awareness campaign on protection of animal resources the heat wave. School & Mass Education Department issued suitable instructions for orientation of the school children on heat wave preventive measures.
- Water scarcity areas were identified in advance and supply of water for drinking and other uses through tanker to those areas was ensured.
- "Paniya Jala Jogana Kendra" were opened by Urban Local Bodies/ Gram Panchayats at market places, bus stands and other congregation points. Construction/ repair of vats were also ensured for roaming livestock. Provision of drinking water in all Schools and Colleges were made instantly. Wherever required, tube wells inside the school campus were also repaired to ensure uninterrupted drinking water supply. The timing of classes and examinations in schools & colleges during summer were rescheduled and conducted between 6.30 am and 10.30 am.
- Life saving medicines, saline, ORS was stored in dispensaries, PHCs, CHCs and District Headquarters Hospitals sufficiently to meet the crisis. Special arrangement was made and separate beds were earmarked for treatment of heat stroke patients in different hospitals. The ESI Dispensaries were also asked to treat the general public as additional measures.
- The officers of Forest & Environment Department were asked to assess the availability of water for animals in reserved/ protected forests and make

necessary additional provision, where necessary. Drinking water was provided through tanker to human habitations facing water scarcity inside reserved forests.

- Provision of portable water and ORS packets were made available in public transport vehicles. During severe heat wave condition, timings of public transport services were rescheduled and plying of buses during peak hour i.e. between 11.00 AM to 3.00 PM was restricted.
- The timing for engagement of labourers/ workmen at worksites was rescheduled. No work was executed during peak hours from 11.00 am to 3.30 pm. The employers were advised to make necessary arrangements for supply of drinking water, ORS packets and provision of rest shed at the worksite.
- The Energy Department issued instructions to the Distribution Companies to maintain uninterrupted power supply during summer months.
- Panchayati Raj Institutions in the districts were also impressed upon to remain alert to meet the exigencies.
- The control rooms at the State level and the District level were functioning round the clock during the period of heat wave.
- A meeting of the District Disaster Management Authority were convened to discuss and plan out different preparedness measures to be taken different officials/ agencies to manage the possible heat wave and water scarcity situation in the district.

Despite all the measures taken by the Government, as many as 16 persons lost their lives due to sunstroke during the year 2018. Steps have been taken to provide ex-gratia assistance @ Rs.50,000/- to each of the bereaved families from SDRF. The district-wise number of human casualties is given below:

Sl. No.	Name of the District	No. of Death
1	Angul	5
2	Bargarh	2
3	Dhenkanal	3
4	Ganjam	3
5	Khordha	1
6	Mayurbhanj	1
7	Sundargarh	1
Total		16

Lightning

As many as 339 persons lost their lives due to lightning in 30 districts during the year 2018-19. Steps have been taken to provide ex-gratia assistance @ 4,00,000/- per deceased to Next of Kins of the victims from SDRF. The district-wise number of human casualties is indicated below:

Sl. No	Name of the District	No. of death
1	Angul	6
2	Bolangir	26
3	Bargarh	16
4	Balasore	6
5	Bhadrak	17
6	Boudh	1
7	Cuttack	17
8	Deogarh	0
9	Dhenkanal	16
10	Ganjam	3
11	Gajapati	20
12	Jagatsinghpur	4
13	Jajpur	18
14	Jharsuguda	1
15	Kalahandi	8

Sl. No	Name of the District	No. of death
16	Kandhamal	2
17	Kendrapara	12
18	Keonjhar	24
19	Khurda	13
20	Koraput	12
21	Malkanagiri	5
22	Mayurbhanj	36
23	Nawarangpur	13
24	Nayagarh	8
25	Nuapara	3
26	Puri	6
27	Rayagada	4
28	Sambalpur	8
29	Sonepur	8
30	Sundergarh	19
	TOTAL	332

