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Chapter-I

1.1 Introduction

Natural Calamities are parts of the struggle for survival. They put life on the edge. Their fearsome power makes no distinction between humans and other victims. Our ability to control them is far from assured. Sophisticated technology may protect some of us from these events for some of the time. But in the face of violent winds and surging waves, torrential rains and devastating floods, raging fires or the tectonic forces in the ground beneath us, there is nothing we can do that will guarantee our safety.

When such disasters strike state like Orissa in rhythmic succession, they can kill not just hundreds, but tens or hundred of thousands, injure thousand more and make millions homeless. Whether the nightmarish memory of super cyclone 1999 or the devastating flood of 2006, the experience of successive calamities send chilling waves down the spine. With the coming of each such calamity, our vision of inextricable interdependence with rest of nature gets sharpened. Our quest for solutions in this unequal struggle gets all the more pressing.

During the period from 1900 to 2007, the state has experienced one or other forms of disasters. For instance she has experienced high floods in 56 years, sever cyclone in 23 years, drought in 39 years and tornado in 7 years during the period. They may have paralyzed the economy of the state, but not the sprint of the people; for their spirit is indomitable.



Geo-morphological features of Orissa

Orissa is located between 17.31 degree to 20.31 degree North latitude, 81.31 degree East longitude covering an area of 1,56,000 Sq.Km. The Bay of Bengal forms the eastern boundary of the State having a coast line of nearly 480 Kms. Basing on morphological peculiarities, geological, climatic and edaptic conditions the State is broadly divided into five natural regions.

- i) Coastal Plains
- ii) River valley and Flood plains
- iii) Rolling uplands
- iv) Plateau
- v) Mountains.

Most of the people of Orissa depend on agriculture, which is mainly rainfed and depends on monsoon. Though an early monsoon shower heals the pain of hot summer, it is not an unmixed blessing for the people, as scanty rainfall causes, drought, and heavy rainfall brings floods in most of the rivers.

Since the painful experience of Super Cyclone, 1999 the State had encountered severe floods, and that experience has forced the people to review their strategy and preparedness to overcome such situations. To mitigate natural disasters, several steps have been taken to enhance the capacity of the State and the community for combating such disasters.

1.2 Natural Calamities

Generally, seven types of natural calamities occur in the state. The calamities are -

1. Floods / Heavy rain
2. Cyclones
3. Droughts
4. Fire accidents / Lightning
5. Boat accidents
6. Hailstorms and whirlwind
7. Heat wave



Natural Calamities (2006-07)

During 2006-07, the state had encountered the following types of calamities-

1. Floods & heavy rain
2. Cyclones (Saline inundation due to Storm Surge)
3. Heat wave
4. Fire Accidents
5. Lightning death
6. Hailstorms
7. Landslide
8. Pest Attack

1.3 Month of occurrence -

Sl.	Calamities	Period / duration
1.	Flood / Heavy rain	July & August (<i>five times</i>)
2.	Cyclonic Storm Surge / Saline Inundation	1 st week of July
3.	Landslide	July
4.	Heat Wave	March to June
5.	Fire Accidents	Round the year
6.	Lightning death	Round the year
7.	Hail Storms	March to June
8.	Pest Attack	July

1.4 Rainfall-2006

During July and August twelve nos. of low pressure areas were developed over North West Bay of Bengal adjoining to Orissa coast. This was most unexpected and the rainfall during August was much more than the normal in many districts even more than 300 / 400 mm rainfall was recorded at few places causing unprecedented damage to life and properties. The district wise rain fall during July and August with deviation is at *Table-1.1 & 1.2*. The annual rainfall from January to December is given in *Table -1.3*. The graphical representations of rainfall (District wise, Monthwise and Deviation) during the year 2006 are at *Fig.1.1, 1.2 & 1.3* respectively.



DISTRICT WISE RAINFALL
July-2006

Rainfall in mm

Sl. No.	District	RAINFALL		Deviation
		Normal	Actual	
1	Angul	347.7	290.3	-16.5
2	Balasore	308.6	372.1	20.6
3	Bargarh	397.2	397.1	0.0
4	Bhadrak	293.6	277.5	-5.5
5	Bolangir	360.5	564.3	56.5
6	Boudh	418.5	425.3	1.6
7	Cuttack	308.3	437.8	42.0
8	Deogarh	447.7	264.5	-40.9
9	Dhenkanal	317.9	273.9	-13.8
10	Gajapati	230.6	425.5	84.5
11	Ganjam	220.8	403.5	82.7
12	Jagatsinghpur	277.3	416.5	50.2
13	Jajpur	350.9	308.1	-12.2
14	Jharsuguda	385.8	445.7	15.5
15	Kalahandi	327.7	770.8	135.2
16	Kandhamal	325.1	624.8	92.2
17	Kendrapara	317.1	325.0	2.5
18	Keonjhar	318.0	309.9	-2.5
19	Khordha	304.9	432.3	41.8
20	Koraput	375.6	487.4	29.8
21	Malkangiri	465.7	430.2	-7.6
22	Mayurbhanj	337.3	396.9	17.7
23	Nawarangpur	356.6	742.3	108.2
24	Nayagarh	288.5	391.4	35.7
25	Nuapada	347.1	532.6	53.4
26	Puri	292.0	499.2	71.0
27	Rayagada	259.5	535.1	106.2
28	Sambalpur	429.5	453.2	5.5
29	Subarnapur	399.6	419.0	4.9
30	Sundargarh	386.4	430.2	11.3
State Average		339.9	436.1	28.3

[Table-1.1]



DISTRICT WISE RAINFALL
August- 2006

Rainfall in mm

Sl. No.	District	RAINFALL		Deviation
		Normal	Actual	
1	Angul	357.5	562.4	57.3
2	Balasore	332.1	523.9	57.8
3	Bargarh	374.4	871.4	132.7
4	Bhadrak	311.7	449.1	44.1
5	Bolangir	333.6	731.8	119.4
6	Boudh	488.8	787.7	61.1
7	Cuttack	339.1	682.4	101.2
8	Deogarh	443.4	466.4	5.2
9	Dhenkanal	344.8	503.7	46.1
10	Gajapati	253.6	423.7	67.1
11	Ganjam	246.8	380.3	54.1
12	Jagatsinghpur	379.1	677.8	78.8
13	Jajpur	341.2	502.4	47.2
14	Jharsuguda	382.9	457.4	19.5
15	Kalahandi	355.4	790.6	122.5
16	Kandhamal	330.8	1023.9	209.5
17	Kendrapara	333.3	567.4	70.2
18	Keonjhar	343.6	509.8	48.4
19	Khordha	320.6	582.9	81.8
20	Koraput	393.6	660.9	67.9
21	Malkangiri	472.8	857.0	81.3
22	Mayurbhanj	359.9	569.1	58.1
23	Nawarangpur	407.5	580.3	42.4
24	Nayagarh	288.2	436.0	51.3
25	Nuapada	327.8	602.2	83.7
26	Puri	297.9	828.6	178.1
27	Rayagada	273.7	555.6	103.0
28	Sambalpur	442.4	839.2	89.7
29	Subarnapur	408.9	1049.2	156.6
30	Sundargarh	393.9	384.3	-2.4
State Average		356.0	628.6	76.6

[Table-1.2]



District-wise rainfall for the year 2006

Sl.	DISTRICT	JAN.			FEB.			MAR.			APRIL.		
		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	23.0	24.3	-5.2	19.9	27.2	-27.0
2	Balasore	0.0	14.7	-100.0	0.0	31.8	-100.0	24.8	34.4	-28.1	27.2	62.2	-56.3
3	Bargarh	0.0	12.5	-100.0	0.0	19.1	-100.0	41.9	22.0	90.5	0.0	20.0	-100.0
4	Bhadrak	0.6	11.8	-95.2	0.0	29.6	-100.0	2.4	36.1	-93.3	9.5	51.2	-81.5
5	Bolangir	0.0	8.6	-100.0	0.0	13.2	-100.0	34.0	14.6	133.1	11.0	13.4	-18.0
6	Boudh	0.0	17.0	-100.0	0.0	26.8	-100.0	50.7	22.4	126.2	18.0	16.5	9.1
7	Cuttack	2.1	9.9	-79.0	0.0	28.6	-100.0	22.2	24.7	-10.3	11.5	28.3	-59.5
8	Deogarh	0.0	14.1	-100.0	0.0	27.0	-100.0	25.6	20.6	24.3	4.4	21.3	-79.2
9	Dhenkanal	0.0	10.5	-100.0	0.0	21.9	-100.0	31.0	33.7	-8.2	27.3	41.3	-33.9
10	Gajapati	0.0	8.1	-100.0	0.0	23.0	-100.0	31.4	41.3	-24.0	73.1	65.2	12.1
11	Ganjam	0.0	9.4	-100.0	0.0	24.1	-100.0	52.8	32.6	61.9	24.4	36.6	-33.4
12	Jagatsinghpur	0.0	14.5	-100.0	0.0	21.7	-100.0	0.0	35.5	-100.0	0.0	25.4	-100.0
13	Jajpur	0.0	12.9	-100.0	0.0	25.1	-100.0	24.7	28.4	-13.0	25.6	46.1	-44.5
14	Jharsuguda	0.0	14.1	-100.0	0.0	22.9	-100.0	34.6	17.6	96.6	15.6	15.1	3.3
15	Kalahandi	0.0	10.3	-100.0	0.0	14.4	-100.0	35.2	23.7	48.5	16.8	25.7	-34.6
16	Kandhamal	0.0	10.6	-100.0	0.0	29.7	-100.0	36.1	28.0	29.0	15.2	35.7	-57.5
17	Kendrapara	0.0	10.6	-100.0	0.0	30.2	-100.0	5.6	35.0	-84.1	2.6	33.9	-92.5
18	Keonjhar	0.0	14.6	-100.0	0.0	33.8	-100.0	10.2	33.1	-69.1	28.7	42.1	-31.9
19	Khordha	0.0	12.4	-100.0	0.0	24.3	-100.0	19.3	22.1	-12.7	8.9	28.0	-68.4
20	Koraput	0.0	5.7	-100.0	0.0	8.6	-100.0	19.0	18.3	4.1	85.0	55.2	54.0
21	Malkanagiri	0.0	2.7	-100.0	0.0	4.1	-100.0	8.4	8.9	-5.6	56.4	34.8	62.2
22	Mayurbhanj	0.4	10.3	-96.3	0.0	28.0	-100.0	18.0	40.2	-55.3	10.3	52.5	-80.4
23	Nawarangpur	0.0	6.7	-100.0	0.0	14.1	-100.0	27.7	15.1	83.4	43.4	34.1	27.3
24	Nayagarh	0.0	11.7	-100.0	0.0	28.6	-100.0	28.0	30.0	-6.7	16.3	39.9	-59.3
25	Nuapara	0.0	12.0	-100.0	0.0	14.6	-100.0	17.8	19.7	-9.6	0.0	21.8	-100.0
26	Puri	2.1	10.9	-80.8	0.0	25.4	-100.0	13.2	15.5	-14.7	5.0	18.5	-72.8
27	Rayagada	0.0	9.6	-100.0	0.0	22.9	-100.0	77.7	38.0	104.4	50.9	52.7	-3.4
28	Sambalpur	0.0	14.8	-100.0	0.0	24.5	-100.0	51.2	18.2	181.3	12.9	16.5	-21.8
29	Sonepur	0.0	12.5	-100.0	0.0	17.2	-100.0	53.5	15.7	240.8	24.3	15.4	58.0
30	Sundargarh	0.0	15.1	-100.0	0.0	24.9	-100.0	13.8	16.0	-14.0	4.6	16.0	-71.1
	Total	5.1			0.0			833.7			648.6		
	State Average	0.2	11.4	-98.5	0.0	22.9	-100.0	27.8	25.5	9.0	21.6	33.1	-34.7

Contd..



Sl.	DISTRICT	MAY			JUNE			JULY			AUGUST		
		Actual	Normal	% of Dev.	Actual	Normal	% of Dev.	Actual	Normal	% of Dev.	Actual	Normal	% of Dev.
1	Angul	88.0	52.9	66.3	160.3	225.1	-28.8	290.4	347.7	-16.5	566.8	357.5	58.5
2	Balasore	111.8	108.5	3.1	240.1	221.5	8.4	369.8	308.6	19.8	523.8	332.1	57.7
3	Bargarh	62.3	25.6	143.5	140.5	205.6	-31.7	399.3	397.2	0.5	871.7	374.4	132.8
4	Bhadrak	119.9	91.4	31.2	197.7	198.2	-0.3	277.4	293.6	-5.5	450.3	311.7	44.5
5	Bolangir	93.3	27.8	235.7	143.5	202.8	-29.2	577.3	360.5	60.1	721.4	333.6	116.2
6	Boudh	88.3	38.4	130.0	174.3	233.8	-25.4	425.2	418.5	1.6	788.3	488.8	61.3
7	Cuttack	169.1	71.5	136.5	238.4	210.0	13.5	438.8	308.3	42.3	685.0	339.1	102.0
8	Deogarh	96.7	41.9	130.8	122.9	242.4	-49.3	261.5	447.7	-41.6	466.4	443.4	5.2
9	Dhenkanal	95.6	69.6	37.3	140.0	225.7	-38.0	273.1	317.9	-14.1	503.4	344.8	46.0
10	Gajapati	137.1	107.8	27.2	216.3	199.7	8.3	412.5	230.6	78.9	447.1	253.6	76.3
11	Ganjam	96.6	65.4	47.7	192.3	168.3	14.3	384.0	220.8	73.9	379.8	246.8	53.9
12	Jagatsinghpur	101.1	78.0	29.6	133.8	202.3	-33.9	422.1	277.3	52.2	680.1	379.1	79.4
13	Jajpur	129.5	93.7	38.2	247.4	238.5	3.7	307.4	350.9	-12.4	504.1	341.2	47.7
14	Jharsuguda	51.2	27.9	83.5	108.0	218.8	-50.6	456.4	385.8	18.3	457.4	382.9	19.5
15	Kalahandi	78.6	41.8	88.0	154.8	240.4	-35.6	816.6	327.7	149.2	819.8	355.4	130.7
16	Kandhamal	113.7	67.8	67.7	249.8	207.9	20.2	634.9	325.1	95.3	1030.0	330.8	211.4
17	Kendrapara	84.1	94.2	-10.8	157.1	208.3	-24.6	329.3	317.1	3.9	567.9	333.3	70.4
18	Keonjhar	161.9	94.8	70.8	188.2	241.4	-22.0	300.9	318.0	-5.4	510.1	343.6	48.5
19	Khordha	105.1	60.7	73.1	188.8	196.2	-3.8	432.3	304.9	41.8	582.9	320.6	81.8
20	Koraput	114.0	81.9	39.2	183.5	206.8	-11.3	488.9	375.6	30.2	654.9	393.6	66.4
21	Malkanagiri	33.3	49.1	-32.2	78.9	212.2	-62.8	436.3	465.7	-6.3	856.9	472.8	81.2
22	Mayurbhanj	181.4	101.2	79.3	261.7	265.8	-1.5	400.6	337.3	18.8	565.8	359.9	57.2
23	Nawarangpur	87.4	66.1	32.2	163.2	251.8	-35.2	742.8	356.6	108.3	579.0	407.5	42.1
24	Nayagarh	144.1	58.8	145.1	162.8	203.5	-20.0	391.6	288.5	35.7	438.7	288.2	52.2
25	Nuapara	43.5	31.2	39.4	117.0	210.3	-44.4	535.4	347.1	54.2	619.0	327.8	88.8
26	Puri	87.3	62.1	40.6	154.3	188.0	-17.9	498.2	292.0	70.6	826.5	297.9	177.4
27	Rayagada	114.8	87.8	30.8	264.4	195.3	35.4	535.1	259.5	106.2	555.8	273.7	103.1
28	Sambalpur	82.3	32.3	154.8	132.5	221.0	-40.1	449.5	429.5	4.7	839.6	442.4	89.8
29	Sonepur	52.3	29.3	78.5	134.5	217.4	-38.1	418.8	399.6	4.8	1048.3	408.9	156.4
30	Sundargarh	118.0	40.6	190.7	106.4	237.4	-55.2	435.9	386.4	12.8	381.0	393.9	-3.3
	Total	3042.4			5153.5			13142.3			18921.9		
	State Average	101.4	63.3	60.2	171.8	216.5	-20.7	438.1	339.9	28.9	630.7	356.0	77.2

