



Government of Orissa

**ANNUAL REPORT
ON
NATURAL CALAMITIES
2009 - 10**

**SPECIAL RELIEF COMMISSIONER
REVENUE AND DISASTER MANAGEMENT DEPARTMENT**

Annual Report on Natural Calamities 2009-10

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Revenue & Disaster Management Department

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CHAPTER - I

ORISSA AN OUTLOOK

Orissa is located between the parallels of 17.49'N and 22.34'N latitudes and meridians of 81.27'E and 87.29'E longitudes. It is bounded by the Bay of Bengal on the east; on the west and Andhra Pradesh on the south. It has a coast line of about 480 kms. It extends over an area of 155,707 square kms. On the basis of homogeneity, continuity and physiographical characteristics, Orissa has been divided into five major morphological regions. the Orissa Coastal Plain in the east, the Middle Mountainous and Highlands Region, the Central plateaus, the western rolling uplands and the major flood plains.

The Orissa Coastal Plains

The Orissa Coastal Plains are the depositional landforms of recent origin and geologically belong to the Post-Tertiary Period. The 75 metre contour line delimits their western boundary and differentiates them from the Middle Mountainous Region. This region stretches from the West Bengal border, i.e. from the River Subarnarekha in the north to the River Rushikulya in the south.

This region is the combination of several deltas of varied sizes and shapes formed by the major rivers of Orissa, such as the Subarnarekha, the Budhabalanga, the Baitarani, the Brahmani, the Mahanadi, and the Rushikulya. Therefore, the coastal plain of Orissa is called the "Hex deltaic region" or the "Gift of Six Rivers". It stretches along the coast of the Bay of Bengal having the maximum width in the Middle Coastal Plain (the Mahanadi Delta), narrow in the Northern Coastal Plain (Balasore Plain) and narrowest in the Southern Coastal Plain (Ganjam Plain). The North Coastal Plain comprises the deltas of the Subarnarekha and the Budhabalanga rivers and bears evidences of marine transgressions. The Middle Coastal Plain comprises the compound deltas of the Baitarani, Brahmani and Mahanadi rivers and bears evidences of past 'back bays' and present lakes. The South Coastal Plain comprises the latchstring plain of Chilika lake and the smaller delta of the Rushikulya River.

The Middle Mountainous and Highlands Region

The region covers about three-fourth of the entire State. This region mostly comprises the hills and mountains of the Eastern Ghats which rise abruptly and steeply in the east and slope gently to a dissected plateau in the west running from north-east to north-west. This region is well marked by a number of interfluves or watersheds. The Eastern Ghats is interrupted by a number of broad and narrow river valleys and flood plains. The average height of this region is about 900 metres above the mean seal level.



The Central Plateaus

The plateaus are mostly eroded plateaus forming the western slopes of the Eastern Ghats with elevation varying from 305-610 metres. There are two broad plateaus in Orissa (i) the Panposh - Keonjhar -Pallahara plateau comprises the Upper Baitarani catchment basin, and (ii) the Nabrangpur - Jeypore plateau comprises the Sabari basin.

The Western Rolling Uplands

These are lower in elevation than the plateaus having heights varying from 153 metres to 305 metres.



CHAPTER - II

RIVER SYSTEM

River System

The river system of Orissa comprises the Mahanadi, Brahmani, Baitarani, Subarnarekha, Vansadhara, Budhabalanga, Rusikulya, Nagabali, Indravati, Kolab, Bahuda, Jambhira and other tributaries and distributaries.



The Mahandi

It is the major river of Orissa and the sixth largest river in India. It originates from the Amarkantak hills of the Bastar Plateau in Raipur district of Madhya Pradesh. It is about 857 kms. Long (494 kms. In Orissa) and its catchment area spreads over 141,600 sq.kms. (65,580sq.kms. in Orissa). The river carries on an average about 92,600 million m of water.

The Brahmani

It is the second largest river in Orissa. It originates as two major rivers like the Sankh and the Koel from the Chhotanagpur Plateau of Bihar and both join at Veda Vyasa near Rourkela of Sundargarh district of Orissa forming the major River Brahmani. It flows through the Easter Ghats in Sundargarh, Kendujhar, Dhenkanal, Cuttack and Jajpur districts into the Coastal



Plains and enters into the Bay of Bengal along with a combined mouth with the Mahanadi known as the Dhamra. The Brahmani is 799 kms. Long (541 kms. In Orissa) and its catchment area spreads over 39,033 sq.kms. in Orissa).