Boat Accident

As many as 15 persons lost their lives due to boat capsizing in 2 districts during the year 2018-19. Ex-gratia assistance @ 4,00,000/- per deceased has been provided to Next of kin of the victims from the SDRF. The district-wise number of human casualties is given below:

Sl.	Name of the District	No. of Death
1.	Kendrapara	9
2.	Khorda	6
Total		15

Drowning

As many as 999 persons lost their lives due to drowning in 30 districts during the year 2018-19. Steps have been taken to provide ex-gratia assistance @ 4,00,000/- per deceased to Next of Kins of the victims from SDRF. The district-wise number of human casualties is given below:

Sl.	District	No. of Death
1	Angul	31
2	Balangir	12
3	Balasore	78
4	Bargarh	15
5	Bhadrak	88
6	Boudh	0
7	Cuttack	26
8	Deogarh	17
9	Dhenkanal	41
10	Gajapati	10
11	Ganjam	75
12	Jagatsinghpur	20
13	Jajpur	68
14	Jharsuguda	14

15	Kalahandi	14
16	Kandhamal	15
17	Kendrapara	63
18	Keonjhar	58
19	Khorda	22
20	Koraput	38
21	Malkangiri	20
22	Mayurbhanj	92
23	Nabarangpur	39
24	Nayagarh	18
25	Nuapada	11
26	Puri	47
27	Rayagada	10
28	Sambalpur	29
29	Subarnapur	5
30	Sundargarh	23
Total		999

Snake bite

As many as 823 persons lost their lives due to snake bite in 30 districts during the year 2018-19. Steps have been taken to provide ex-gratia assistance @ 4,00,000/- per deceased to Next of Kin of the victims from SDRF. The district-wise number of human casualties is given below:

Sl.	Name of the District	No. of persons died
1	Angul	33
2	Balangir	20
3	Balasore	55
4	Bargarh	14
5	Bhadrak	53
6	Boudh	4
7	Cuttack	29
8	Deogarh	14
9	Dhenkanal	26
10	Gajapati	6

11	Ganjam	64
12	Jagatsinghpur	16
13	Jajpur	39
14	Jharsuguda	5
15	Kalahandi	9
16	Kandhamal	7
17	Kendrapara	45
18	Keonjhar	63
19	Khordha	14
20	Koraput	13
21	Malkangiri	18
22	Mayurbhanj	92
23	Nabarangpur	38
24	Nayagarh	18
25	Nuapada	12
26	Puri	27
27	Rayagada	4
28	Sambalpur	33
29	Subarnapur	15
30	Sundargarh	37
Total		823

CHAPTER – VIII

STATE DISASTER RESPONSE FUND (SDRF)

During the year 2017-18 a total amount of Rs. 2275.25 crore was available in SDRF for expenditure. Out of the above, an amount of Rs. 1003.60 crore has been spent to meet the expenditure on different approved Natural Calamities, procurement of search and rescue equipments and capacity building activities as detailed below.

Status of Expenditure from SDRF Account 2017-18 for State of ODISHA (As on 31.03.2018)

[Rs. in crore]

1	Opening Balance (As on 01.04.2017)	1451.25
2	SDRF releases during the year 2017-18 (Central & State Share)	
	# 1 st Installment of current year [State + Central Share]	412.00
	# 2 nd Installment of current year, if any [State + Central Share]	412.00
3	NDRF releases during the year 2017-18:	0.00
4	Total funds available in SDRF Account (1+2+3)	2275.25
5	Expenditure incurred on calamities	
	# Avalanches	-
	# Cloud Burst	-
	# Cyclone	380.82
	# Drought	254.68
	# Earthquake	-
	# Fire	21.68
	# Flood	61.14
	# Hailstorm	0.94
	# Landslides	0.08

	# Pest attack	149.96
	# Tsunami	-
	# Cold Wave	-
	Sub-Total	869.30
Expenditure incurred during 2017-18		
6	Expenditure incurred from SDRF up to 10% on procurement of search and rescue equipments etc.	31.42
7	Expenditure incurred from SDRF up to 5 % on Capacity Building Activities	25.68
8	Expenditure incurred from SDRF up to 10 % on State Specific disasters	77.20
9	Total expenditure incurred on all calamities (5+6+7+8)	1003.60
10	Balance available in SDRF Account (4 - 9)	1271.65