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SI.	DISTRICT	SEPTEMBER			OCTOBER			NOVEMBER			DECEMBER			ANNUAL [Jan. to Dec.]		
		Actual	Normal	% of Dev.	Actual	Normal	% of Dev.	Actual	Normal	% of Dev.	Actual	Normal	% of Dev.	Actual	Normal	% of Dev.
1	Angul	170.2	217.5	-21.8	22.1	86.3	-74.4	3.4	20.4	-83.2	0.0	3.3	-100.0	1344.2	1401.9	-4.1
2	Balasore	429.3	267.6	60.4	24.8	170.5	-85.5	22.2	34.6	-35.9	0.0	5.5	-100.0	1773.7	1592.0	11.4
3	Bargarh	74.0	222.6	-66.8	9.2	52.8	-82.6	54.3	10.4	421.6	0.0	5.1	-100.0	1653.2	1367.3	20.9
4	Bhadrak	267.5	216.8	23.4	21.3	145.3	-85.3	4.0	37.3	-89.2	0.0	4.9	-100.0	1350.5	1427.9	-5.4
5	Bolangir	114.1	237.4	-52.0	12.2	68.4	-82.2	11.9	7.2	65.8	0.0	2.3	-100.0	1718.7	1289.8	33.3
6	Boudh	154.0	244.8	-37.1	11.0	90.5	-87.8	20.7	21.1	-2.1	0.0	4.4	-100.0	1730.5	1623.1	6.6
7	Cuttack	329.1	229.2	43.6	26.4	125.6	-79.0	4.8	45.0	-89.4	0.0	4.1	-100.0	1927.2	1424.3	35.3
8	Deogarh	134.0	228.2	-41.3	14.7	84.4	-82.5	16.0	8.0	99.6	0.0	3.5	-100.0	1142.3	1582.5	-27.8
9	Dhenkanal	273.1	220.6	23.8	34.0	104.4	-67.4	7.1	36.2	-80.4	0.0	2.2	-100.0	1384.6	1428.8	-3.1
10	Gajapati	312.9	237.9	31.5	59.5	168.6	-64.7	16.4	61.8	-73.5	0.0	5.7	-100.0	1706.4	1403.3	21.6
11	Ganjam	272.5	216.3	26.0	45.3	177.7	-74.5	34.9	71.1	-51.0	0.0	7.1	-100.0	1482.4	1276.2	16.2
12	Jagatsinghpur	211.0	241.4	-12.6	47.4	151.1	-68.6	13.9	80.4	-82.7	0.0	7.9	-100.0	1609.3	1514.6	6.3
13	Jajpur	379.4	238.0	59.4	19.4	140.2	-86.2	15.1	41.0	-63.2	0.0	3.9	-100.0	1652.6	1559.9	5.9
14	Jharsuguda	107.4	210.7	-49.0	26.8	54.9	-51.2	0.6	7.7	-92.2	0.0	4.4	-100.0	1258.0	1362.8	-7.7
15	Kalahandi	305.0	204.6	49.1	9.6	74.0	-87.0	7.9	10.9	-27.7	0.0	1.6	-100.0	2244.4	1330.5	68.7
16	Kandhamal	260.0	239.1	8.8	6.9	117.7	-94.1	23.2	31.0	-25.1	0.0	4.5	-100.0	2369.9	1427.9	66.0
17	Kendrapara	246.3	237.3	3.8	24.3	183.7	-86.8	9.2	67.2	-86.3	0.0	5.2	-100.0	1426.4	1556.0	-8.3
18	Keonjhar	282.6	241.1	17.2	43.0	101.3	-57.6	25.6	20.5	25.0	0.0	3.4	-100.0	1551.3	1487.7	4.3
19	Khordha	279.9	234.5	19.4	45.7	149.3	-69.4	22.3	50.4	-55.8	0.0	5.0	-100.0	1685.2	1408.4	19.6
20	Koraput	346.6	256.3	35.2	48.9	126.1	-61.2	11.6	32.6	-64.3	0.0	6.5	-100.0	1952.6	1567.2	24.6
21	Malkanagiri	353.3	281.2	25.7	21.0	109.5	-80.8	72.9	23.6	209.1	0.0	3.0	-100.0	1917.6	1667.6	15.0
22	Mayurbhanj	335.9	262.0	28.2	23.8	114.1	-79.2	23.4	21.6	8.5	0.0	7.3	-100.0	1821.2	1600.6	13.8
23	Nawarangpur	438.7	225.6	94.5	10.3	168.6	-93.9	59.1	18.7	215.8	0.0	4.6	-100.0	2151.5	1569.5	37.1
24	Nayagarh	179.8	226.8	-20.7	18.5	134.5	-86.3	0.0	39.0	-100.0	0.0	4.8	-100.0	1379.7	1354.3	1.9
25	Nuapara	101.7	214.5	-52.6	4.7	68.9	-93.2	10.5	15.3	-31.6	0.0	3.2	-100.0	1449.5	1286.4	12.7
26	Puri	241.8	243.2	-0.6	51.2	181.6	-71.8	53.1	67.3	-21.1	0.0	6.4	-100.0	1932.7	1408.8	37.2
27	Rayagada	342.6	199.1	72.1	10.9	109.7	-90.1	25.0	32.9	-23.9	0.0	4.7	-100.0	1977.2	1285.9	53.8
28	Sambalpur	164.5	224.7	-26.8	43.5	54.7	-20.5	14.7	12.7	16.1	0.0	4.4	-100.0	1790.7	1495.7	19.7
29	Sonepur	128.5	228.0	-43.6	16.0	59.8	-73.2	8.8	11.4	-22.5	0.0	3.3	-100.0	1885.1	1418.5	32.9
30	Sundargarh	131.9	211.5	-37.6	21.7	67.7	-67.9	0.5	8.7	-94.4	0.0	4.2	-100.0	1213.9	1422.4	-14.7
	Total	7367.6			774.0			593.0			0.0			50482.2		
	State Average	245.6	231.9	5.9	25.8	114.7	-77.5	19.8	31.5	-37.2	0.0	4.5	-100.0	1682.7	1451.2	16.0

[Table - 1.3]



Chapter-II

2.1 Floods / Heavyrain 2006

The state had experienced flood / heavyrain situation in five phases during 2006. The occurrence of floods and districts affected are given in table below.

Phase of Flood	Period of occurrence	River System	Districts Affected
1 st Phase	First week of July	Vansadhara, Subarnarekha, Baitarani, Mahanadi,	Bolangir, Boudh, Gajapati, Ganjam, Kalahandi, Khordha, Koraput, Nayagarh, Rayagada, Subarnapur, Balasore, Kandhamal, Nawarangpur, Kendrapada, Bhadrak, Puri, Jagatsinghpur, Nuapada
2 nd Phase	First week of August	Subarnarekha, Budhabalanga, Baitarani, Vansadhara	Balasore, Bhadrak, Mayurbhanj, Jajpur, Gajapati, Rayagada, Koraput, Malkangiri, Dhenkanal, Kendrapara, Jagatsinghpur.
3 rd Phase/ 4 th Phase	Second and 3 rd week of August	Mahanadi, Baitarani, Subarnarekha, Budhabalanga	Subarnapur, Puri, Keonjhar, Angul, Sambalpur, Bargarh, Nawarangpur, Bhadrak, Mayurbhanj, Jajpur, Balasore, Kandhamal, Nayagarh, Dhenkanal, Cuttack, Kendrapara, Jagatsinghpur, Khordha, Nuapada, Bolangir.
5 th Phase	Last week of August.	Mahanadi, Baitarani, Subarnarekha	Angul, Bolangir, Boudh, Cuttack, Jagatsinghpur, Jajpur, Kandhamal, Kendrapada, Khordha, Nayagarh, Puri, Subarnapur, Balasore, Mayurbhanj.

[Table - 2.1]

2.2 Cause

Due to occurrence of series of depressions over Bay of Bengal, heavy to very heavy rainfall was experienced over all catchments of all river systems during July & August. As a result, flood occurred in all major rivers causing damages to life & properties in 27 districts. Only 3 districts namely Sunderagarh, Jharsuguda & Deogarh remained unaffected by floods.

The formation of well-marked low pressures over Bay of Bengal during July & August and their impact has been narrated below.



2.3 Depressions

First Phase (July 1st Week)

- i. On 30.6.06, a low-pressure area was formed over North Bay of Gangetic West Bengal and Orissa coast and the center of low-pressure areas lies across U.P. Bihar, Jharkhand and Orissa. On 01.07.06, the low-pressure area converted into a deep depression.
- ii. On 02.07.06, the deep depression formed over North West Bay of Bengal lay centered at 17.30 Hrs IST within half a degree of latitude 20.5° N and longitude 89.0° E, about 150km South East of Balasore. The system moved in a West North Westerly direction and crossed between Paradeep and Digha on 03.07.2006.
- iii. On 03.07.2006, IMD had reported that depression over North West Bay of Bengal moved westwards and crossed Orissa coast between Paradeep and Chandbali at 20.30 Hrs IST on 02.07.06. It lied centered at 8.30 Hrs. IST on 03.07.06 near latitude 20.5° N & longitude 85.5° E close to Cuttack. It was likely to move in a West North Westerly direction.
- iv. On 04.07.2006 South West monsoon had been vigorous over Orissa. The deep depression on 03.07.06 moved West North West wards and lay centered 8.43 Hrs IST near latitude 21.5° N and longitude 81.5° E close to Raipur and Chhatisgarh. The systems moved in a North Westerly direction and weakened gradually. Under its influence, heavy to very heavy rainfall (0 - 25 cm) had occurred at few places with extremely heavy (more than 25 cm) falls at isolated places over lower Mahanadi. Heavy rain occurred at few places over Vansadhara, Subarnarekha and upper Mahanadi catchments.
- v. On 17.07.06 low-pressure area over Gangetic West Bengal and neighbourhood laid over interior Orissa and adjoining Jharkhand. Under its influence, heavy rainfall was experienced at most places over upper Baitarani, upper and lower Mahanadi, over Subarnarekha and Baitarani catchments.



Second Phase (August 1st Week)

- i. On 01.08.2006, low pressure area developed over North West Bay of Bengal and was converted into a depression and lay centered at 8.30 hrs IST of 2.8.06 within half a degree of latitude 20.5° N and longitude 87.5° E at about 100 km East South East of Chandbali.
- ii. The System moved slightly westwards and lay centered at 17.30 Hrs IST of 03.08.06 near latitude 19.5° N and longitude 84.0° E about 100 km North West of Gopalpur.
- iii. On 04.08.06 IMD had reported that the deep depression over South Orissa moved West North Westwards and lay centered at 8.30 Hrs IST of 04.08.06 near latitude 20.0° N and longitude 82.5° E about 100 km North East of Jagdalpur. The systems moved in west north westerly direction and weakened gradually.

Third Phase (August 2nd Week)

- i. On 11.08.06 a well marked low pressure laid over North Bay of Bengal. It had intensified into a depression and lay centered at 8.30 hrs IST on 12.08.06 within a half a degree of latitude 21.0° N and longitude 88.0° E about 100 km East South East of Balasore. The system moved in a West North Westerly direction and crossed North Orissa and adjoining West Bengal coast between Chandbali and Digha. On 13.08.06 these systems lied over Chhatisgarh and neighbourhood and moved in a West North- Westerly direction and weakened gradually.
- ii. On 16.08.06, a depression was formed over North West Bay of Bengal and lay centered at 8.30 Hrs IST within half a degree of latitude 20.5° N and longitude 88.0° E about 150 km South East of Balasore. These system crossed North Orissa coasts near Chandbali at about 20.00 Hrs IST on 16.08.06.

Fourth Phase (August 3rd Week)

On 22.08.06, Low pressure over North Bay of Bengal lied over North West Bay of Bengal off West Bengal & Orissa coast. Under its influence monsoon was very active over coastal Orissa. Heavy to very heavy rain fall occurred at few places.



Fifth Phase (August last Week)

- i. On 29.08.06, Low pressure area over North West Bay of Bengal converted into a depression and lay centered at 8.30 hrs IST of 2.8.06 within half a degree of latitude 20.5° N and longitude 87.5° E at about 100 km East South East of Chandbali. This system moved in a North Westerly direction and crossed Orissa coast between Balasore and Puri.
- ii. On 03.09.06, Low pressure area over North West Bay of Bengal was concentrated into a depression and lay centered at 17.30 hrs within half a degree of latitude 20.5° N and longitude 88.5° E at about 180 km South East of Balasore. Then the system moved westwards and crossed North Orissa coast at about 8.30 Hrs. IST of 04.09.06 close to Chandbali.

2.4 Characteristics of the River System

The unprecedented downpour due to a series of depressions in the Bay of Bengal brought 5 spells of flood within July & August of this year creating flood havoc in almost all the river basins and sub-basins of the State. As many as 27 nos. of districts were affected because of flood inundation to agricultural fields and homestead lands due to overtopping and occurrence of breaches of river embankments causing severe damages to crops, communication and other public utilities.

1st Phase Flood

Heavy monsoon rainfall lashed the western, southern as well as coastal Orissa along with cyclonic storm during the period from 02.07.06 to 04.07.06 causing flood in catchments of Lower Mahanadi basin/Vamsadhara basin and Rushikulya basin.

Rivers like Hati, Udanti, Under, Tanjore, Tel, Vamsadhara, Rushikulya experienced high flood flowing sufficiently above their danger levels for long periods causing serious damage to the river banks & irrigation infrastructures in the districts of Bolangir, Boudh, Gajapati, Ganjam, Kalahandi, Khordha,



Koraput, Nayagarh, Rayagarh, Subarnapur, Kandhamal, Nawarangpur, Kendrapara, Bhadrak, Jagatsinghpur, Puri and Nuapara.

The flood levels recorded during this period is given below.

Name of River	Name of Gauge Station	Date	Danger Level	Observed flood level
1. Hati	Junagarh	04.07.06	193.96 m.	195.63 m.
2. Udanti	Masigaon	04.07.06	203.778 m.	204.97 m.
3. Under	Saganmunda	04.07.06	97.00 m.	98.60 m.
4. T anjore	Diatou	04.07.06	96.30 m.	97.00 m.
5. Tel	Golmunda	04.07.06	231.35 m.	233.70 m.
6. Vamsadhara	Kashinagar	02.07.06	54.60 m.	56.36 m.
7. Rushikulya	Purushottampur	02.07.06	16.84 m.	17.40 m.

Monsoon being vigorous over the northern Orissa, Subarnarekha basin received heavy rain form 14.07.06 to 16.07.06 and consequently high flood were experienced in Subarnarekha River and Jalaka River. Both the rivers ran above their danger levels and caused large scale damage to the districts of Mayurbhanj & Balasore. The enormous flood discharge received in river "Jalaka" inundated a vast area of Basta block from 14.07.06 to 16.07.06. The high flood level observed is given at *Table-2.2*

Name of River	Name of Gauge Station	Date	Danger Level	Observed flood level
1. Subarnarekha	Rajghat	17.07.06	10.36 m.	10.20 m.
2. Jalaka	Basta	14.07.06	5.50 m.	6.58 m.

[Table - 2.2]

2nd Phase flood

Catastrophic rainfall due to vigorous monsoon and subsequent deep depression in North and Southern districts of Orissa brought disastrous flood in 4 basins like Subarnarekha, Baitarani, Vamsadhara, Kolab and Indravati from 27.07.06 to 04.08.06. There were 10 nos. of districts like Mayurbhanj, Balasore,



Bhadrak, Jajpur, Keonjhar, Rayagada, Koraput, Malkangiri, Ganjam and Nawarangpur got affected. The damage to all public utilities was severe particularly in Malkangiri district.