The Baitarani

It originates from the Gonasika hills of the Keonjhar districts. It is 365 kms long and its catchment area spread over 12,790 sq. kms . It enters into the Bay of Bengal after joining of the Brahmani at Dhamara mouth near Chandbali.

The Subarnarekha

It originates from the Chhotnagpur plateau of Bihar. It is 433kms (70kms in Orissa) and has a catchment area of 19,500 kms (3,200kms in Orissa) with a mean annual flow of 7,900 million n.

The Budhabalanga

It originates from the eastern slops of the Similipala massif. It is about 175 kms long having a total catchment area of 4840 sq. kms. It's major tributaries are the Sone, the Gangadhar, the Catra etc.

The Rushikulya

It originates from the Rushyamala hills of the eastern ghats in Phulbani district. It is 165 kms long with 8900 sq. kms of catchment areas. It's tributaries are the Baghua the Dhanei Badanadi etc. It has no delta at its mouth.

The Bahuda

It originates from the Ramgiri hills of the eastern ghats in Gajapati districts and joins the Bay of Bengal in Andhra Pradesh . Its length 73 kms having a catchment area of 1250 sq. kms .

The Bansadhara

It originates from the flanks of the Durgakangar hills (Lingaraj hills) of the Eastern Ghats in Kalahandi districts. It is 230 kms long out of which only 150 kms in Orissa. It enters in to the Bay of Bengal at Kalingapatnam in Andhra Pradesh. It has a catchment area of 11500 sq. kms.

The Nagabali

It originates from the Bijipur Hills of the eastern ghats near Lanjigarah . It is 210 kms long out of which 100 kms is in Orissa. It has a total catchment area of about 9410 sq. kms.



The Salandi

It originates from the Meghasani Hills of the Similipal massif in Keonjhar district. It is 144 kms long with a catchment areas of 1793 sq. kms.

The Indrabati

It originates from the Eastern Ghats in Kalahandi districts. It is 530 kms long with a catchment area of 41700 sq. kms as a tributary it flows into the Godabari river.

The Kolab

It originates from the Sinkaran hills of the eastern Ghats in Koraput districts. It has catchment areas of 20400 sq. kms.

River's Catchments Areas

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





CHAPTER - III

NATURAL CALAMITIES IN LAST 15 YEARS

The State of Orissa is experiencing one calamity or another almost every year. The table below indicates how the State has been devastated by various natural calamities in the last 15 successive years.

| Year | Calamity | Districts Affected |
|-------------|---------------------------|---------------------------|
| 1995 | Floods & Cyclone | 23 |
| 1996 | Drought | 28 |
| 1997 | Drought | 16 |
| 1998 | Drought, Heat wave | 26 |
| 1999 | Super Cyclone | 14 |
| 2000 | Drought | 29 |
| 2001 | Floods | 24 |
| 2002 | Drought | 29 |
| 2003 | Floods | 23 |
| 2004 | Floods | 05 |
| 2005 | Floods | 15 |
| 2006 | Floods | 27 |
| 2007 | Floods (July) | 12 |
| 2007 | Floods (Aug. & Sept.) | 15 |
| 2008 | Floods (June & September) | 21 |
| 2009 | Flood & Heavy rain | 17 |
| | Drought / Pest Attack | 15 |



CHAPTER - IV

RAINFALL 2009

The scanty rainfall causes drought and the abundant rainfall causes floods, which could be best exemplified during the year 2009 due to asymmetrical distribution of rainfall. The rainfall during June was much less than the normal i.e. (-) 60.6% deficiency and rainfall during July was much more than the normal i.e. 77.3% excess. The district-wise annual rainfall from January to December with deviation is given in the table below.