CONCLUSION

During the year 2018-19, the State of Odisha experienced multiple natural calamities like Very Severe Cyclonic Storm "TITLI", Landslide, Flood, Heavy Rain, Drought, Pest Attack, Unseasonal Cyclonic Rain due to "PETHAI", Cyclone " DAYE", Heat wave, Drowning, Snakebite, Fire Accident, Lightning, Hailstorms and Whirlwind. Due to prompt and timely response, all the disasters were managed successfully.

Appendix-XII

Statement showing item-wise details of expenditure incurred as per approved items and norms of SDRF/NDRF

(Rupees in Lakh)

Code No.	Items	Calamity												
		Avalanche	Cloud burst	Cyclone	Drought	Earthquake	Fire	Flood	Hailstorm	Landslide	Pest Attack	Tsunami	Cold wave/frost	State Specific Calamity
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Gratuitous Relief													
(a)	Ex-gratia payment to families to deceased persons													
	(i) As per SDRF/NDRF norms	0	0	0	0	0	253.500	5.500	8.000	8.000	0	0	0	7428.000
	(ii) Outside the norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(iii) Total no. of beneficiaries	0	0	0	0	0	64	2	2	2	0	0	0	1857
(b)	Ex-gratia payment for loss of a limb or eyes													
	(i) As per SDRF/NDRF norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(ii) Outside the norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(iii) Total no. of beneficiaries	0	0	0	0	0	0	0	0	0	0	0	0	0

(c)	Grievous injury requiring hospitalization													
	(i) As per SDRF/NDRF norms	0	0	0	0	0	1.178	0	0	0	0	0	0	1.792
	(ii) Outside the norms	0	0	0	0	0	13	0	0	0	0	0	0	18
	(iii) Total no. of beneficiaries	0	0	0	0	0	0	0	0	0	0	0	0	0
(d)	Relief for the old, infirm and destitute, children													
	(i) As per SDRF/NDRF norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(ii) Outside the norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(iii) Total no. of beneficiaries	0	0	0	0	0	0	0	0	0	0	0	0	0
(e)	Clothing and utensils/household goods for families whose houses have been washed away/fully damaged/severely inundated for more than a week due to a natural calamity													
	(i) As per SDRF/NDRF norms	0	0	0	0	0	36.970	19.998	0.872	0	0	0	0	1.154
	(ii) Outside the norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(iii) Total no. of beneficiaries	0	0	0	0	0	998	533	23	0	0	0	0	39
(f)	Gratuitous relief for families in dire need of immediate sustenance after a calamity													
	(i) As per SDRF/NDRF norms	0	0	437.746	0	0	0.854	42.083	0	0	0	0	0	0
	(ii) Outside the norms	0	0	0	0	0	0	0	0	0	0	0	0	0

	(iii) Total no. of beneficiaries	0	0	0	0	0	0	0	0	0	0	0	0	0
2	Supplementary Nutrition													
	(i) As per SDRF/NDRF norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(ii) Outside the norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(iii) Total no. of beneficiaries	0	0	0	0	0	0	0	0	0	0	0	0	0
3	Assistance to Small and Marginal Farmers (SMF for													
(a)	Desilting of agriculture land													
	(i) As per SDRF/NDRF norms	0	0	0	0	0	0	254.361	0	0	0	0	0	0
	(ii) Outside the norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(iii) Total eligibe area (ha.)	0	0	0	0	0	0	2041.478	0	0	0	0	0	0
	(iv) No. of S&M farmers	0	0	0	0	0	0		0	0	0	0	0	0
(b)	Removal of debris on agricultural land in hilly areas													
	(i) As per SDRF/NDRF norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(ii) Outside the norms	0	0	0	0	0	0	0	0	0	0	0	0	0