All the rivers which have either touched danger level or rose above danger level are given below at *Table-2.3*

Name of River	Station	Date	Danger Level	Observed Level	
1. Subarnarekha	Rajghat	31.07.06	10.36 m.	12.00 m.	Remained above D.L. 30.07.06 & 31.07.06
2. Baitarani	Akhuapada	30.07.06	17.83 m.	18.26 m.	Remained unchanged from 30.7.06 to 03.08.06
3. Vamsadhara	Kashinagar	03.08.06	54.60 m.	55.96 m.	

[Table - 2.3]

A combined discharge of 3, 25,000 cusec in river Sabari as detailed below at *Table-2.4* ransacked all five nos.of blocks of Malkangiri district.

Sl.	Name of River System	Discharge in cusecs
1	Kolab river system	70,000
2	Saptadhara & Pوغان river system	85,000
3	Satiguda and Potteru river system	95,000
4	Sabari river	1,05,000
Total		3,25,000

[Table - 2.4]

3rd & 4th Phase flood

Due to the effect of depression over Bay of Bengal on 13.8.06, heavy rain fall was experienced in coastal and western districts. Heavy downpour had occurred at upper catchment of the Mahanadi, Baitarani, Subarnarekha, Vanshadhara basins. As a result medium flood occurred in these rivers. The worst affected districts are Sambalpur, Balasore, Bargarh, Bhadrak, Jajpur, Puri, Subarnapur, Nayagarh and Nawarangpur.

Heavy precipitation in the Brahmani basin from 22.08.06 to 24.08.06 fetched heavy flood in its river system which resulted in large scale damages in



the districts of Subarnapur, Keonjhar, Cuttack, Jajpur, Bhadrak, Balasore and Kendrapara. The peak gauge of river Brahmani observed at Jenapur was 70.50 ft. against the danger level of 67.00 ft. which is said to be the highest ever flood peak in the last 50 years.

5th Phase flood

The last flood was experienced in the great river Mahanadi due to heavy torrential rain throughout its basin from 29.08.06 to 30.08.06 that topped the danger level at all the gauge stations along its entire course including the branches and sub-branches, the major contribution being the discharge of Tel River. The river Tel supplemented a discharge to a tune of 9.12 lakh cusecs corresponding to the highest Mundali discharge of 12.83 lakh cusecs with H.F.L. of 26.70 m. at Naraj against Danger Level of 26.41 m. on 01.09.06.

A few no. of breaches occurred in small rivers like Chitrotpala, Luna and Paika. Two major breaches one at Luna left near Maharkul and another one on Chitrotpala right near Patkura were occurred under Kendrapara Irrigation Division flooding vast area of Kendrapara district.

On the other hand the flood in Tel and upper reaches of Mahanadi caused flood inundation due to spilling over the banks at many places causing damage to the public utilities. The low lying land of Lower Mahanadi basin remained flooded for many days due to faulty drainage system causing loss to Kharif crop and livelihood of the people.

The districts like Bolangir, Sambalpur, Nayagarh, Khordha, Cuttack, Jajpur, Jagatsinghpur, Kendrapara, and Puri were the most affected districts.

2.5 Impact

Area and Population affected

(a) 1st Phase Flood

During first phase flood 129 blocks of 19 districts were affected. 9591 villages of 1575 GPs, with a population of 20.90 lakh had been affected due to floods. Extent of damages (District Wise) is at *Table - 2.5*



SI No.	Name of the Districts	No of Blocks Affected	GPs Affected	Village Affected	ULB Affected	Population Affected
1	Bolangir	8	140	636		254000
2	Boudh	1	8	19		7490
3	Gajapati	7	64	319	2	117000
4	Ganjam	22	487	2786	18	320996
5	Kalahandi	13	271	1088	3	210576
6	Khordha	10	118	475	5	205471
7	Koraput	14	114	327		15670
8	Nayagarh	5	63	79	2	10000
9	Rayagada	11	128	2037	3	220000
10	Subarnapur	4	12	48		9092
11	Balasore	3	13	105		15000
12	Kandhamal	12	86	220	2	158200
13	Nawarangpur	2		11		16156
14	Kendrapara	1		2		
15	Bhadrak	Storm surge				
16	Jagatsinghpur	Storm surge				
17	Puri	11		1189	2	228048
18	Nuapada	5	71	250	2	303000
19	Angul					
Total		129	1575	9591	39	2090699

[Table - 2.5]

(b) 2nd Phase Flood

56 blocks of 11 districts had been affected by this flood. 4262 villages of 768 GPs with a population of 14.29 lakh had been affected. Extent of damages districts wise is at *Table-2.6*.

SI No.	Name of the Districts	No of Blocks Affected	GPs Affected	Village Affected	ULB Affected	Population Affected
1	Balasore	4	64	403	0	339324
2	Bhadrak	4	39	178	0	222708
3	Mayurbhanj	0	0	0	1	1107
4	Jajpur	3	53	230	1	10063
5	Gajapati	7	122	538	0	156000
6	Rayagada	3	3	4	0	1000



7	Koraput	12	138	1033	0	200000
8	Malkanagiri	7	105	898	2	210674
9	Dhenkanal	4	31	105	0	10500
10	Kendrapara	4	51	151	0	172564
11	Jagatsinghpur	8	162	722	0	105271
Total		56	768	4262	s4	1429211

[Table - 2.6]

(c) 3rd & 4th Phase Flood

This flood has affected 75 blocks of 20 districts. 2504 villages of 587 GP with a population of 14.44 lakh have been affected. Extent of damages districts wise is at *Table-2.7*.

SI No.	Name of the Districts	No of Blocks Affected	GPs Affected	Village Affected	ULB Affected	Population Affected
1	Subarnapur	3	3	6	2	6648
2	Puri	11	54	255	1	13095
3	Keonjhar	Heavy Rain				
4	Angul	2				
5	Sambalpur	7	38	227	2	12443
6	Balasore	7	83	534	1	375213
7	Bargarh	5	64	348	1	86000
8	Nawarangpur	4	44	126		1475
9	Bhadrak	4	39	184		223000
10	Mayurbhanj	5	20	77	1	32000
11	Jajpur	10	122	412	1	403057
12	Kandhamal	Heavy Rain				
13	Nayagarh	Heavy Rain				
14	Dhenkanal	4	29	54		8000
15	Cuttack	2	4	19	1	5810
16	Kendrapara	9	85	256	1	273142
17	Jagatsinghpur	1	1	5		4500
18	Khordha	1	1	1		198
19	Nuapada	Heavy Rain				
20	Bolangir	Heavy Rain				
Total		75	587	2504	11	1444581

[Table - 2.7]



(d) 5th Phase Flood

This flood has affected 101 blocks of 14 districts. 6024 villages of 1168 GP with a population of 30.18 lakh had been affected. Extent of damages districts wise is at *Table-2.8*.

Sl No.	Name of the Districts	No of Blocks Affected	GPs Affected	Village Affected	ULB Affected	Population Affected
1	Angul	2	12	66	1	43600
2	Bolangir	14	175	850	0	250000
3	Boudh	3	20	54	0	25774
4	Cuttack	14	153	469	2	445593
5	Jagatsinghpur	7	33	108	0	86242
6	Jajpur	3	30	112	0	50000
7	Kandhamal	12	153	960	2	150000
8	Kendrapara	9	131	612	1	498854
9	Khordha	10	108	455	3	342113
10	Nayagarh	3	23	116	0	65705
11	Puri	11	230	1611	0	803089
12	Subarnapur	6	48	173	1	27000
13	Balasore	3	40	363	0	166687
14	Mayurbhanj	4	12	75	1	64250
Total		101	1168	6024	11	3018907

[Table -2.8]

2.6 Total Area & Population Affected [Phase-I to Phase-V]

- No. of Districts Affected - 27
- No. of Blocks Affected - 245
- No. of GP Affected - 3574
- No. of Villages Affected - 18912
- No. of ULB Affected - 73
- Population Affected - 67.39 lakh

**District-wise Abstract Showing Total Area & Population Affected
[Phase-I to Phase-V]**

Sl.	Name of the districts	No. of Blocks	GPs (Nos.)	Villages (Nos.)	ULB (Nos.)	Wards (Nos.)	Population Affected	Livestock affected
1	2	3	4	5	6	7	8	9
1	Angul	7	45	139	1	6	3833	0
2	Balasore	8	120	843	1	7	583077	149609
3	Bargarh	11	227	971	3	39	669920	14870
4	Bhadrak	4	39	173	0	0	223218	11067
5	Bolangir	14	313	1437	4	38	462000	13
6	Boudh	3	20	54	0	0	25774	0
7	Cuttack	14	153	469	2	49	446697	173923
8	Dhenkanal	5	29	82	1	3	16000	0
9	Gajapati	7	122	538	2	29	156000	57
10	Ganjam	22	475	2786	18	112	235680	0
11	Jagatsinghpur	8	47	153	0	0	105271	58685
12	Jajpur	10	135	499	2	26	493029	97850
13	Kalahandi	13	254	1088	3	52	210576	16900
14	Kandhmal	12	153	706	2	26	150000	544
15	Kendrapara	9	120	470	2	19	661285	363125
16	Keonjhar	6	30	50	2	10	28130	0
17	Khordha	10	118	475	5	57	205471	0
18	Koraput	14	184	1232	4	75	87673	22850
19	Malkangiri	7	105	898	2	25	210674	1216
20	Mayurbhanj	5	25	108	1	2	44130	27281
21	Nabarangpur	10	110	320	2	14	17554	0
22	Nayagarh	4	63	116	1	13	65705	28908
23	Nuapada	5	101	382	2	30	395000	0
24	Puri	11	230	1611	4	50	872776	297914
25	Rayagada	11	128	2060	3	23	220000	7019
26	Sambalpur	9	135	647	4	71	92325	0
27	Subarnapur	6	93	605	2	16	57370	3130
	Total	245	3574	18912	73	792	6739168	1274961



2.7 Human Casualty

105 persons lost their lives due to floods last year. The district wise numbers are given at *Table-2.9* below.

Sl.	District	No. of death cases
1	Angul	4
2	Balasore	1
3	Bargarh	4
4	Bolangir	3
5	Bhadrak	6
6	Boudh	1
7	Cuttack	2
8	Dhenkanal	1
9	Gajapati	15
10	Ganjam	1
11	Jagatsinghpur	1
12	Jajpur	2
13	Kalahandi	5
14	Kandhamal	2
15	Kendrapara	2
16	Keonjhar	4
17	Khordha	2
18	Koraput	7
19	Malkangiri	5
20	Mayurbhanj	3
21	Nawarangpur	8
22	Nayagarh	4
23	Nuapada	1
24	Puri	6
25	Rayagada	12
26	Sambalpur	2
27	Subarnapur	1
Total		105

[Table -2.9



2.8 Loss of Livestock

The floods during 2006 had caused loss of 1656 livestock in 10 Districts. The district wise loss of livestock is given at *Table-2.10*

SL.	District	No. of Livestock lost
1	Bolangir	13
2	Gajapati	159
3	Kalahandi	124
4	Koraput	99
5	Malkanagiri	1216
6	Cuttack	8
7	Jagatsinghpur	5
8	Kendrapara	26
9	Nayagarh	3
10	Puri	3
Total		1656

[Table -2.10]

2.9 Crop Damage

During Kharif 2006, the State received heavy and very heavy rainfall during 30th June to 3rd July, 13th July to 15th July, 1st August to 4th August, 21st August to 23rd August & 29th August to 30th August. This led to submergence of vast area and flooding. Total rainfall received during July & August is 437.5mm and 628.6 mm respectively against a normal rainfall of 339.9 mm for July and 356.0 mm for August. The state received 28.7% more rain fall than normal during July and 76.6% more rain fall than normal during August. Due to flood and heavy rain during July and August, the total cropped area under submergence is 465286 hect., out of which 50% or more crop loss has been estimated in an area 249488.6 hecets, the district wise break up is given below in *Table-2.11*.

District wise Area submerged and affected during Kharif 2006

Sl.	District	Area Submerged [in Hect.]	Area having crop loss more than 50% [in Hect.]
1	Angul	1771	1214
2	Balasore	58180	18290
3	Bargarh	522.19	522.19
4	Bhadrak	32747	20180
5	Bolangir	24212	6759



6	Boudh	6321	1077
7	Cuttack	36281	26110
8	Dhenkanal	3910	460
9	Gajapati	402	
10	Ganjam	20785	8444
11	Jagatsinghpur	25000	25000
12	Jajpur	38583	17512
13	Kalahandi	11951	
14	Kandhmal	1382	525
15	Kendrapara	69940	38658
16	Keonjhar	998	250
17	Khordha	7205	845
18	Koraput	17004	5856
19	Malkangiri	6925	5384
20	Mayurbhanj	4524	3777.2
21	Nabarangpur	5140	
22	Nayagarh	6039	2784
23	Nuapada	5240	795
24	Puri	90070	58465
25	Rayagada	3260.6	
26	Sambalpur	168.22	91.38
27	Subarnapur	11725	6490
Total		465286	249488.66

[Table - 2.11]

2.10 Damage to Sericulture Farmers

194.8 hectares of Mulberry crops and 963 hectares of Tassar crops had sustained loss of 50% and above due to floods. 1539 nos. of Mulberry farmers were affected. The district wise details are given below at *Table-2.12*

Name of the District	No. of Farmers Affected	Area of Damage caused to plantation Muga/ Tassar (In Hc.)	Area of Damage caused to Plantation Mulberry/ Eri (In Hc.)	Total Area of damage (2+3) (In Hc)
Angul	70	30	8	38
Dhenkanal	50	20	6	26
Gajapati	200	0	80	80
Jajpur	15	15		15
Kalahandi	47	0	10.8	10.8
Kandhamal	113	0	40.2	40.2
Keonjhar	318	238	21	259



Koraput	23	0	9.2	9.2
Mayurbhanj	510	510	2.4	512.4
Rayagada	18	0	7.2	7.2
Sundargarh	175	150	10	160
Total	1539	963	194.8	1157.8

[Table -2.12]

2.12 Sand Cast

28337.40 hectares of crop land have been sand cast due to floods in different districts. The district wise detail is given in *Table-2.13*.

Sl.	District	Area under sand cast (in hectare)
1	Angul	0
2	Balasore	0
3	Bargarh	241.62
4	Bhadrak	0
5	Bolangir	6401.77
6	Boudh	235.98
7	Cuttack	0
8	Dhenkanal	0
9	Gajapati	148.7
10	Ganjam	80
11	Jagatsinghpur	166
12	Jajpur	0
13	Kalahandi	11192
14	Kandhmal	525
15	Kendrapara	392
16	Keonjhar	0
17	Khordha	0
18	Koraput	1498.33
19	Malkangiri	1052
20	Mayurbhanj	0
21	Nabarangpur	1867.68
22	Nayagarh	43.21
23	Nuapada	177
24	Puri	0
25	Rayagada	1072.63
26	Sambalpur	53.38
27	Subarnapur	3180.1
Total		28337.40

[Table - 2.13]



2.13 House damage

1, 30,460 nos. of houses have been damaged due to floods in five phases. Out of this 9,477 nos. of houses had been fully damaged where as 34,238 nos. of house severely damaged. 86,745 nos. of houses had been partially damaged in different districts. The district wise house damage figure is given below at *Table-2.14*.