District-wise rainfall for the year 2009

| Sl. | DISTRICT | JAN. | | | FEB. | | | MAR. | | | APRIL. | | |
|-----|---------------|--------|--------|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|-----------|
| | | Actual | Normal | % of Dev. |
| 1 | Angul | 0.0 | 12.6 | -100.0 | 0.0 | 27.1 | -100.0 | 2.8 | 24.3 | -88.5 | 0.0 | 27.2 | -100.0 |
| 2 | Balasore | 0.0 | 14.7 | -100.0 | 0.0 | 31.8 | -100.0 | 8.6 | 34.4 | -75.0 | 0.0 | 62.2 | -100.0 |
| 3 | Bargarh | 0.0 | 12.5 | -100.0 | 0.0 | 19.1 | -100.0 | 0.0 | 22.0 | -100.0 | 0.0 | 20.0 | -100.0 |
| 4 | Bhadrak | 0.4 | 11.8 | -96.4 | 0.0 | 29.6 | -100.0 | 5.3 | 36.1 | -85.4 | 0.4 | 51.2 | -99.2 |
| 5 | Bolangir | 0.0 | 8.6 | -100.0 | 0.0 | 13.2 | -100.0 | 0.2 | 14.6 | -98.7 | 0.0 | 13.4 | -100.0 |
| 6 | Boudh | 0.0 | 17.0 | -100.0 | 0.0 | 26.8 | -100.0 | 0.0 | 22.4 | -100.0 | 0.0 | 16.5 | -100.0 |
| 7 | Cuttack | 0.0 | 9.9 | -100.0 | 0.4 | 28.6 | -98.7 | 0.0 | 24.7 | -100.0 | 0.0 | 28.3 | -100.0 |
| 8 | Deogarh | 0.0 | 14.1 | -100.0 | 0.0 | 27.0 | -100.0 | 0.0 | 20.6 | -100.0 | 0.0 | 21.3 | -100.0 |
| 9 | Dhenkanal | 52.3 | 10.5 | 397.6 | 0.0 | 21.9 | -100.0 | 5.9 | 33.7 | -82.6 | 0.0 | 41.3 | -100.0 |
| 10 | Gajapati | 0.0 | 8.1 | -100.0 | 0.0 | 23.0 | -100.0 | 17.7 | 41.3 | -57.2 | 13.8 | 65.2 | -78.9 |
| 11 | Ganjam | 0.0 | 9.4 | -100.0 | 0.0 | 24.1 | -100.0 | 0.0 | 32.6 | -100.0 | 0.0 | 36.6 | -100.0 |
| 12 | Jagatsinghpur | 3.6 | 14.5 | -75.0 | 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 | 0.0 | 28.4 | -100.0 | 0.0 | 46.1 | -100.0 |
| 14 | Jharsuguda | 14.6 | 14.1 | 3.5 | 0.0 | 22.9 | -100.0 | 0.0 | 17.6 | -100.0 | 0.0 | 15.1 | -100.0 |
| 15 | Kalahandi | 1.2 | 10.3 | -88.8 | 0.0 | 14.4 | -100.0 | 0.0 | 23.7 | -100.0 | 0.0 | 25.7 | -100.0 |



| | | | | | | | | | | | | | |
|----------------------|-------------|-------------|-------------|--------------|------------|-------------|--------------|-------------|-------------|--------------|-------------|-------------|--------------|
| 16 | Kandhamal | 0.0 | 10.6 | -100.0 | 0.0 | 29.7 | -100.0 | 3.8 | 28.0 | -86.3 | 0.0 | 35.7 | -100.0 |
| 17 | Kendrapara | 8.9 | 10.6 | -16.1 | 0.0 | 30.2 | -100.0 | 1.0 | 35.0 | -97.1 | 2.6 | 33.9 | -92.5 |
| 18 | Keonjhar | 0.3 | 14.6 | -97.9 | 0.0 | 33.8 | -100.0 | 3.4 | 33.1 | -89.8 | 0.0 | 42.1 | -100.0 |
| 19 | Khordha | 0.0 | 12.4 | -100.0 | 0.0 | 24.3 | -100.0 | 0.0 | 22.1 | -100.0 | 4.3 | 28.0 | -84.6 |
| 20 | Koraput | 0.0 | 5.7 | -100.0 | 0.0 | 8.6 | -100.0 | 0.4 | 18.3 | -98.0 | 0.6 | 55.2 | -98.8 |
| 21 | Malkanagiri | 0.0 | 2.7 | -100.0 | 0.0 | 4.1 | -100.0 | 0.0 | 8.9 | -100.0 | 0.0 | 34.8 | -100.0 |
| 22 | Mayurbhanj | 0.0 | 10.3 | -100.0 | 0.0 | 28.0 | -100.0 | 8.2 | 40.2 | -79.5 | 0.0 | 52.5 | -100.0 |
| 23 | Nawarangpur | 0.0 | 6.7 | -100.0 | 0.0 | 14.1 | -100.0 | 9.0 | 15.1 | -40.4 | 0.0 | 34.1 | -100.0 |
| 24 | Nayagarh | 0.0 | 11.7 | -100.0 | 0.0 | 28.6 | -100.0 | 5.4 | 30.0 | -82.2 | 1.7 | 39.9 | -95.7 |
| 25 | Nuapara | 0.0 | 12.0 | -100.0 | 0.0 | 14.6 | -100.0 | 0.0 | 19.7 | -100.0 | 0.0 | 21.8 | -100.0 |
| 26 | Puri | 0.0 | 10.9 | -100.0 | 1.0 | 25.4 | -96.1 | 0.0 | 15.5 | -100.0 | 2.2 | 18.5 | -88.2 |
| 27 | Rayagada | 0.0 | 9.6 | -100.0 | 0.0 | 22.9 | -100.0 | 7.9 | 38.0 | -79.1 | 1.4 | 52.7 | -97.3 |
| 28 | Sambalpur | 0.0 | 14.8 | -100.0 | 0.0 | 24.5 | -100.0 | 0.0 | 18.2 | -100.0 | 0.0 | 16.5 | -100.0 |
| 29 | Sonepur | 0.0 | 12.5 | -100.0 | 0.0 | 17.2 | -100.0 | 0.0 | 15.7 | -100.0 | 0.0 | 15.4 | -100.0 |
| 30 | Sundargarh | 1.4 | 15.1 | -91.0 | 0.0 | 24.9 | -100.0 | 0.0 | 16.0 | -100.0 | 2.0 | 16.0 | -87.5 |
| Total | | 82.6 | | | 1.4 | | | 79.5 | | | 29.0 | | |
| State Average | | 2.8 | 11.4 | -75.8 | 0.0 | 22.9 | -99.8 | 2.6 | 25.5 | -89.6 | 1.0 | 33.1 | -97.1 |