	(iii) Total eligible area (ha.)	0	0	0	0	0	0	0	0	0	0	0	0	0
	(iv) No. of S&M farmers	0	0	0	0	0	0	0	0	0	0	0	0	0
(c)	Desilting/Restoration/Repair of fish farms													
	(i) As per SDRF/NDRF norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(ii) Outside the norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(iii) Total eligible area (ha.)	0	0	0	0	0	0	0	0	0	0	0	0	0
	(iv) No. of S&M farmers	0	0	0	0	0	0	0	0	0	0	0	0	0
(d)	Loss of substantial portion of land caused by landslide, avalanche, change of course of rivers													
	(i) As per SDRF/NDRF norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(ii) Outside the norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(iii) Total eligible area (ha.)	0	0	0	0	0	0	0	0	0	0	0	0	0
	(iv) No. of S&M farmers	0	0	0	0	0	0	0	0	0	0	0	0	0
(e)	Agriculture input subsidy where crop loss was 50% / 33% and above													
	(i) As per SDRF/NDRF norms	0	0	37474.186	25006.170	0	0.105	17.741	81.926	0	14995.893	0	0	0

	(ii) Outside the norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(iii) Total eligible area (ha.)	0	0	0	0	0	0	0	0	0	0	0	0	0
	(iv) No. of S&M farmers	0	0	0	0	0	0	0	0	0	0	0	0	0
4	Input Subsidy to farmers other than Small & Marginal Farmers													
	(i) As per SDRF/NDRF norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(ii) Outside the norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(iii) Total eligible area (ha.)	0	0	0	0	0	0	0	0	0	0	0	0	0
	(iv) No. of S&M farmers	0	0	0	0	0	0	0	0	0	0	0	0	0
5	Assistance to small and marginal sericulture farmers													
	(i) As per SDRF/NDRF norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(ii) Outside the norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(iii) Total area (ha.)	0	0	0	0	0	0	0	0	0	0	0	0	0
	(iv) No. of S&M farmers	0	0	0	0	0	0	0	0	0	0	0	0	0
6	Employment Generation													
	(i) As per SDRF/NDRF	0	0	0	0	0	0	0	0	0	0	0	0	0

	norms													
	(ii) Outside the norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(iii) No. of man days generated	0	0	0	0	0	0	0	0	0	0	0	0	0
	(iv) Quantum of food grains distributed as part of wage component	0	0	0	0	0	0	0	0	0	0	0	0	0
7	Animal Husbandry Assistance to small and marginal farmers/agricultural labourers													
(i)	Replacement of draught/milch animals or animals used for haulage													
	(i) As per SDRF/NDRF norms	0	0	0	0	0	29.250	10.250	0	0	0	0	0	67.486
	(ii) Outside the norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(iii) Total no. of beneficiaries	0	0	0	0	0	318	197	0	0	0	0	0	679
(ii)	Provisions of fodder/feed in cattle camps													
	(i) As per SDRF/NDRF norms	0	0	0	0	0	0	0.320	0	0	0	0	0	0
	(ii) Outside the norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(iii) No. of cattle camps	0	0	0	0	0	0	0	0	0	0	0	0	0
	(iv) Number of cattle kept in camps	0	0	0	0	0	0	0	0	0	0	0	0	0