Sl.	District	Fully Damaged	Severely Damaged	Marginally Damaged	Total
1	Angul	2	87	552	641
2	Balasore	29	103	911	1043
3	Bargarh	2856	6831	8087	17774
4	Bhadrak	4	3	140	147
5	Bolangir	1498	3547	10841	15886
6	Boudh	83	126	275	484
7	Cuttack	0	12	872	884
8	Dhenkanal	4	7	362	373
9	Gajapati	46	328	4278	4652
10	Ganjam	0	9	132	141
11	Jagatsinghpur	14	105	772	891
12	Jajpur	18	193	1376	1587
13	Kalahandi	387	879	6056	7322
14	Kandhmal	132	388	6155	6675
15	Kendrapara	295	1639	3510	5444
16	Keonjhar	5	0	17	22
17	Khordha	5	163	2229	2397
18	Koraput	383	1826	3643	5852
19	Malkangiri	1321	694	2292	4307
20	Mayurbhanj	16	81	1222	1319
21	Nabarangpur	40	236	3225	3501
22	Nayagarh	0	0	969	969
23	Nuapada	280	160	2476	2916
24	Puri	25	0	4000	4025
25	Rayagada	189	6358	4289	10836
26	Sambalpur	416	1818	5423	7657
27	Subarnapur	1429	8645	12641	22715
Total		9477	34238	86745	130460

[Table - 2.14]



2.14 Loss of Livelihood

Due to floods during July and August 4815 nos. of rural artisans had been affected causing damages to their equipments and raw materials. Similarly, 6301 nos. of Handloom Weavers had been affected. The district wise list of affected artisans and weavers is given in *Table-2.15*

Sl. No.	Name of the district	No. of Artisans affected	No. of Handloom Weavers affected.
1.	Khordha	500	23
2.	Bhadrak	71	51
3.	Bolangir	2460	185
4.	Jagatsinghpur	153	0
5.	Jajpur	650	313
6.	Kalahandi	129	145
7.	Mayurbhanj	5	56
8.	Malkanagiri	150	0
9.	Nayagarh	500	22
10.	Subarnapur	80	1848
11.	Cuttack	50	132
12.	Kendrapara	67	409
13.	Angul		120
14.	Dhenkanal		0
15.	Puri		209
16.	Koraput		25
17.	Ganjam		10
18.	Bargarh		1899
19.	Sambalpur		93
20.	Keonjhar		50
21.	Boudh		45
22.	Kandhamal		37
23.	Nuapada		413
24.	Balasore		196
25.	Rayagada		20
	Total	4815	6301

[Table - 2.15]



2.15 Damage to Nets and Boats of Fishermen

12431 nos. of boats and 12431 nos. of nets had been damaged or lost due to floods and cyclonic depression during July and August. The district wise details are given below in *Table-2.16*

Sl.	District	No. of Boats damaged	No. of Nets damaged
1	Cuttack	21	21
2	Jajpur	220	220
3	Kendrapara	355	355
4	Jagatsinghpur	2667	2667
5	Puri	1018	1018
6	Khordha	6304	6304
7	Nayagarh	65	65
8	Balasore	437	437
9	Bhadrak	398	398
10	Mayurbhanj	0	0
11	Ganjam	37	37
12	Gajapati	93	93
13	Kandhamal	0	0
14	Boudh	9	9
15	Kalahandi	167	167
16	Nuapada	0	0
17	Koraput	17	17
18	Nawarangpur	22	22
19	Malkangiri	67	67
20	Rayagada	157	157
21	Sambalpur	30	30
22	Jharsuguda	0	0
23	Deogarh	0	0
24	Bargarh	126	126
25	Sundargarh	0	0
26	Bolangir	80	80
27	Subarnapur	128	128
28	Keonjhar	0	0
29	Dhenkanal	13	13
30	Angul	0	0
	Total	12431	12431

[Table - 2.16]



2.16 Drinking Water Problem

Most of the drinking water sources in rural and urban areas had been submerged due to flood water. As a result Rural Water Supply System as well as Urban Water Supply System had been badly affected. 79 No. of Pipe Water Supply Projects have been damaged extensively during this flood.

2.17 Disruption of Communication.

(i) Flood-2006 and the effect of depression had caused extensive damage to PWD roads, Rural roads and Panchayat roads. The damage to roads in various sectors is given below.

Category of roads	No. of roads damaged	Length of roads damaged (in Km)	No. of culverts / CD collapsed.
PWD Roads	1716	3087.90	193
Panchayat Roads	11348	1172.76	689
Rural roads		6509.15	312

Disruption of Communication.

Category of roads	Breach Occurred in length	Length of roads damaged (in Km)	Pot holes in length	Major Bridge collapsed in length	Minor Bridges collapsed in length	Culverts collapsed	Culverts severely damaged
PWD Roads	18350.66 mtr.	3087.90	3784 Km.	215.34 mtr.	98.80 mtr.	193	1716
Panchayat Roads	33174.00 Km.		4881869 Sq. Km.	16 mtr.		312	2844
Rural roads	1172.76 Km.		11348 nos.			689	918

(ii) Due to land slide in Rayagada, Gajapati and Koraput districts and floods severe damages had been caused to major bridges of Works and R.D. Department. The details of the damages of bridges are mentioned below.



Category of Bridges	Length of bridge collapsed (in Mtr)	Severely structurally damaged (in mtrs.)
PWD Bridges	215.34	4064.04
R.D. Bridges	16.00	

2.18 Damage to River and Canal Embankments.

Due to heavy flood in coastal districts and flash flood in southern and western districts, 523 breaches in river embankments and 1508 breaches in canal embankments had been occurred. Extensive damages had been caused to the bank of the river system as well as to canal system.

2.19 Damage to other public utilities

Besides the above, following types of public utilities had been damaged due to floods.

1.	Water harvesting structures	815 nos.
2.	Community workshed in Handloom sector	25 nos.
3.	Society Building under Sericulture sector	44 nos.
4.	Anganwadi Centres	369 nos.
5.	Lift Irrigation Points owned by Pani Panchayats	5761 nos.
6.	Building of Animal Husbandry Sector	181
7.	School Buildings	3047
8.	Rural Government Buildings	2869
9.	Buildings of Urban Local Bodies	189
10.	Public Buildings of PWD	8128
11.	Damage to Natural Drainage Channels	1746.945 Km.
12.	Damage to Minor Irrigation Project	1379 nos.
13.	Damage to Power Sector	
	a) Primary Substation Damaged	11 nos.
	b) Distribution Substation Damaged	434 nos.
	c) 33 KV line damaged	21 Km.
	d) 11 KV line damaged	475 Km.
	e) LT line damaged	521 Km.



2.20 Loss Assessment

The total loss due to flood / heavy rain was Rs.2382.43 crore. The department-wise loss assessment is given below in table.

Sl.	Department	Amount (Rs. in lakh)
1.	Panchayati Raj	49534.99
2.	Fishery and Animal Resources Development	901.17
3.	Water Resources	53593.01
4.	Agriculture	6344.65
5.	Handloom & Textile	295.45
6.	Health and Family Welfare	956.43
7.	Rural Development	38845.64
8.	Works	65207.86
9.	Housing and Urban Development	14512.69
10.	Energy	2300.98
11.	Women and Child Development	364.35
12.	Special Relief Commissioner	5385.39
Total		238242.61

2.21 Flood Management

Rescue

In all phases of flood, flood warning messages were communicated to the districts well in advance. People from low lying areas were shifted to safer places. 1336 no of boats were engaged in relief and rescue operation. Five units and one unit of NDRF Team were engaged in relief and rescue operation. The district wise engagement of boats is given in the *Table-2.17*.

Sl.	District	No. of Boats
1.	Angul	23
2.	Balasore	76
3.	Bhadrak	30
4.	Bolangir	2
5.	Boudh	31
6.	Cuttack	58
7.	Dhenkanal	1
8.	Jagatsinghpur	81
9.	Jajpur	130



10.	Kendrapara	475
11.	Keonjhar	1
12.	Khurda	32
13.	Koraput	1
14.	Malkangiri	17
15.	Mayurbhanj	4
16.	Nayagarh	24
17.	Puri	286
18.	Sambalpur	17
19.	Subarnapur	25
Total		1336

[Table - 2.17]

Evacuation

About 63776 no. of people had been evacuated from the low lying areas. They were provided with adequate quantity of dry foods such as *Chuda*, *Gur*, and *Biscuits etc.* The district wise evacuation of people is given in *Table-2.18*

Sl. No.	Name of the district	People evacuated
1.	Angul	549
2.	Balasore	2043
3.	Baragarh	648
4.	Boudh	8259
5.	Cuttack	13531
6.	Dhenkanal	647
7.	Jagatsinghpur	300
8.	Kandhamal	781
9.	Kendrapara	16500
10.	Khorda	849
11.	Koraput	1651
12.	Malkangiri	3572
13.	Mayurbhanj	1957
14.	Rayagada	4450
15.	Subarnapur	8039
Total		63776

[Table - 2.18]



Free Kitchen

Evacuated persons were provided with adequate quantity of dry food and cooked food through free kitchen centres. 247 no. of free kitchen centres were opened. The district wise details is given in *Table-2.19*

Sl.	District	No. of free kitchen centres	No. of beneficiaries
1.	Angul	1	275
2.	Balasore	25	6627
3.	Baragarh		3488
4.	Bolangir	25	14425
5.	Boudh	32	15061
6.	Jagatsinghpur	1	300
7.	Kalahandi	27	6574
8.	Kendrapara	73	49228
9.	Khorda	3	787
10.	Koraput	3	1732
11.	Malkangiri	33	3572
12.	Mayurbhanj	1	1340
13.	Nawarangpur	10	221
14.	Puri	1	400
15.	Rayagada	2	1057
16.	Sambalpur	2	8464
17.	Subarnapur	8	8039
Total		247	121590

[Table - 2.19]

Emergent relief

Qtl.65694.28 of Rice, Qtl.11771.38 of Chuda and Qtl.1530.04 of Gur had been distributed among the affected people in the different districts. Besides, 60421 no.of biscuit packets and 4606 Itrs.of kerosene were also distributed. Total no.of beneficiaries covered under emergent relief was 32.05 lakh. Among them 19.92 lakh were adult and 12.13 lakh were children. The district wise distribution of emergent relief is given in *Table-2.20*.



Sl.	District	Emergent Relief		
		Rice in Qtl.	Chuda in Qtl.	Gur in Qtl.
1	Angul	39.21	5.84	0.64
2	Balasore	4989.16	1101.73	110.14
3	Bargarh	14.38	3.00	1.00
4	Bhadrak	2713.10	20.00	0.46
5	Bolangir	224.63	46.63	11.92
6	Boudh	530.17	22.92	4.58
7	Cuttack	3453.20	248.38	33.36
8	Dhenkanal	25.71	43.85	6.43
9	Ganjam	0.50	13.05	2.44
10	Jagatsinghpur	7456.80	488.43	59.45
11	Jajpur	5609.25	78.30	26.20
12	Kalahandi	459.48	12.13	3.25
13	Kandhmal	5547.00	0.00	0.00
14	Kendrapara	15020.58	3782.62	442.55
15	Keonjhar	0.00	0.00	0.00
16	Khordha	749.92	359.65	36.48
17	Koraput	26.61	68.93	64.51
18	Malkangiri	879.17	68.80	18.32
19	Mayurbhanj	50.00	172.86	24.29
20	Nabarangpur	0	23.65	2.50
21	Nayagarh	388.76	47.73	9.43
22	Nuapada	0.00	0.50	0.05
23	Puri	16563.70	5045.49	649.67
24	Rayagada	591.48	19.89	4.41
25	Sambalpur	64.26	73.25	13.50
26	Subarnapur	297.21	23.75	4.46
	Total	65694.28	11771.38	1530.04

[Table -2.20]

Health & Sanitation

In order to prevent outbreak of any epidemic, medical teams had been deployed to the flood affected districts well in advance. 220 nos. of medical teams had been pressed to service in the flood affected areas. 496 nos. of medical centres opened. The district wise list is given below in *Table.2.21*.



Sl. No.	District	No. of medical teams deployed	Medical centres opened.
1.	Puri	13	113
2.	Nayagarh	6	25
3.	Khordha	6	14
4.	Cuttack	15	68
5.	Jagatsinghpur	13	24
6.	Kendrapara	25	33
7.	Subarnapur	11	30
8.	Bolangir	15	40
9.	Boudh	3	0
10.	Angul	3	4
11.	Jajpur.	29	64
12.	Bhadrak	11	24
13.	Kandhamal	3	0
14.	Koraput	21	3
15.	Malkangiri	40	40
16.	Sambalpur	6	14
Total		220	496

[Table - 2.21]

Rural Development Department and Health Department had distributed 44, 68,544 nos. of Halogen tablets among the affected people of the flood affected districts. The district wise distribution is mentioned below in *Table-2.22*

Sl.No.	District	Total Halogen Tablets distributed.
1.	Jajpur	985850
2.	Puri	1214308
3.	Subarnapur	21530
4.	Dhenkanal	0
5.	Angul	0
6.	Kandhamal	8000
7.	Balasore	242357
8.	Bhadrak	107106
9.	Malkangiri	30000
10.	Boudh	39700
11.	Jagatsinghpur	226157
12.	Cuttack	229725
13.	Nayagarh	105200



14.	Khordha	138611
15.	Bolangir	290000
16.	Kendrapara	830000
Total		4468544

[Table - 2.22]

Distribution of ORS packets

483714 nos. of ORS packets had been distributed to the affected people.

The district wise distribution is mentioned below in Table-2.23

Sl.	District	ORS packets distributed
1.	Puri	15163
2.	Nayagarh	1812
3.	Khordha	9647
4.	Cuttack	11225
5.	Jagatsinghpur	14336
6.	Kendrapara	56865
7.	Subarnapur	3193
8.	Jajpur	24218
9.	Balasore	5083
10.	Bhadrak	189059
11.	Boudh	824
12.	Kandhamal	89
13.	Koraput	148200
14.	Malkangiri	4000
Total		483714

[Table - 2.23]

Supply of Drinking Water

Safe drinking water had been supplied to the flood affected people through 15 water tankers. 11, 32,300 nos. of water pouches had been distributed to the affected people. 57,684 nos. of water bottle(1.0 ltr. Capacity) had been distributed to the flood affected people. 155 packets (25 kg.) of bleaching powder had also been distributed. 25 nos. of mobile vans engaged in supplying drinking water in the flood affected areas. Out of the 79 nos. of affected pipe water supply in rural areas, 46 pipe water supply systems had been restored. The district wise details are given below in Table-2.24



Sl.	District	No. of water pouches distributed	No. of water tankers engaged	No. of mobile vans engaged	No. of water bottles distributed	No. of pipe water supply system restored
1.	Jajpur	156500	0	0	0	1
2.	Puri	113700	5	8	0	13
3.	Subarnapur	0	0	0	0	0
4.	Dhenkanal	0	0	0	0	0
5.	Angul	860	0	0	0	3
6.	Kandhamal	0	0	2	0	5
7.	Boudh	160	0	0	0	2
8.	Jagatsinghpur	60080	3	6	0	0
9.	Cuttack	9200	0	0	0	8
10.	Nayagarh	42000	0	0	0	0
11.	Khordha	136000	0	0	0	0
12.	Bolangir	0	0	0	0	8
13.	Kendrapara	613800	3	8	57684	8
Total		1132300	11	24	57684	48

[Table - 2.24]

Disinfection of Drinking Water Sources

Most of the wells and tube wells had been submerged in flood water. 26689 no. of wells and 25796 no. of tube wells had been disinfected. The district wise disinfection of wells and tube wells are given below in *Table-2.25*

Sl.	Name of the district	No. of wells disinfected	No. of tube wells disinfected.
1.	Jajpur	868	1720
2.	Puri	957	6415
3.	Subarnapur	45	236
4.	Dhenkanal	0	1305
5.	Angul	0	1610
6.	Kandhamal	0	660
7.	Boudh	223	248
8.	Jagatsinghpur	4125	1799
9.	Cuttack	18069	1331
10.	Nayagarh	34	120
11.	Khordha	342	355
12.	Bolangir	55	194
13.	Kendrapara	776	3388
14.	Puri	1195	6415
Total		26689	25796

[Table -2.25]



(i) Animal Care

Affected animals were shifted to safer places and were provided with cattle feeds. 15 mobile veterinary teams had been deployed in flood affected areas. 127 no. of veterinary doctors had been engaged in animal care operation. The district wise engagement of veterinary doctors is given below at *Table-2.26*

Sl. No.	District	No. of Veterinary Doctors engaged
1.	Balasore	9
2.	Jajpur	13
3.	Puri	15
4.	Bhadrak	19
5.	Kendrapara	11
6.	Mayurbhanj	21
7.	Cuttack	18
8.	Jagatsinghpur	14
9.	Khordha	3
10.	Nayagarh	4
Total		127

[Table - 2.26]

(ii) Treatment of Animals

89211 no. of animals had been treated in the flood affected areas. 909261 vaccinations had been done to the affected animals. The district wise vaccination position is given below at *Table-2.27*

Sl. No.	District	No. of vaccinations done
1.	Balasore	110335
2.	Jajpur	149150
3.	Puri	121942
4.	Bhadrak	79400
5.	Kendrapara	124850
6.	Mayurbhanj	22050
7.	Cuttack	101580
8.	Jagatsinghpur	25130
9.	Khordha	17230
10.	Nayagarh	2900
11.	Gajapati	4150
12.	Koraput	101794
13.	Kalahandi	5100



14.	Ganjam	8850
15.	Malkanagiri	20500
16.	Bolangir	14300
Total		909261

[Table - 2.27]

(iii) Supply of Cattle Feed

Qtl.2079.19 MT of cattle feed had been distributed to the flood affected cattle. The district wise distribution of cattle feeds is given below in *Table-2.28*

Sl.	District	Cattle feeds distributed in MTs.
1.	Balasore	80.00
2.	Bhadrak	100.00
3.	Jajpur	130.00
4.	Puri	859.09
5.	Khordha	100.00
6.	Cuttack	72.50
7.	Jagatsinghpur	183.15
8.	Kendrapara	499.45
9.	Nayagarh	30.00
10.	Mayurbhanj	25.00
Total		2079.19

[Table -2.28]

Temporary Shelter Materials

51489 nos. of families had been provided with polythene sheets for temporary accommodation as their houses had been washed away or severely destroyed. The district wise distribution of polythene sheets to the families is given below at *Table-2.29*.