Contd..



| Sl. | DISTRICT | MAY | | | JUNE | | | JULY | | | AUGUST | | |
|-----|---------------|--------|--------|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|-----------|
| | | Actual | Normal | % of Dev. |
| 1 | Angul | 48.7 | 52.9 | -7.9 | 53.8 | 225.1 | -76.1 | 636.7 | 347.7 | 83.1 | 271.9 | 357.5 | -23.9 |
| 2 | Balasore | 170.6 | 108.5 | 57.2 | 90.3 | 221.5 | -59.3 | 430.0 | 308.6 | 39.4 | 303.0 | 332.1 | -8.8 |
| 3 | Bargarh | 0.0 | 25.6 | -100.0 | 13.7 | 205.6 | -93.4 | 736.8 | 397.2 | 85.5 | 210.0 | 374.4 | -43.9 |
| 4 | Bhadrak | 154.7 | 91.4 | 69.2 | 90.2 | 198.2 | -54.5 | 600.4 | 293.6 | 104.5 | 302.5 | 311.7 | -3.0 |
| 5 | Bolangir | 13.5 | 27.8 | -51.5 | 83.8 | 202.8 | -58.7 | 840.0 | 360.5 | 133.0 | 326.3 | 333.6 | -2.2 |
| 6 | Boudh | 0.0 | 38.4 | -100.0 | 51.2 | 233.8 | -78.1 | 641.1 | 418.5 | 53.2 | 352.0 | 488.8 | -28.0 |
| 7 | Cuttack | 139.0 | 71.5 | 94.4 | 100.3 | 210.0 | -52.2 | 740.9 | 308.3 | 140.3 | 389.9 | 339.1 | 15.0 |
| 8 | Deogarh | 40.8 | 41.9 | -2.6 | 63.0 | 242.4 | -74.0 | 456.1 | 447.7 | 1.9 | 245.8 | 443.4 | -44.6 |
| 9 | Dhenkanal | 107.4 | 69.6 | 54.3 | 90.1 | 225.7 | -60.1 | 661.4 | 317.9 | 108.1 | 226.1 | 344.8 | -34.4 |
| 10 | Gajapati | 43.0 | 107.8 | -60.1 | 131.3 | 199.7 | -34.3 | 372.8 | 230.6 | 61.7 | 271.5 | 253.6 | 7.1 |
| 11 | Ganjam | 52.3 | 65.4 | -20.1 | 96.4 | 168.3 | -42.7 | 458.7 | 220.8 | 107.8 | 232.7 | 246.8 | -5.7 |
| 12 | Jagatsinghpur | 173.1 | 78.0 | 122.0 | 52.0 | 202.3 | -74.3 | 615.9 | 277.3 | 122.1 | 211.0 | 379.1 | -44.3 |
| 13 | Jajpur | 150.9 | 93.7 | 61.0 | 65.9 | 238.5 | -72.4 | 608.4 | 350.9 | 73.4 | 290.7 | 341.2 | -14.8 |
| 14 | Jharsuguda | 13.6 | 27.9 | -51.3 | 119.0 | 218.8 | -45.6 | 503.8 | 385.8 | 30.6 | 272.8 | 382.9 | -28.8 |
| 15 | Kalahandi | 0.0 | 41.8 | -100.0 | 69.0 | 240.4 | -71.3 | 912.7 | 327.7 | 178.5 | 357.9 | 355.4 | 0.7 |
| 16 | Kandhamal | 39.2 | 67.8 | -42.3 | 109.9 | 207.9 | -47.1 | 862.7 | 325.1 | 165.4 | 267.1 | 330.8 | -19.3 |
| 17 | Kendrapara | 184.2 | 94.2 | 95.6 | 39.6 | 208.3 | -81.0 | 589.0 | 317.1 | 85.7 | 175.7 | 333.3 | -47.3 |
| 18 | Keonjhar | 151.6 | 94.8 | 59.9 | 86.3 | 241.4 | -64.3 | 442.7 | 318.0 | 39.2 | 264.1 | 343.6 | -23.1 |
| 19 | Khordha | 52.4 | 60.7 | -13.7 | 74.0 | 196.2 | -62.3 | 567.8 | 304.9 | 86.2 | 291.2 | 320.6 | -9.2 |
| 20 | Koraput | 34.3 | 81.9 | -58.1 | 100.0 | 206.8 | -51.7 | 436.9 | 375.6 | 16.3 | 226.4 | 393.6 | -42.5 |
| 21 | Malkangiri | 3.6 | 49.1 | -92.7 | 84.4 | 212.2 | -60.2 | 490.0 | 465.7 | 5.2 | 308.0 | 472.8 | -34.9 |
| 22 | Mayurbhanj | 155.4 | 101.2 | 53.6 | 69.7 | 265.8 | -73.8 | 284.3 | 337.3 | -15.7 | 259.6 | 359.9 | -27.9 |