	(v) Qty. of fodder(qtls.) supplied in camp	0	0	0	0	0	0	0	0	0	0	0	0	0
(iii)	Water supply in Cattle Camps													
	(i) As per SDRF/NDRF norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(ii) Outside the norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(iii) Total no. of Tanker load	0	0	0	0	0	0	0	0	0	0	0	0	0
	(iv) No. of cattle camps and cattle kept therein	0	0	0	0	0	0	0	0	0	0	0	0	0
(iv)	Additional cost of medicines and vaccine (calamity related requirements)													
	(i) As per SDRF/NDRF norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(ii) Outside the norms	0	0	0	0	0	0	0	0	0	0	0	0	0
(v)	Supply of fodder outside Cattle Camps													
	(i) As per SDRF/NDRF norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(ii) Outside the norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(iii) Total qty. of fodder	0	0	0	0	0	0	0	0	0	0	0	0	0

	transported (Qtls)														
(vi)	Movement of useful cattle to other areas														
	(i) As per SDRF/NDRF norms	0	0	0	0	0	0	0	0	0	0	0	0	0	
	(ii) Outside the norms	0	0	0	0	0	0	0	0	0	0	0	0	0	
	(iii) No. of cattle moved	0	0	0	0	0	0	0	0	0	0	0	0	0	
8	Assistance to Fishermen														
(a)	For repair/replacement of boats, nets (damaged or lost)														
	(i) As per SDRF/NDRF norms	0	0	0	0	0	0	1.400	0	0	0	0	0	0	
	(ii) Outside the norms	0	0	0	0	0	0	0	0	0	0	0	0		
(b)	Input Subsidy for fish seed farm														
	(i) As per SDRF/NDRF norms	0	0	0	0	0	0	0	0	0	0	0	0		
	(ii) Outside the norms	0	0	0	0	0	0	0	0	0	0	0	0		
	(iii) Total eligibe area (ha.)	0	0	0	0	0	0	0	0	0	0	0	0		
	(iv) No. of fish farmers	0	0	0	0	0	0	0	0	0	0	0	0		

9	Assistance to artisans in handicrafts/handloom sectors by way of subsidy for repair/replacement of damaged equipments													
(a)	Traditional Crafts (Handicraft)													
(i)	For replacement of damaged tools / equipments													
	(i) As per SDRF/NDRF norms	0	0	0	0	0	0	7.462	0	0	0	0	0	0
	(ii) Outside the norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(iii) No. of equipments	0	0	0	0	0	0	0	0	0	0	0	0	0
	(iv) No. of beneficiaries	0	0	0	0	0	0	0	0	0	0	0	0	0
(ii)	For loss of raw materials / goods in process/ finished goods													
	(i) As per SDRF/NDRF norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(ii) Outside the norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(iii) Qty. of materials (Qtls.)	0	0	0	0	0	0	0	0	0	0	0	0	0
	(iv) No. of beneficiaries	0	0	0	0	0	0	0	0	0	0	0	0	0
(b)	For Handloom Weavers													
(i)	Repairs/replacement of loom equipments and accessories													
	(i) As per SDRF/NDRF norms	0	0	0	0	0	0	0	0	0	0	0	0	0

	(ii) Outside the norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(iii) No. of equipments/ accessories	0	0	0	0	0	0	0	0	0	0	0	0	0
	(iv) No. of beneficiaries	0	0	0	0	0	0	0	0	0	0	0	0	0
(ii)	Purchase of yarn and other materials like dyes and chemicals and finished stocks													
	(i) As per SDRF/NDRF norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(ii) Outside the norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(iii) Qty. of materials (Qtls.)	0	0	0	0	0	0	0	0	0	0	0	0	0
	(iv) No. of beneficiaries	0	0	0	0	0	0	0	0	0	0	0	0	0
10	Assistance for repair/ restoration of damaged houses													
(a)	Fully damaged/ destroyed Pucca houses													
	(i) As per SDRF/NDRF norms	0	0	0	0	0	57.196	0	0	0	0	0	0	35.503
	(ii) Outside the norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(iii) Number	0	0	0	0	0	62	0	0	0	0	0	0	522
(b)	Fully damaged/ destroyed Kutcha houses													
	(i) As per SDRF/NDRF norms	0	0	0	0	0	576.269	767.543	0	0	0	0	0	14.809