Sl.	District	No. of family provided with temporary shelters
1	Angul	80
2	Balasore	73
3	Bargarh	2035
4	Bolangir	400
5	Boudh	83
6	Gajapati	313



7	Ganjam	86
8	Jajpur	615
9	Kalahandi	900
10	Kandhamal	20
11	Khordha	9
12	Koraput	1955
13	Malkanagiri	2520
14	Mayurbhanj	2504
15	Nawarangpur	2580
16	Nayagarh	2273
17	Nuapada	712
18	Rayagada	6547
19	Sambalpur	2224
20	Subarnapur	533
21	Cuttack	339
22	Puri	1511
23.	Kendrapara	5960
Total		34272

[Table - 2.29]

Other Materials

111.45 Qtl. of dal, 14.27 Qtl. potato, 9406 Pieces of dhoti and saree, 4476 pieces of utensils, 854 pairs of child garments, 4186 pieces of candles, 3422 pieces blankets were distributed in the flood affected areas.

Ex-gratia Assistance

As per CRF norms ex-gratia assistance @Rs.50,000/- was paid to the next of kin of the deceased persons died due to flood, 2006.

House Building Assistance

House Building Assistance was paid out of CRF to the affected people whose houses were damaged due to flood and heavy rain. An amount of Rs.1531.37 lakh was released to affected district for this purpose.

Sand Cast Assistance

An amount of Rs.474.49 lakh out of CRF was provided to Collectors towards sand cast assistance to the small and marginal farmers whose agricultural land were sand cast more than 6 inch.



Agriculture Input Subsidy

As per CRF norms, agricultural input subsidy was provided to affected small and marginal farmers due to flood and pest attack. For this purpose, Rs.3215.84 lakh had been given to Agriculture Department towards agriculture input subsidy.

Repair / Restoration of Public Infrastructure

An amount of Rs.39113.78 lakh had given to the following major Departments towards repair / restoration of public infrastructure damaged due to flood, 2006.

Sl.	Department	Amount as on 31.03.07 (Rs. in lakh)
1	Water Resources	11658.80
2	Works	8717.00
3	Rural Development	7231.84
4	Panchayati Raj	3000.00
5	Housing & Urban Development	2688.67
6	Energy	1000.00
7	Forest & Environment	50.00
8	Women and Child Development	100.00
9	SC & ST Development	200.00
10	Textile & Handloom	100.00
11	Health and Family Welfare	900.00
12	F. & A.R.D.	70.00

2.22 Visit of Central Team

An Inter-Ministerial Central Team headed by Shri S. K. Chottopadhyya, Joint Secretary, Ministry of Home Affairs, Government of India, visited the state during 4th September to 8th September to assess the flood situation. They visited 12 flood affected districts. At that time, the 4th phase flood was continuing. They were apprised about the severity of damages due to flood / heavy rain.



2.23 Assistance sought from Govt. of India

The State Govt. had submitted a Memorandum on flood / heavyrain to Govt. of India vide letter No.36581 / R&DM Dt.18.09.07 seeking the following assistance.

- i) Financial Assistance of Rs.2382.43 crore out of NCCF for relief & immediate restoration measures.
- ii) Special allocation of 1.00 lakh IAY house for flood victims of BPL category.
- iii) Special allocation of 2.5 lakh MT of food grain under special SGRY for employment generation programme for landless agricultural labourers.

2.24 Assistance received from Govt. of India

At the midst of monsoon during 2006, Hon'ble Prime Minister visited the State and realizing the severity of floods announced an assistance of Rs.200.00 core out of NCCF. But subsequently Govt. of India had released Rs.200.00 crore out of which only Rs.25.00 crore was from NCCF. Details of Rs.200.00 crore are as follows.

a)	2 nd instalment for the year 2006-07 towards Central share of CRF	-	Rs.116.34 crore
b)	25% Advance out of 1 st instalment of Central share of CRF for 2007-08	-	Rs.58.66 crore
c)	Assistance from NCCF	-	Rs.25.00 crore
	Total	-	Rs.200.00 crore

After a lapse of seven months from the occurrence of floods in the state and after a gap of 5 months from the visit of the Inter Ministerial Central Team on 17th January, 2007, the High Level Committee had approved the following assistance on the basis of the recommendation of Inter-Ministerial Committee and report of Central Team for flood,2006.

1. Rs. 115.24 crore from NCCF subject to adjustment of 75% of the balance available in the CRF account of the State for the instant calamity.
2. Rs.5.92 crore from Special Component of ARWSP.
3. 1.87 lakh MT food grain for relief employment from Special Component of SGRY, subject to its being lifted and utilized within three months, from the date of issuance of orders.



Chapter - III

3.1 Land Slide

Besides flood situation, land slide due to heavy rainfall were occurred in Rayagada & Gajapati districts causing extensive damages to life & properties.

Cyclonic storm due to depression in the Bay of Bengal had also caused loss of life of some fishermen in Bhadrak and Jagatsinghpur districts in 1st week of July.

3.2 Pest Attack

Along with these calamities, the state had experienced another calamity i.e. pest attack (swarming Caterpillar) in 3 districts namely Nuapada, Bargarh & Subarnapur causing damage to kharif crop in 4571 hecets. of land. An amount of Rs.33.84 lakh has provided to Agriculture Department towards input subsidy to the affected farmers due to pest attack. The district wise crop loss due to pest attack is given below in *Table-3.1*.

Sl.	Districts	Crop loss more than 50%	
		Area affected [in hectare]	Area having crop loss more than 50% [in hectare]
1	Nuapada	3558	2721
2	Bargarh	264	264
3	Subarnapur	749	399
	Total	4571	3384

[Table - 3.1]

3.3 Kharif Crop - 2006

Almost all the districts of the State except Deogarh, Jharsuguda and Sundargarh has received rainfall more than normal during 2006 monsoon period as a result of which there was no drought like situation in the state during 2006.



Chapter - IV

Other Calamities

4.1 Fire accidents

Most of the people of the state are socially and economically backward, live in villages in thatched houses, which are prone to fire. Fire accidents generally occur during summer and it causes unpredictable loss of life and properties.

District wise loss of life and properties due to fire accident during the period under report is given below.

Death due to Fire Accident

Sl.	District	Name of the Deceased	Age	Village	Block /Tahasil / Police Station	Date of Death
1	2	3	4	5	6	7
1	Boudh	Jhara Mahallik, W/o Mahadev		Khairamal	Boudh	22.02.06
1	Cuttack	Manga Bhoi S/o Baishnab	55	Sigmapur	Salipur	08.10.06
2	do	Manasa Sahu W/o Manoranjan		Mundamal	Chowdwar	30.08.06
3	do	Satyabhama Sahu W/o Abhimanyu	55	Mundamal	Chowdwar	31.08.06
4	do	Abhimanyu Sahu S/o Kaibalya	60	Mundamal	Chowdwar	01.09.06
1	Dhenkanal	Malati Sankhua, W/o Baidhar		Khukosa	Kamakhyanagar	20.03.06
2	do	Kabita Das D/o Giridhar	16	Damodarnali	Gondia	13.10.06
1	Ganjam	Satyaban Nayak S/o Govinda		Gadasantarapur	Digapahandi	16.02.06
2	do	Puni Nayak W/o late Bhaiga		Goudagaon	Digapahandi	02.01.06
3	do	Sanjukta Behera W/o Subash		Sisunda	Buguda	27.02.06
1	Kendrapara	Mamata Bhola W/o Kasinath	28	Baradang	Mahakalapara	06.10.06
2	do	Jyotirmayee Bhola D/o Kasinath	4	Baradang	Mahakalapara	06.10.06
3	do	Soudamini Das D/o Kanhei Ch		Sansidha	Aul	17.12.06
1	Keonjhar	Keshab Ch. Barik S/o Niranjana		Sakati	Sadar	01.05.06
1	Khurda	Kalisi Pradhan W/o Banambar	30	Ekdalia	Begunia	16.12.06
2	do	Bhgaban Majhi S/o late Usthav		Kanteilo	Bolagarh	02.04.06
3	do	Jayanti Majhi W/o late Bhagaban		Kanteilo	Bolagarh	02.04.06
1	Mayurbhanj	Lipu Purty S/o Sonaram	5	Jhankapada	Raruan	25.12.06
2	do	Ananda Purty S/o Rajen	4	Jhankapada	Raruan	25.12.06
3	do	Abhi Purty S/o Sujana	4	Jhankapada	Raruan	25.12.06
1	Nawarangpur	Kamalabati Bhatra W/o Laxman	25	Sirisi	Kodinga	25.06.06
2	do	Pabitra Bhatra S/o Laxman	1	Sirisi	Kodinga	25.06.06
1	Nayagarh	Bhanumati Das, W/o Biswambar		Khandapada	Khandapada	18.01.06
2	do	Salima Mohapatra, D/o Biswambar		Khandapada	Khandapada	21.01.06
1	Sundergarh	Rahul Barla S/o Duga	4	Sianbahal	Sadar	10.01.06
2	do	Aipin Soren S/o Lingaraj	4	Sianbahal	Sadar	10.01.06
3	do	Siba Sankar Dutia		Dalatmal	Sadar	12.04.06



Loss of Property due to Fire Accident and Account of Relief given during the year 2006-07

(Rs. In lakh)

Sl	Name of the District	No. of fire accident during the year	No. of villages affected	No. of families affected	No. of Institutions affected	Approximate value of property lost by fire							
						Individual	Institutions	State Govt	Local Bodies	Total (7 to 10)	Died	Injured	No. of cattle dead
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Angul	316	187	345		4032500				4032500			
2	Balasore	518	269	557		9533700				9533700			
3	Bargarh	34	34	52	1	623850	10000			633850			
4	Bhadrak	258	247	484		17490400				17490400			17
5	Bolangir	5	5	96		974000				974000			
6	Boudh	89	89	252		2587300				2587300	1		11
7	Cuttack	699	309	783		9434300				9434300	4		
8	Deogarh	39	31	39		490000				490000			
9	Dhenkanal	190	190	490		4727700				4727700	2		
10	Gajapati	50	50	129		731800				731800			
11	Ganjam	380	380	1813		17444800				17444800	3		27
12	Jagatsinghpur	212	212	293		5031000				5031000			5
13	Jajpur	118	118	411		8725700				8725700			
14	Jharsuguda	6	6	7		72800				72800			
15	Kalahandi	27	27	34		329110				329110			
16	Kandhamal	144	138	162		2555925				2555925			
17	Kendrapara	296	232	339		7769400				7769400	3		4
18	Keonjhar	132	125	285	1	363700	50000			3680700	1		
19	Khurda	188	188	578		7868875				7868875	3		
20	Koraput	176	152	225		1724880				1724880			
21	Malkangiri	46	45	78		531570				531570			
22	Mayurbhanj	259	203	295		4906280				4906280	3		
23	Nawarangpur	173	128	146		1448150				1448150	2		4
24	Nayagarh	126	126	497		5877408				5877408	2		
25	Nupapara	1	1	1		14925				14925			
26	Puri	234	231	478		5822200				5822200		1	7
27	Raygada	57	57	178		2470300				2470300			4
28	Sambalpur	40	40	52		544450				544450			
29	Subarnapur	109	109	221		1904700				1904700			
30	Sundargarh	14	12	14		35480				35480	3	1	
TOTAL		4936	3941	9334	2	126067203	60000	0	0	129394203	27	2	79



Sl.	Name of the District	Total amount of relief given to affected families			Total amount of relief given to institutions		Total amount of relief given U/S 140	Total of Col.-15 to 20
		Cash	Forest materials	Other	Cash	Forest material		
1	2	15	16	17	18	19	20	21
1	Angul	296912						296912
2	Balasore	532450						532450
3	Bargarh	22500						22500
4	Bhadrak	471750						471750
5	Bolangir	70500						70500
6	Boudh	203200						203200
7	Cuttack	512800						512800
8	Deogarh	29500						29500
9	Dhenkanal	733600						733600
10	Gajapati	123900						123900
11	Ganjam	1636438						1636438
12	Jagatsinghpur	282150						282150
13	Jajpur	307600						307600
14	Jharsuguda	6500						6500
15	Kalahandi	20000						20000
16	Kandhamal	154100						154100
17	Kendrapara	421800						421800
18	Keonjhar	310100						310100
19	Khurda	702250						702250
20	Koraput	212400						212400
21	Malkangiri	534000						534000
22	Mayurbhanj	157650						157650
23	Nawarangpur	130600						130600
24	Nayagarh	465423						465423
25	Nupapara	1200						1200
26	Puri	420900						420900
27	Raygada	444000						444000
28	Sambalpur	24000						24000
29	Subarnapur	81650						81650
30	Sundargarh	50000						50000
TOTAL		8675173						8675173



4.2 Lightning

In comparison to other natural calamities, the number of death cases due to lightning is high in Orissa. It occurs through out the year. 204 persons were lost their valuable lives during the year 2006. Ex-gratia assistance @ Rs.10, 000/- per each death case had been provided to the NOKs of the victims through collectors. The detail list of the victims died due to lightning is given below.

Lightning Death

2006

Sl.	Districts	Name of the Deceased	Age	Village / PS / Tahasil	Block /Tahasil / Police Station	Date of Death
1	Angul	Abhiram Behera, S/O Prahlada Behera	38	Baiuskala	Angul	13.04.06
2	do	Raj Kishore Sahoo S/o Haguru Sahoo	60	Masunihata	Kaniha	23.05.06
3	do	Tulasi Pradhan, W/o Srinibas Pradhan	55	Balipatta	Kaniha	23.05.06
4	do	Munu Naik, D/o Suresh Naik		Purunapani	Khamar	15.05.06
5	do	Chabi Samal, S/o Kabi Samal	32	Purunapani	Khamar	15.05.06
6	do	Bijay Sahoo S/o Athani Sahoo	22	Purunapani	Khamar	15.05.06
7	do	Hatia Gochhayat, S/o Gokul Gochhayat	22	Purunapani	Khamar	15.05.06
8	do	Ajit Sahoo S/o Madhusudan Sahoo	13	Sanahar	Kaniha	27.05.06
9	do	Bahadur Dehuri, S/o Jaladhar	18	Similisahi	Chhendipada	24.05.06
10	do	Ranjan Kumar sahoos/O Rasananda	22	Siarimalia	rajang	18.06.06
11	do	Paduka Nayak S/o Narad	19	Dasarasahi	Chhendipada	21.06.06
12	do	Ranjit Swain S/o Padman		Natada	Kishorenagar	26.06.06
13	do	Niranjan Chhanda S/o Panchhu	55	Dudum	Athamalik	17.08.06
14	do	Lokanath Behera S/o Natabar		Handidhua	Talcher	11.08.06
15	do	Pankaj Behera S/oRabindra		Koajhari	Kishorenagar	17.09.06
16	do	Prafulla Naik S/o Jhadu		Jilinda	Samal	4.10.06
1	Baragarh	Nirmal Kandha S/o Ram Lal	30	Balangir	Jharbandha	2.05.06
2	do	Basudev Mahananda S/o Bisweswar	28	Lamarjuna	Padampur	01.08.06
3	do	B. C. Morai S/o Brundaban		Raibahadurpur	Buden	17.09.06
4	do	Subash Banchor S/o Arjun	40	Jaring	Bijepur	04.11.06
1	Bolangir	Raja Sahu S/o Kulamani		Ghunsar	Saintala	23.05.06
2	do	Balaram Meher S/o Tankadhar		Baliaghat	Patnagarh	02.07.06



1	Boudh	Padma Naik W/O Sambaru		Dahia	Manmunda	28.05.
1	Bhadrak	Abhaya Mahalik, S/o Rabindra Mahalik	26	Tentulihadiha	Chandbali	28.05.06
2	do	Takar Mallick S/o Agani Mallick	12	Padhuan	Basudebpur	23.05.06
3	do	Barendra Mallick S/o Gayadhar Mallick	18	Padhuan	Basudebpur	23.05.06
4	do	Subash Debata, S/o Suresh		Panapadi	Bonth	28.05.06
5	do	Kariman Bibi W/o Sk.Sarif		Isafpur	Bhadrak	14.06.06
6	do	Khetrabasi Behera, S/o Dhani		Malbada	Chandbali	31.07.06
7	do	Bhimsen Swain, S/o Chakradhar	42	Kaliapa	Bansada	31.07.06
8	do	Ramesh Swain S/o Chakradhar	28	Kaliapat	Bansada	31.07.06
9	do	Manoj Das S/o Birabhadra	32	Baghanada	Chandabali	31.07.06
10	do	Akhaya Parida S/o Arjun	22	Panispada	Basta	31.07.06
11	do	Bapun Ojha S/o Umakanta		Kalidaspur	Bhadrak	23.06.06
12	do	Javir Quadir S/o Sk.Sijamuddin		Dahansuni	BHadrak	11.09.06
1	Cuttack	Prahallad Mohanty, S/o Narayan Mohanty	52	Kamtapada	Badmba	30.04.06
2	do	Chandramani Jena S/o Dharanidhra Jena	35	Palisahi	Mahanga	21.05.06
3	do	Manjulata Jena, W/o Chandramani Jena	30	Palisahi	Mahanga	21.05.06
4	do	Ramesh Ch. Patra S/o Madhab Patra	23	Patuk	Banki	23.05.06
5	do	Meghanada Behera S/o Gagan Behera	37	Patuk	Banki	23.05.06
6	do	Banamali Dehuri, S/o Babaji	35	Teliapada	Tangi-Choudwar	01.06.06
7	do	Rabinarayan Mallick, S/o Baishnab		Purussottampur	Mahanga	01.06.06
8	do	Pitabash Nayak, S/o Laxman		Benipur Samil Nuapada	Tigiria	23.05.06
9	do	Gautam Bhoi, S/o Nirakar	45	Bhala	Niali	03.06.06
10	do	Nimei Mandal, S/o Manmath	35	Plot.F-616, Sect.-6,CDA	Cuttack	03.06.06
11	do	Kamal Kumar Sahu,S/o Samuel	30	Makarabag Sahi	Cuttack Sadar	03.06.06
12	do	Narendra Kumar Beura S/o Lingaraj		Panabarei	Athgarh	01.06.06
13	do	Bansidhar Swain S/o late Nath Swain		Talagada	Athgarh	12.06.06
14	do	Kanduri Mallick, S/o Duryadhan	60	Nanpur	Salipur	18.06.06
15	do	Ghanashyam Majhi s/o Raju	48	Agrahat	Tangi-Choudwar	12.06.06
16	do	Udhab Routray S/o Bhaskar	42	Hirapur	Salipur	22.06.06
17	do	Chandrasekhar Mohanty S/o Uchhab	40	Similhand	Tangi Choudwar	22.06.06
18	do	Kamal Kumar Biswal S/o Jadunath	32	Dobandhia	Mahanga	30.06.06
19	do	Minaketan Roul S/o Yudhistir	55	Barabodia	Salipur	01.08.06



20	do	Bhabagrahi Nayak S/o Dhrub		Nuagaon	Banki	16.08.06
21	do	Kamini Behera W/o Ganga		Ghantikhil	Athagarh	05.03.06
22	do	Biswanath Behera S/o Sukumar		Mathurapur	Narasinghpur	22.06.06
23	do	Jayadev Naik S/o Gopinath		Jayanarayanpur	Athagarh	16.08.06
24	do	Ganeswar Swain S/o Maguni	42	Bhagabanpur	Salipur	14.08.06
25	do	Laxmi Malik W/o Duryodhan	34	Brahmanpada	Tangi Chodwar	14.08.06
26	do	Srikanta Behera S/o Somanath		Talamunduli	Salipur	17.08.06
27	do	Subas Pradhan S/o Jharendra		Mulakadinda	Sadar	09.09.06
28	do	Panchu Panda S/o Krushna	12	Similhandi	Tangi Chodwar	09.09.06
29	do	Hadibandhu Mailk S/o Abhimanyu	43	Kakudia	Gadamadhupur	18.09.06
30	do	Abhimanyu Swain S/o Bidyadhar	40	Jodum	Baramba	19.09.06
31	do	Benudhar Naik S/o Sunil	27	Madhuban	Baramba	4.10.06
32	do	Samu Das S/o Murali	45	Gunadol	Sadar	4.10.06
1	Dhenkanal	Sanjukta Naik, W/o Ramesh Naik		Haladiabahal	Motanga	15.05.06
2	do	Pravakar Das, S/o Sanei Das		Bainsta	Gandia	05.03.06
3	do	Abhaya Nayak, S/o Ramesh Nayak		Amantipada	Sadar	27.04.06
4	do	Nrupati Das, W/o Damodar Das		Nadhanapur	Sadar	22.05.06
5	do	Narayan Behera S/o Basanta	16	Tangarpada	Kamakhyanagar	23.05.06
6	do	Laxmidhar Rout S/o Bhagaban		Balaramprasad	Motanga	2.06.06
7	do	Patra Pradhan W/o Jambu Pradhan	55	Regada	Sadar	18.06.06
8	do	Kulamani Naik S/o Maguni	35	Charadgadia	Sadar	18.06.06
9	do	Kabi Naik S/o Gobardhan	13	Charadgadia	Sadar	18.06.06
10	do	Sibaram Barik s/o Bhikari	53	Suraptapur	Bhuban	18.06.06
11	do	Pramod Behera S/o Mitu	34	Kantioputsahi	Tumusingha	01.08.06
12	do	Sanjay Majhi S/o raghunath		Muruga	Dhenkanal	2.06.06
13	do	Pandav samal S/o Kartik		Nua	Dhenkanal	8.06.06
14	do	Pravat Majhi S/o Kambhudhar		Thakar	Dhenkanal	8.06.06
15	do	Pankaj Naik S/o Akula	50	Patrabhag	Sadar	16.08.06
16	do	Dines Kumar Mailk S/o Dillip	11	Gangulia	Sadar	18.08.06
17	do	Pratap Kumar Verma S/o Pranabandhu	20	Khalpal	Parjang	18.08.06
18	do	Ganeswar Saho S/o Suna	45	Kalada	Parjang	11.09.06
19	do	Ranjan Kumar Sahu S/o Rasananda		Siarimalia	Parjanga	18.06.06



20	do	Bholeswar Patra S/o Banka Patra	25	Bhalumunda	Kamakhyanager	21.09.06
21	do	Sanjulata Naik W/o Suresh		Haladibahal	Motanga	15.07.06
1	Gajapati	Jimana Gomanga S/o Dujana Gomanga	45	Odasingh	Guma	16.10.06
2	do	Duniya Karji S/o Tipai	50	Sindisingh	Guma	16.10.06
1	Ganjam	Gopal Gouda S/o Simachal		Paljhudi		22.05.06
2	do	Hadibandhu Behera S/o Dandapani		Aska		08.05.06
3	do	Kumudini Mistri W/o Adikanda		Kamalapadar		16.03.06
4	do	Duryodhan Patra S/o M.Ramaya		Panditgaon		25.05.06
5	do	Kureshu Sahu S/o Babu Saho		Chikiti		14.08.06
1	Jagatsinghpur	Arakhita Das S/o Natabara	47	Banapatakhandia	Kujang	04.10.06
2	do	Sukadeva Mallik S/o late Kelu	50	Nimol	Ersama	04.10.06
3	do	Manas Pradhan S/o Manoranjan	20	Padmapur	Ersama	04.10.06
4	do	Alekha Beura @ Gandarv S/o late Maheswar		Boriki	Kujang	04.10.06
1	Jajpur	Anup Jena, S/o Gagan Jena	19	Jari	Binjharpur	23.05.06
2	do	Babina Jena, D/o Ghanashyam Jena	21	Jari	Binjharpur	23.05.06
3	do	Prakas Behera S/o Bhagaban		Sathia Tikri	Jajpur	21.05.06
4	do	Sanjay Kumar Biswal S/o Kalakar		Dobandhia	Jajpur	21.05.06
5	do	Krupasindhu Naik, S/o late Ekadasi		Sisirana	Binjharpur	01.08.06
6	do	Tapoi Mallik W/o Baruna		Khapuriapara	Jajpur	01.06.06
7	do	Suresh Kumar Upadhyaya		Panas	Jajpur	01.06.06
8	do	Sashmita Samal D/o late Sitanatha		Areikana	Dharmasala	08.06.06
9	do	Sitanatha Samal S/o Banamali		Areikana	Dharmasala	08.06.06
10	do	Srutirekha Samal D/o Sukanta		Areikana	Dharmasala	08.06.06
11	do	Ramesh Chandra Pradhan S/o Atalabihari		Hatibari	Sukinda	18.08.06
1	Jharsuguda	Dama Munda S/o Gopal	55	Sarsmal	Jharsuguda	19.08.06
2	do	Rajiv Sohela S/o Sanatan		Kirmania	Laikera	9.05.06
3	do	Rajendra Majhi	60	Babuchhipidhi	Laikera	9.05.06
1	Kandhamal	Anakar Pradhan, S/o Benudhar		Jalangia	G.Udaygiri	12.05.06
2	do	Ramesh Nayak, S/o Krika		Budringia	G.Udaygiri	24.05.06
3	do	Bibhisn Digal, S/o Nakul		Bapalmendi	G.Udaygiri	26.05.06
1	Kalahandi	Janaki Dei W/o Krupa Harijan		Chhanbaheli	Koksara	12.04.06
2	do	Balaram Nag		Bijamara	Jaipatna	14.05.06



1	Kendrapara	Niranjan Behera, S/o Sunakar Behera		Rajendranagar	Mohakalapara	27.04.06
2	do	Kshetrabasi Barik, S/o Kanhu Charan	65	Tatana	Pattamundai	23.5.06
3	do	Kamalakanta Jena, S/o Pradeep	16	Manapur	Aul	23.5.06
4	do	Rakhi Singh, D/o Prafulla Singh		Baulakani	Mahakalapada	26.05.06
5	do	Pabitra Mandal S/o Shyamapada	16	Bahakuda	Mahakalpada	31.07.06
6	do	Gangadhar Pradhan S/o Ananda	70	Gojabandha	Mahakalpada	31.07.06
7	do	Rasmita Mallik W/o Chagala	24	Parsurampur	Mahakalpada	31.07.06
8	do	Anam Majhi S/o Mangal	20	Banimatia	Mahakalpada	31.07.06
9	do	Surendra Mallik S/o Dattahari	30	Haridpur	Rajkanika	27.07.06
10	do	Banamali Nayak S/o Kali Charan	40	Gajarajpur	Rajkanika	27.07.06
11	do	Akhaya Kumar Mallik S/o Pandav		Chandiagadi	Aul	31.07.06
12	do	Raghunath Swain S/o Duryodhan	45	Gadarmatia	Marshaghai	31.07.06
13	do	Harekrushna Barik S/o Dama	55	Haripur	Gupti	4.10.06
1	Keonjhar	Pabitra Mohan Behera S/o Jaganath		Panchananpur	Joda	22.05.06
2	do	Karmi Oram W/o Rabidhra		Narayanpur	Joda	2.05.06
3	do	Dibakar Juanga S/o Bharat	30	Talabarada	Kanjipani	4.10.06
4	do	Nidhi Juanga S/o Mantri	35	Talabarada	Kanjipani	4.10.06
5	do	Laxmidhara Mohanta, S/o Sugriba		Khudaputuli	Ghatagaon	26.07.06
6	do	Purusottam Naik S/o Bharat		Bhrandia	Ghatagaon	07.09.06
7	do	Benudhar Sethy, S/o Padmanava		Barigaon	Ghasipur	03.10.06
8	do	Mansigh Munda S/o late Durga		Balabhadrapur	Champua	13.09.06
9	do	Jhunu Munda D/o Samara		Silitia	Balia	16.06.06
10	do	Duti Das W/o Chintamani		Baladuan	Anandpur	02.06.06
11	do	Dhaneswar Nayak S/o Bansidhar		Katrapali	Telkoi	29.09.06
12	do	Laxmi Parua S/o Reajeswar		Asala	Champua	12.09.06
1	Khordha	Lochan Sabar, S/o Kusa	12	Balikania	Banapur	02.06.06
2	do	Dillip Ku. Behera, S/o Judhisthir	20	Lahanga	Jankia	03.06.06
3	do	Jaladhar Mangaraj S/o Shyamsunder	35	Golabai	Jankia	16.08.06
4	do	Gunduchi Sethy S/o Udhaba		Dianpatna	Balianta	11.08.06
5	do	Rajan Pradhan S/o Arjun		Khauradi	Bolgarh	4.10.06
6	do	Budhanath Sahoo S/o Ananta		Sidhakutila	Balipatna	4.10.06
7	do	Pankaja Behera		Balia	Tangi	17.10.06



1	Koraput	Pangi Kangu S/o Pangi Timburu		Padalguda	Pottangi	17.06.06
2	do	Ashok Kumar Pattanaik S/o Durga		Borigumma	Borigumma	17.06.06
3	do	Chanda Muduli W/o Paika Muduli		Goudaguda	Koraput	19.06.06
4	do	Poili S/o Mahendra		Miniaka	Burja	15.06.06
5	do	Manu Kalak S/o Gorla		Champa	Koraput	12.09.06
1	Mayurbhanj	Basanta Hembram S/o Mathura		Kalipal	Rasgovinbdpur	14.08.06
2	do	Laxmidhar Behera S/o Dulia		Kendidiha	Badasahi	28.07.06
3	do	Lutli @ Madu Say D/o Rama Say		Khairipal	Bahalda	28.07.06
1	Nawarangpur	Sansai Majhi, S/o Pural Majhi	10	Bijrajuda	Nawarangpur	10.05.06
2	do	Hari Santa, S/o Kesori Santa		Bariguda	Dabugaon	27.04.06
3	do	Keshab Behera, S/o Tularam		Saraguli	Umarkote	03.05.06
4	do	Motisingh Gouda, S/o Samandhu Gouda	10	Kosagumuda	Kodigaon	15.05.06
5	do	Bharat Gouda, S/o Mangalsingh Gouda	8	Kosagumuda	Kodigaon	15.05.06
6	do	Prabhathi Bhatra, W/o Rama Bhatra		Banuaguda	Umarkote	17.05.06
7	do	Dhanamati Nayak, W/o Susila	45	Haladi Khaliapada	Umarkote	26.05.06
8	do	Phula Bhatra W/o Baisakhu Bhatra	60	Pharsuguda	Kodigaon	12.06.06
9	do	Lachaman Bhatra S/o Govinda		Panjilaguda	Jeypore	19.06.06
10	do	Jayasingh Bhatra S/o Trilochan		Panjilaguda	Jeypore	19.06.06
11	do	Basudev Bhatra S/o Sanai		Panjilaguda	Jeypore	19.06.06
12	do	Manmati Gond d/o Gunju Gond	22	Bakiliguda		18.06.06
13	do	Damu Gouda S/o Phagun Gouda		Jabaguda		15.06.06
14	do	Lachhman Gond S/o Sultalu		Nuapada		20.09.06
15	do	Sunabati Gond W/o Sangram	22	Sompar		20.09.06
1	Nayagarh	Gadadhar Pradhan	56	Balabhadrapur	Ranpur	23.05.06
2	do	Basanta Behera S/o Ganeswar	15	Tangi Patna	Sarankul	16.06.06
3	do	Shyam Behera		Saradhapur	Nayagarh	04.03.06
4	do	Chandramani Swain S/o Rama Chandra	50	Madhyakhanda	Dasapalla	18.08.06
1	Puri	Jayadev Sahoo S/o Late Muli sahuo	55	Basantamala	Satyabadi	15.08.06
2	do	Purna Chandra Sethi		Sarei	Kanas	12.06.06
3	do	Madhab Mallik		Berhampur	Krushnaprasad	24.05.06
1	Rayagada	Radhakanta Gouda, S/o Sarat Gouda	19	Lauguda	Padmapur	16.05.06
2	do	Kulisika Halu, S/o Kulisika	50	Katakinala	Kalyansinghpur	04.06.06