	(ii) Outside the norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(iii) Number	0	0	0	0	0	607	754	0	0	0	0	0	15
(c)	Severely damaged houses													
(i)	Severely damaged Pucca houses													
	(i) As per SDRF/NDRF norms	0	0	0	0	0	6.997	0	0	0	0	0	0	0
	(ii) Outside the norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(iii) Number	0	0	0	0	0	135	0	0	0	0	0	0	0
(ii)	Severely damaged Kutcha houses													
	(i) As per SDRF/NDRF norms	0	0	0	0	0	200.435	3.057	0	0	0	0	0	0
	(ii) Outside the norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(iii) Number	0	0	0	0	0	6053	3	0	0	0	0	0	0
(d)	Partially damaged houses (both pucca and kutcha)													
	(i) As per SDRF/NDRF norms	0	0	0	0	0	131.557	33.116	2.828	0	0	0	0	166.408
	(ii) Outside the norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(iii) Number	0	0	0	0	0	4112	1035	89	0	0	0	0	5201

(e)	Huts damaged/ destroyed													
	(i) As per SDRF/NDRF norms	0	0	0	0	0	52.520	0.329	0.041	0	0	0	0	5.182
	(ii) Outside the norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(iii) Number	0	0	0	0	0	1636	18	1	0	0	0	0	130
11	Provision of emergency supply of drinking water in rural areas and urban areas													
	(i) As per SDRF/NDRF norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(ii) Outside the norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(iii) Total Qty. of water supplied (No. of Tankers load)	0	0	0	0	0	0	0	0	0	0	0	0	0
12	(i) Provisions of medicines, disinfectants, insecticides for prevention of outbreak of epidemics	0	0	0	0	0	0	0	0	0	0	0	0	0
	(ii) No. of beneficiaries	0	0	0	0	0	0	0	0	0	0	0	0	0
13	(i) Medical care for cattle and poultry against epidemics as a	0	0	0	0	0	0	0	0	0	0	0	0	0

	sequel to a notified natural calamity													
	(ii) Total No. of cattle & poultry benefited	0	0	0	0	0	0	0	0	0	0	0	0	0
14	(i) Evacuation of people affected/ likely to be affected	0	0	0	0	0	0	0	0	0	0	0	0	0
	(ii) No. of people evacuated	0	0	0	0	0	0	0	0	0	0	0	0	0
	(iii) Average cost/person	0	0	0	0	0	0	0	0	0	0	0	0	0
15	Hiring of boats for carrying immediate relief and saving life													
	(i) No. of boat days	0	0	0	0	0	0	0	0	0	0	0	0	0
	(ii) Average hiring cost per boat/day	0	0	0	0	0	0	0	0	0	0	0	0	0
16	Provisions for temporary accommodation, food, clothing, medical care etc. of people affected/ evacuated (operation of relief camps)													
	(i) As per SDRF/NDRF norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(ii) Outside the norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(iii) No. of persons provided shelters	0	0	0	0	0	0	0	0	0	0	0	0	0

	(iv) No. of relief camps opened	0	0	0	0	0	0	0	0	0	0	0	0	0
	(v) Average cost per person/per day	0	0	0	0	0	0	0	0	0	0	0	0	0
17	Air dropping of essential supplies													
	(i) No. of sorties	0	0	0	0	0	0	0	0	0	0	0	0	0
	(ii) Quantity (in MTs) dropped	0	0	0	0	0	0	0	0	0	0	0	0	0
18	Repair/restoration of immediate nature of the damaged infrastructure in eligible sectors													
(a)	Roads & Bridges													
	(i) As per SDRF/NDRF norms	0	0	0	0	0	0	2953.010	0	0	0	0	0	0
	(ii) Outside the norms	0	0	0	0	0	0	0	0	0	0	0	0	
	(iii) Cumulative length of roads repaired (in KMs)	0	0	0	0	0	0	0	0	0	0	0	0	
(b)	Drinking water supply													
	(i) As per SDRF/NDRF norms	0	0	0	0	0	0	20.500	0	0	0	0	0	0
	(ii) Outside the norms	0	0	0	0	0	0	0	0	0	0	0	0	