1	Sambalpur	Raimati Kua, W/o Surendra Kua		Nagidhi	Kochinda	28.04.06
2	do	Panchu Sandha S/o Palau Sandha	18	Khairapalli	Dhanupalli	31.07.06
3	do	Arjun Bhoi S/o Late Mitrabandhu	48	Kalamati	Burla	01.08.06
4	do	Hari Charan Sahu S/o Banamali		Bisalkhinda	Sasan	12.09.06
5	do	Damodar Bhoi S/o Bharat	35	Solpali	Sasan	22.09.066
6	do	Bharat Munda @ Kandulana S/o Ramesh	18	Dehurunimal	Jamankira	21.09.06
1	Subarnapur	Khirod Kumar Kampa S/o Dileswar		Sagjuri		26.05.06
2	do	Babulu Suna		Janmura	Sonepur	13.04.06
3	do	Samaru Naik		Jagannathpalli	Sonepur	19.10.06
1	Sundargarh	Manoj Kumar Sa, S/o Antram Sa	22	Khutmunda	Lephirpara	24.5.06
2	do	Ashok Ku. Behera, S/o Sadasiba	14	Kariadihi	K.Bolong	24.05.06
3	do	Raju Mukhi, S/o Kalakara	55	Baragaon	Baragaon	12.05.06
4	do	Jhirigi Horo D/o Liben Horo	9	Dheluan	Rajgangpur	27.05.06
5	do	Nikolas Kiro S/o Benedic Kiro		Kunmendra	Rajboga	30.06.06
6	do	Pinko Kerketta, W/o Fuljems	48	Sahajbahal	Baragaon	12.05.06
7	do	Uttam Sa		Jarmal		29.07.06
8	do	Subarna Kisan	67	Mahapada	Bargaon	27.07.06
9	do	Mahendra Munda S/o Gopinath	14	Gopna	K.Balang	4.10.06
10	do	Tikeswar Bag S/oDuryodhan	60	Gyanpali	Bultra	4.10.06
11	do	Khulana Net W/o Chetanananda	35	Amasarang	Bhasma	4.10.06
12	do	Ranjita Kishan W/o Bijay	35	Ghantibad	Bhasma	4.10.06
13	do	Smt. Premabati Singh		Biramitrapur		27.06.06

4.3 Hailstorm / Whirlwind / Cyclonic Wind

125 villages of 6 districts were affected due to hailstorms and whirlwinds during the year 2006-07. Rs.6.13 lakh have been provided to the Collectors of Angul, Bhadrak, Khurda, Malkangiri, Mayurbhanj and Subarnapur districts, out of CRF for disbursement of House Building Assistance, damaged due to these hailstorms / whirlwinds / cyclone wind.

The district wise details is at *Table-4.1*



Hail Storm / Whirlwind / Cyclone wind (2006-07)

Sl.	District	Date of Occurrence	Nature of Calamity	No. of Blocks Affected	No. of GPs Affected	No. of Villages Affected	Population Affected	Human Casualty
1	2	3	4	5	6	7	8	9
1	Angul	10.03.07	Whirlwind	1	1	1	-	-
		13.04.06 & 15.05.06	Whirlwind	3	49	107	2216	-
2	Bhadrak	15.05.06		7	1	1	-	1
		28.08.06	Whirlwind	1	1	2	-	-
3	Khurda	23.04.06	Whirlwind	1	1	1	-	-
4	Malkangiri	26.04.06	Whirlwind	1	3	10	-	-
5	Mayurbhanj	14.05.06	Whirlwind	1	1	1	-	1
6	Subernapur	13.04.06	Cyclonic wind	1	1	2	-	-
Total				16	58	125	2216	2

Sl.	District	No. of House Damaged	Crop damage more than 50% (in hect.)	Relief Assistance Provided			
				House Building Assistance	For repair / restoration of public utilities	For input subsidy on crop loss	Total amount released
1	2	10	11	12	13	14	15
1	Angul	43	-	34800	-	-	34800
		630	-	367000	-	-	367000
2	Bhadrak	-	-	-	-	-	-
		5	-	6400	-	-	6400
3	Khurda	4	-	6000	-	-	6000
4	Malkangiri	299	-	163000	-	-	163000
5	Mayurbhanj	-	-	-	-	-	-
6	Subernapur	-	-	35400	-	-	35400
Total		981	0	612600	0	0	612600

[Table-4.1]



4.4 Heat Wave

Death due to heat wave or Sunstroke is a disaster caused by ones exposure to environmental heat and humidity. During the year 2006-07, heat wave conditions prevailed in almost all the districts of the State. The issue for inclusion of heat wave in the list of Natural Calamities has been repeatedly raised by the State Government before the Government of India and Finance Commission which is under consideration. So the ex-gratia amount @ of Rs.10, 000/- are now being sanctioned from the CMRF to the bereaved families of the sunstroke victims.

The district wise number of human casualties due to sunstroke for the year 2006-07 is shown at *Table-4.2* below.

Death due to Sunstroke

Sl.	Name of the District	No. of persons died
1	Angul	4
2	Balasore	1
3	Bargarh	1
4	Bhadrak	1
5	Bolangir	2
6	Cuttack	1
7	Dhenkanal	1
8	Ganjam	3
9	Jagatsinghpur	1
10	Keonjhar	1
11	Khordha	1
12	Sambalpur	4
Total		21

[Table-4.2]



4.5 Drinking Water Problem

Due to acute heat wave conditions from April to June, all the drinking water sources were considerably dried up. As a result drinking water scarcity problem was noticed in almost all the districts. There was huge depletion of ground water level. Water tankers were deployed in scarcity pockets.

An amount of Rs.875.00 lakh out of CRF was released in favour of various Departments in order to combat drinking water scarcity problem and heat wave conditions. The Department wise release of funds is given below.

Name of the Department	Amount released (in lakh)
R.D. Department	500.00
H & U.D. Department	200.00
H & F.W. Department	150.00
F & ARD Department	25.00
Total	875.00



Chapter - V

5.1 CALAMITY RELIEF FUND

Expenditure on account of different calamity mitigation measures are met out of CRF at the State level. As per the procedures and norms prescribed by Govt. of India, a committee headed by the Chief Secretary of the State administers the fund. The fund is constituted by the sharing of Central and State Govt. at the ratio of 75:25.

When a calamity of rare severity occurs, the Govt. of India sanctions fund out of NCCF, according to the gravity of the situation, arising due to impact of calamity, for providing immediate relief to the victims.

The position of both CRF and NCCF is shown at *Table - 5.1 & 5.2*

FUNDS POSITION

2006-07

(Rs. in Crore)

Category of Funds	OB	Receipt	Unspent & surrendered of previous year	Total	Funds Released	Balance
1	2	3	4	5	6	7
CRF	1.98	388.45	172.92	563.35	556.33	7.02
NCCF	-	25.00	5.60	30.60	29.19	1.41
Total	1.98	413.45	178.52	593.95	585.52	8.43

[Table-5.1]

RELEASE OF FUNDS

2006-07

(Rs. in Crore)

Category of Funds	Receipt	OB & Unspent augmented	Total	Funds Released			Balance
				District	Department	Total	
1	2	3	4	5	6	7	8
CRF	388.45	174.90	563.35	56.41	499.92	556.33	7.02
NCCF	25.00	5.60	30.60	0.01	29.18	29.19	1.41
Total	413.45	180.50	593.95	56.42	529.30	585.52	8.43

[Table-5.2]



5.2 UTILIZATION CERTIFICATE

Utilization Certificate amounting to Rs.217.67 crore has been sent to AG Orissa during the year under report against the funds provided to various departments and districts since 1999-00 till 2006-07.

[Rs. in lakh]

	District	Department	Total
CRF	1572.19	17065.00	18637.19
NCCF	164.52	2964.99	3129.51
Grand Total	1736.71	20029.99	21766.70

(1) An amount of Rs.2534.04 crore has been received from 1999-2000 to 2006-07 under CRF and NCFR / NCCF. Out of which utilization certificate to the tune of Rs.1884.29 crore has already been furnished to AG, Orissa till 31.03.2007. The table below has shown the details.

[Rs in crore]

Fund	Receipt 1999-2000 to 2006-07	UC Submitted 1999-2000 to 2006-07	Percentage
CRF	1351.56	797.96	59.04
NCCF	1182.48	1086.33	91.87
Total	2534.04	1884.29	74.36

(2) The submission of UC in respect of allotment provided to different districts and department from 1999-2000 to 2006-07 till 31.03.07 is shown below.

Year-wise Submission of UC

(Rs. in lakh)

Agency	1999-00		2000-01		2001-02	
	Allotment	UC Submitted	Allotment	UC Submitted	Allotment	UC Submitted
District	29840.38	29242.45	9249.63	8340.20	4545.52	3736.94
Department	18402.45	15558.47	22942.40	22534.73	21655.20	21307.18
Total	48242.83	44800.92	32192.03	30874.93	26200.72	25044.12

Contd..



Agency	2002-03		2003-04		2004-05	
	Allotment	UC Submitted	Allotment	UC Submitted	Allotment	UC Submitted
District	6711.04	5775.29	7396.50	5348.60	685.87	430.86
Department	13627.04	12706.85	19982.47	17641.23	25726.88	23637.12
Total	20338.08	18482.14	27378.97	22989.83	26412.75	24067.98

Contd..

Agency	2005-06		2006-07	
	Allotment	UC Submitted	Allotment	UC Submitted
District	3528.29	1048.08	5642.49	337.10
Department	20210.35	15792.33	52909.62	4991.29
Total	23738.64	16840.41	58552.11	5328.39



Chapter - VI

Disaster Management Initiatives : *Orissa State Disaster Mitigation Authority (OSDMA)*

The Orissa State Disaster Mitigation Authority takes up preparedness and mitigation activities at different levels in the State. In the post super cyclone scenario, many reconstruction activities were also taken up along with host of preparedness measures to strengthen the overall disaster management system. A brief sketch of the major activities so far taken up by OSDMA is given below.

6.1. RECONSTRUCTION

Reconstruction works were taken up with assistance from PMNRF, CMRF, World Bank, DFID, EFC, CRF, etc.

Embankment Sector

Flood embankment for a length of about 877 km and canal embankment of 332 km has been raised/ strengthened with World Bank assistance. 82 spurs and 19 sluices have been renovated/ reconstructed. 72.47 km of irrigation embankment have been strengthened under Calamity Relief Fund (CRF) assistance. A few km length of irrigation embankment which could not be completed with World Bank assistance in the stipulated project closure period have been completed with CRF assistance.

Road sector

275 km of road have been repaired and renovated under Works Department, 448 km of road under Rural Development Department and about 85 km of urban road under Housing & Urban Development Department have also been reconstructed with World Bank assistance. About 5 km of urban road and 28.46 km of road under Works Department have been reconstructed with assistance from CRF. 10 km of road is under construction with CRF assistance. 8.2 km of road works under Works Department, 66.6 km of road under R.D. Department, which could not be completed with World Bank assistance in the stipulated project closure period, have been completed with CRF assistance.



Water Supply

Works in respect of installation of pump sets, construction of bore wells and tube wells and laying of pipe lines were undertaken in 20 urban locations in the cyclone-affected districts. Similar works were also undertaken in 64 rural locations with World Bank assistance.

Agro Service Centres

500 Agro Service Centres have been set up with World Bank assistance.

Education Sector

5758 primary schools and 1149 high school buildings have been constructed with assistance from PMNRF, CMRF, MPLAD, NFCR, OBB, other State Govt.s and NGOs. 3132 primary School buildings have been constructed and handed over under DFID scheme.

Health Sector:

216 health institutions have been improved with assistance from CMRF.

Lift Irrigation Sector

2555 Lift Irrigation points have been revived with DFID support.

6.2. PREPAREDNESS MEASURES

Multi-purpose cyclone shelters-

97 large size multi-purpose cyclone shelters (MCSs) have been constructed along the coast under Chief Minister's Relief Fund and World Bank funding. These buildings have been handed over to the Cyclone Shelter Management and Maintenance Committees (CSMMCs).

A sum of Rs.15.00 crore has been sanctioned out of Prime Minister's National Relief Fund for construction of 42 more cyclone shelters in coastal districts of Balasore, Bhadrak and Kendrapara. Out of these, work of 32 cyclone shelters is under progress.



Communication-

- a. A dedicated civil VHF network has been set up to link Blocks, Tahasils and some vulnerable Gram Panchayats with the District headquarters. 403 VHF base stations have been commissioned, 36 vehicle mobiles installed in the office vehicles of Collectors, R.D.Cs, SRC and OSDMA. 140 VHF handsets have also been provided.



- b. 22 satellite phones are available with Collectors and other disaster managers to establish contact when all other means of communication fail. 13 more are being procured.

- c. Toll free numbers "1077" & "1070" have been installed in the emergency operation centres at district and state levels respectively.

Orissa Disaster Rapid Action Force-

Orissa is prone to natural hazards like flood, cyclone and earthquake. With a view to providing assistance to civil administration in search and rescue operations and relief line clearance during disasters, Orissa Disaster Rapid Action Force (ODRAF) units were created out of the



personnel of Orissa State Armed police (OSAP) and APR units. Five ODRAF units have been set up at Cuttack, Chatrapur, Koraput, and Jharsuguda & Balasore. The unit at Balasore has been manned by Armed Police Reserve (APR) personnel and this unit is under the control of S. P. Balasore. Other units are manned by personnel from OSAP. The ODRAF units have been provided with up to date search and rescue equipment and personnel trained to man the equipment.



The details of the equipment available with the ODRAF units are provided in *Table- 6.1*

EMERGENCY EQUIPMENT AVAILABLE WITH FIVE ODRAF UNITS

Sl.	Equipments	Quantity	ODRAF UNIT				
			Cuttack	Jharsuguda	Koraput	Chhatrapur	Balasore
1.	Hydraulic Crane 12 Ton capacity	8 nos.	4	1	1	1	1
2	TATA Truck- (<i>Troop Carrier</i>)-6 Ton capacity	10 nos.	2	2	2	2	2
3	TATA Truck 12Ton capacity	6 nos.	2	1	1	1	1
4	Generator 5 KVA	13 nos.	5	2	2	2	2
5	Generator 10 KVA	10 nos.	2	2	2	2	2
6	Concrete Cutting equipment	5 nos.	1	1	1	1	1
7	Power saw with Portable Power Unit	10 nos.	2	2	2	2	2
8	Tree Pruner-cum-Chain saw	8 nos.	4	1	1	1	1
9	Water Filter Portable	20 nos.	10	3	3	2	2
10	Ramp-2 Ton capacity (fabricated) M.S.	16 nos.	4	4	4	2	2
11	Telescopic Aluminium Ladder (40 feet long)	20 nos.	8	3	3	3	3
12	Life Jacket	110 nos.	60	20	10	10	10
13	Life Buoy	110 nos.	60	20	10	10	10
14	Chain Power Saw (Stihl 026 Model)	6 nos.	2	1	1	1	1
15	Tractor with trailer	6 nos.	2	1	1	1	1
16	Inflatable Tower Lighting system with Generator	6 nos.	4	1	1		
17	Branch Cutting Saw (Electric Motor Drive)	7 nos.	3	1	1	1	1
18	Branch Cutting Saw (Petrol engine driven)	14 nos	6	2	2	2	2
19	Commando Search Light	20 nos. 4 nos. Infrared.	12 4 IR	2	2	2	2
20	Mahindra & Mahindra FJ-460-DP/4WD Ambulance.	1 nos.					
21	TATA SFC-407/31, AMBULANCE	3 nos.	1	1	1		
22	G.I.Trunk-	70 nos.	40	10	8	6	6
23	Wire Ropes & Slings	12 sets	4	2	2	2	2
24	Lifting & Pulling Machine	4 nos.	4				
25	Battery Chargers	11 nos.	3	2	2	2	2



26	Small Tools & Jack	12 sets	4	2	2	2	2
27	Nylon Rope	600 Kg	300	150	150		
28	Hydraulic Tipper	5 nos.	1	1	1	1	1
29	Recovery Van/Wreckage Crane	5 nos.	1	1	1	1	1
30	Small rescue items like, rope, carabiner etc.	2 sets	2				
31	Submersible Pump	15 nos.	3	3	3	3	3
32	Breathing Apparatus	27sets	7	5	5	5	5
33	Diving Equipments	12 sets	4	2	2	2	2
34	Diving Helmet	5 sets	1	1	1	1	1
35	Chain Sharpener	2 nos.	2				
36	Combi tool	5 sets	1	1	1	1	1
37	Cutter	5 sets	1	1	1	1	1
38	Inflatable Rubber Dinghies with OBM	60	32	6	6	8	8
39	Hydraulic spreader	5 nos	1	1	1	1	1
40	Telescopic Ram Jack with Extension	5 sets	1	1	1	1	1
41	Fork lift 3 tonne capacity	6 nos	2	1	1	1	1
42	RCC cutting chain saw	5 nos	1	1	1	1	1
43	Gas mask with chemical cartridge	65 sets	25	10	10	10	10
44	Pay loader-cum-excavator	5 nos.	1	1	1	1	1
45	Air compressor	3 nos.	11	1	1		
46.	125 KVA Truck Mounted Generator	5nos.	1	1	1	1	1
47.	Single Phase Welding Transformer with Accessories	5 sets	1	1	1	1	1
48.	Reciprocating Pump-cum-Vehicle Washer	5 sets	1	1	1	1	1
49.	Air Compressor with Tyre-Inflator with accessories	5 sets	1	1	1	1	1
50.	Wooden Stand for OBM	60 nos.	20	10	10	10	10
51.	Fire Extinguishers	48 nos.	16nos	8	8	8	8
52.	Stretchers	10	2	2	2	2	2
53.	Patient Carrying Trolley	10	2	2	2	2	2
54.	Gas Cutting sets	5 sets	1	1	1	1	1
55.	M.F.R. Kits	7 sets	2	1	1	2	1
56	Collapsed Structure Search and Rescue (CSSR) Kit	5 sets	1	1	1	1	1
57	Flexi tents	10 nos.	2	2	2	2	2
58	Poly propylene YV treated tarpaulin	50 nos.	10	10	10	10	10

[Table-6.1]



Emergency Operation Centres-

Emergency Operation Centres at the State level and in 30 districts have been improved with provision of computers, fax and other equipment. Construction of multi-hazard resistant buildings for 16 District Emergency Operation Centres and the State Emergency Operation Centre has been completed under the Gol-UNDP DRM Programme.

GIS in Disaster Management-

Database on GIS platform is being developed to facilitate disaster management operations. So far, database of 14 cyclone prone districts have been completed with various information like village, block & district boundaries, drainage, river and roads. Additional layers of information like Multi-purpose Cyclone Shelters, School-cum-Shelters, and locations of VHF base stations have been incorporated. Hazard mapping of Orissa with reference to BMPTC-ATLAS has been done. Tsunami vulnerability mapping of the villages located within 1.5 km from the coastline in six coastal districts is being taken up on GIS platform.

GIS Cell-

The GIS cell has been set up in OSDMA to act as decision support system for effective management of disasters. The required hardware and software have been procured for the cell. Initiatives have been taken to sign an MOU with the Orissa Remote Sensing Application Centre (ORSAC) for procurement of digital data for development of the Orissa Disaster Management Information System (ODMIS). Officers of OSDMA and ORSAC have visited Andhra Pradesh to get an exposure on the GIS database and application system developed by them. Steps have been taken to take up the development of digital database for the undivided Cuttack district on a pilot basis.

Earthquake Observatories-

Sites have been selected at Lakhanpur (Jharasuguda district) and Kolanara (Rayagada district) by IMD to set up Earthquake Observatories. The building at Kolanara Block of Rayagada district has been completed in all respect for setting up the equipment. IMD is in the process of procuring the required equipment for the observatories.



6.3. CAPACITY BUILDING ACTIVITIES

Gol-UNDP Disaster Risk Management Programme

Gol-UNDP Disaster Risk Management Programme is being implemented in 155 blocks (23263 villages, 3210 GPs, 58 ULBs) of 16 districts such as Angul, Balasore, Bhadrak, Cuttack, Ganjam, Jajpur, Jagatsinghpur, Kendrapada, Khordha, Keonjhar, Koraput, Mayurbhanj, Nuapada, Puri, Rayagada and Sambalpur. Under the programme, Disaster Management Committees have been formed in all the district and blocks. Members of Panchayati Raj Institutions have been oriented at different levels. 6567 volunteers of 155 blocks have been trained in preparation of village disaster management plans. 673 block level master trainers have been trained in search and rescue through Civil Defence Organisation; 856 master trainers have been trained in first aid through St. John Ambulance; 719 block and district level trainers have been trained in disaster mental health in collaboration with American Red Cross; 7391 teachers have been oriented at district and block levels. Disaster Management Plans have been prepared in 154 blocks, 2470 GPs and 19258 villages.

Urban Earthquake Vulnerability Reduction Programme (UEVRP)

Urban Earthquake Vulnerability Reduction Programme (UEVRP), a sub-component of the Disaster Risk Management Programme, is being implemented in three cities of Bhubaneswar, Cuttack and Sambalpur, which come under seismic vulnerability zone, Zone-III. Activities like awareness generation, response planning, capacity building, and implementation of techno-legal regime are being taken up under the project. City Disaster Management Committee (CDMC) under the chairmanship of Revenue Divisional Commissioner. City Awareness Committee (CAC) under the chairmanship of Municipal Commissioner/ Executive Officer and City Enforcement Committee (CEC) under the leadership of Vice Chairman of the local development authority have been constituted in each programme city to support the CDMC in implementation of different activities under the programme.



National Programme for Capacity Building of Engineers in Earthquake Risk Management (NPCBEERM)_

National Programme for Capacity Building of Engineers in Earthquake Risk Management (NPCBEERM) is being implemented in the State for capacity building of serving as well as privately practicing engineers in earthquake resistant designs and construction of buildings. 13 faculty members of 4 State Resource Institutions have been trained at IIT, Kharagpur. 190 Govt. and 130 privately practising civil engineers are proposed to be trained under the programme.

National Programme for Capacity Building of Architects in Earthquake Risk Management (NPCBAERM)

National Programme for Capacity Building of Architects in Earthquake Risk Management (NPCBAERM) is being implemented in the State for capacity building of Govt. as well as privately practising architects in earthquake resistant design and construction practices. 4 faculty members of Two State Resource Institutions have been trained at National Resource Institutions.

3.1 OSDMA in association with UN agencies, NGOs and State level Training Institutions is organizing workshops and training programmes for capacity building of the officials at state / district / block level, Panchyati Raj Institutions and NGOs involved in disaster management.

3.2 District level training of civil engineers has been taken up by OSDMA on earthquake resistant design for construction of buildings. 1550 civil engineers have been trained.

6.4. POLICY PLANNING INITIATIVES

State Disaster Management Policy has been enacted for the State. Draft Disaster Management Plan and Disaster Management Bill of the State have been prepared.

A web-based database on resources available with Government agencies/ PSUs/ members of Confederation of Indian Industries (CII) has been developed under India Disaster Resource Network (IDRN). All the 30 districts have uploaded the information, and are updating the same regularly.



A high level committee under the chairmanship of Development Commissioner-cum-Additional Chief Secretary is examining the recommendations of the National Expert Committee on building byelaws etc for its implementation in Orissa. A core group under the leadership of National Engineering Consultant UNDP is working on modification of the building byelaws etc.

Hazard Safety Cell has been constituted by the Government in Works Department under the chairmanship of Chief Engineer (Design) to aid and advise the Govt. regarding construction of earthquake resistant buildings.

Board of Secondary Education, Orissa has included disaster management themes in the syllabus of Class-VIII

Biju Patnaik University of Technology (BIPUT) has been requested to include Disaster Management in the course curriculum of the Engineering colleges of the State.

OSDMA has been identified by the Ministry of Home Affairs, Govt. of India as a partner institution in the India Disaster Knowledge Network (IDKN), which is a knowledge based web portal for disaster management.

6.5. LIVELIHOOD SUPPORT ACTIVITIES

With support of Food and Agriculture Organisation (FAO), 650 Pedal Pumps have been provided to small and marginal farmers of Kendrapara & Jagatsinghpur districts as livelihood support. 680 additional pumps are being distributed in the districts of Jagatsinghpur, Kendrapara, Jajpur and Ganjam.

5.1 Social Capital Restoration Programme (SCRP) was implemented through NGOs in 395 villages of 73 GPs in 8 districts. SCRП activities included: farming support to over 1200 farmers and over 1200 women; livestock supply to 750 poor women; setting up of community nurseries, 5 Agro-Service Centers, 48 irrigation facilities, 10 work-sheds for artisans, 22 community centers; raising flood embankments in Balikuda and Mahakalpada; renovation of 30 ponds; pisciculture support to farmers; up-gradation of 100 acres of land; vocational training for



women; research and documentation, capacity building in the field of emergency health response, local self governance, legal awareness, women empowerment, trauma care, livelihoods, etc.

6.6. IEC ACTIVITIES & PUBLICATIONS

Orissa State Disaster Mitigation Authority publishes two quarterly newsletters, The Response in English and Prastuti o Punarnirman in Oriya which, carry articles and write-ups on matters related to disaster preparedness and mitigation activities at different levels, strategies worked out in other countries for coping with disasters, etc. The newsletters have entered the fifth year of publication. The newsletters are circulated among all stakeholders: State Government Departments, NGOs, UN Bodies, PRIs and educational institutions.

The OSDMA has also brought out a book titled Bipatti, Biparjaya O Suraksha in Oriya and Understanding Hazards, Dealing with Disasters in English for the reference of students. These and several other publications, posters, booklets, etc brought out by OSDMA help generating awareness about the need for greater preparedness to reduce the impacts of disasters.

Five numbers of Short video films have been prepared for awareness development of common people. Three more video films on Search & Rescue, First Aid and ODRAF are under preparation.

Leaflets and booklets have been prepared in Oriya for information of people regarding earthquake resistant design and construction of buildings.

6.7. PROGRAMMES ON THE ANVIL

National Cyclone Risk Mitigation Project (NCRMP): Govt of India has formulated the National Cyclone Risk Mitigation Project (NCRMP) to be implemented in 13 cyclone-prone States. The State of Orissa is one of the states to implement the said project during the period of 2004-2010. The State component of works is put at Rs.234.70 crore of which 1/4th or Rs.58.70 crore would be the state share. The project will be implemented in the coastal



districts of Balasore, Bhadrak, Kendrapara, Jagatsinghpur, Puri and Ganjam and part of Khordha adjoining the Chilka Lake.

Construction of missing embankments (46 km), shelterbelt plantation and regeneration of mangrove on government lands, construction of missing road links from nearest road heads to the shelters, multi-purpose cyclone shelters, training of disaster managers and other stakeholders, strengthening warning communication, awareness and IEC activities and modeling using GIS and remote sensing would be taken up. A few multi-purpose godowns at strategic locations would also be taken up for decentralized storage of critical supplies for the cyclone-prone areas along the coastal belt.



Chapter - VII

MISCELLANEOUS

7.1 Management Information System

Based on the verdict and observation of Supreme Court derived out of Writ Petition (Civil) No.196/2001, the Management Information System for Tracking Hunger and Malnutrition came into force from 2nd fortnight of January 2003 in the State. It is the prime and foremost duty of State Government to prevent death due to starvation or malnutrition and ensure food security to the needy people. Accordingly, Government of Orissa introduced a suitable policy for regular monitoring of malnutrition and hunger for ensuring Food security etc. with emphasis on following categories.

1. Employment Generation Work
2. Food for Work
3. For vulnerable population
4. In scarcity pockets
5. In epidemic prone areas
6. Of Individual with prolonged illness
7. For Mothers and children with malnutrition
8. Social Security Net

Keeping in view the guidelines and format issued on these aspects, district authorities of the State are submitting required information collecting from grass-root level (G.P.level) twice in a month i.e. at the end of each fortnight to Special Relief Commissioner, Orissa. On receipt of the information from the Collectors of the District, compilation and analysis work are done at SRC level and evaluation of the data is made as per the prescribed indicators. As monitoring authority, advice and guidance are given to the concerned Departments of Government and all Collectors for making necessary interventions on the feedbacks from the field and submit regular compliance thereof. Thus, Management Information System has proved its utility for effective management of disaster.



Chapter - VIII

Conclusion

Orissa is prone to multiple natural calamities. Flood, cyclone, drought, heatwave, lightning, landslide and even tsunami are as though regular visitors with unmatching fury and a trial of catastrophe. Many a time nature turns nasty where no one is safe for the forces involved are colossal and widespread. Floods of 2006 are a pointer to that phenomenon. The natural calamities are stories of nightmare mingled with astonishing instances of human resilience and courage, of compassion and solidarity. Sometimes the devastation is worse than our worst fears. Needless to say the recurring disasters contribute to slow growth and delayed development. But nevertheless, the quest for solutions is on. The flood forecasting measures based on continuously updated rainfall records, helped to prevent damages to a considerable extent. The advance warning system coupled with timely evacuation by ODRAF enabled people in areas which were at risk to go to safer places, which is why fewer lives were lost.

1. Lightning : A Natural Disaster

Lightning takes a heavy toll of human and animal lives every year in the State. It is a natural phenomenon. Its prevention is beyond human control. But this is not included in the list of natural disasters under CRF. Hence no assistance for its victims. The following table indicates year-wise death and gravity of the situation.

Year	No. of Lightning Deaths
2001	183
2002	220
2003	221
2004	277
2005	250
2006	204



Till date 204 persons have lost their lives in the State due to lightning during the current year. Lightning has been unusually striking throughout the year including the monsoon season resulting in human and cattle casualties. To cite an example, 72 cattle died in Khurda district in a single stroke of lightning. In more incidents, a primary school was hit in Angul district during school hours causing injuries and five persons of Athgarh died due to lightning while sleeping. As lightning has not been included in the list of Natural Calamities under the CRF norms, affected families are being deprived of assistance from CRF. This matter has been brought to the notice of Government of India several times earlier. The matter was also discussed in the National Conference of Special Relief Commissioners of States held in New Delhi earlier this year. It may be considered to issue revised guidelines under CRF for providing ex-gratia assistance for death / injury due to lightning at par with assistance for death/ injury due to other natural calamities.

2. Restoration of public infrastructure

During floods, public infrastructures are the worst affected sector. It becomes a Herculean task to restore the infrastructure to pre-calamity stage. It requires immediate restoration to make the relief line through. The guidelines issued by the Government of India for restoration of infrastructure should be revised to incorporate bringing them to pre-calamity stage.

3. Heat Wave

The climatic change, rapid urbanization and erosion of forest have been the major causes of recent heat wave conditions. It has become a menace during the hard summer causing insurmountable human suffering. The poor people, farmers and workers suffer from sunstroke and lose their lives. The State of Orissa has been facing serious heat wave conditions during past years since 1998. Hence, heat wave condition may be considered as natural calamity with award of Ex-gratia assistance to the next of kin of the deceased persons succumbed to the calamity.