	(iii) Total no. of schemes	0	0	0	0	0	0	0	0	0	0	0	0	0	
(c)	Irrigation														
	(i) As per SDRF/NDRF norms	0	0	0	770.555	0	0	1254.810	0	0	0	0	0	0	
	(ii) Outside the norms	0	0	0	0	0	0	0	0	0	0	0	0	0	
	(iii) Total no. of schemes	0	0	0	0	0	0	0	0	0	0	0	0	0	
(d)	Power supply (only limited to immediate restoration of electricity supply in the affected areas)														
	(i) As per SDRF/NDRF norms	0	0	0	0	0	0	120.37	0	0	0	0	0	0	
	(ii) Outside the norms	0	0	0	0	0	0	0	0	0	0	0	0	0	
(e)	Primary Education														
	(i) As per SDRF/NDRF norms	0	0	0	0	0	0	35.848	0	0	0	0	0	0	
	(ii) Outside the norms	0	0	0	0	0	0	0	0	0	0	0	0	0	
	(iii) No. of primary school buildings repaired	0	0	0	0	0	0	0	0	0	0	0	0	0	
(f)	Primary Health Centre														
	(i) As per SDRF/NDRF	0	0	0	0	0	0	0	0	0	0	0	0	0	

	norms													
	(ii) Outside the norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(iii) No. of Primary Health Centres buildings repaired	0	0	0	0	0	0	0	0	0	0	0	0	0
(g)	Community assets owned by Panchayats													
	(i) As per SDRF/NDRF norms	0	0	0	0	0	0	19.000	0	0	0	0	0	0
	(ii) Outside the norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(iii) No. of community assets repaired	0	0	0	0	0	0	0	0	0	0	0	0	0
19	Replacement of damaged medical equipments and lost medicines of Govt.Hospitals/ Health centres	0	0	0	0	0	0	0	0	0	0	0	0	0
20	Operational cost (of POL only) for Ambulance Service, Mobile Medical Teams and Temporary Dispensaries													
	(i) As per SDRF/NDRF norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(ii) Outside the norms	0	0	0	0	0	0	0	0	0	0	0	0	0

21	Cost of clearance of debris													
	(i) As per SDRF/NDRF norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(ii) Outside the norms	0	0	0	0	0	0	0	0	0	0	0	0	0
22	Draining off flood water in affected areas	0	0	0	0	0	0	0	0	0	0	0	0	0
23	Cost of search and rescue measures													
	(i) As per SDRF/NDRF norms	0	0	847.259	257.189	0	1079.530	1614.402	0	0	0	0	0	0
	(ii) Outside the norms	0	0	0	0	0	0	0	0	0	0	0	0	0
24	Disposal of dead bodies/ carcasses													
	(i) As per SDRF/NDRF norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(ii) Outside the norms	0	0	0	0	0	0	0	0	0	0	0	0	0
	(iii) Total no. of dead bodies disposed	0	0	0	0	0	0	0	0	0	0	0	0	0
	(iv) Total no. of carcasses disposed	0	0	0	0	0	0	0	0	0	0	0	0	0
25	Training to specialist multi-disciplinary groups/ teams of the State personnel drawn from different cadres/ services/ personnel involved in management of disaster in the State													
	(i) No. of training	0	0	0	0	0	0	0	0	0	0	0	0	0

	organized													
	(ii) No. of persons trained	0	0	0	0	0	0	0	0	0	0	0	0	0
26	Procurement of essential Search, Rescue and Evacuation equipments including Communication equipments													
	Cost of equipments procured	0	0	0	0	0	0	3141.834	0	0	0	0	0	0
	TOTAL	0.000	0.000	38759.191	26033.914	0.000	2426.361	10322.934	93.667	8.000	14995.893	0.000	0.000	7720.334



Office of Special Relief Commissioner
Telephone: 0674 2534180
Fax : 0674 2391361
Email : srcodishagov@gmail.com