| | | | | | | | | | | | | | |
|----------------------|-------------|---------------|-------------|-------------|---------------|--------------|--------------|----------------|--------------|-------------|---------------|--------------|--------------|
| 23 | Nawarangpur | 64.0 | 66.1 | -3.2 | 186.2 | 251.8 | -26.1 | 611.2 | 356.6 | 71.4 | 389.9 | 407.5 | -4.3 |
| 24 | Nayagarh | 50.0 | 58.8 | -14.9 | 109.7 | 203.5 | -46.1 | 758.9 | 288.5 | 163.1 | 213.3 | 288.2 | -26.0 |
| 25 | Nuapara | 33.2 | 31.2 | 6.5 | 87.6 | 210.3 | -58.4 | 697.1 | 347.1 | 100.8 | 319.2 | 327.8 | -2.6 |
| 26 | Puri | 96.4 | 62.1 | 55.2 | 77.6 | 188.0 | -58.7 | 609.2 | 292.0 | 108.6 | 244.8 | 297.9 | -17.8 |
| 27 | Rayagada | 49.4 | 87.8 | -43.8 | 137.9 | 195.3 | -29.4 | 559.8 | 259.5 | 115.7 | 335.4 | 273.7 | 22.5 |
| 28 | Sambalpur | 39.6 | 32.3 | 22.5 | 73.9 | 221.0 | -66.6 | 638.6 | 429.5 | 48.7 | 331.5 | 442.4 | -25.1 |
| 29 | Sonepur | 5.5 | 29.3 | -81.2 | 85.7 | 217.4 | -60.6 | 917.2 | 399.6 | 129.5 | 309.5 | 408.9 | -24.3 |
| 30 | Sundargarh | 66.0 | 40.6 | 62.5 | 69.4 | 237.4 | -70.8 | 396.1 | 386.4 | 2.5 | 311.4 | 393.9 | -21.0 |
| Total | | 2132.2 | | | 2561.8 | | | 18077.1 | | | 8511.0 | | |
| State Average | | 71.1 | 63.3 | 12.3 | 85.4 | 216.5 | -60.6 | 602.6 | 339.9 | 77.3 | 283.7 | 356.0 | -20.3 |

Contd.



| | | 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. |
| Sl. | DISTRICT | | | | | | | | | | | | | | | |
| 1 | Angul | 104.8 | 217.5 | -51.8 | 121.7 | 86.3 | 41.0 | 26.8 | 20.4 | 31.5 | 0.0 | 3.3 | -100.0 | 1267.3 | 1401.9 | -9.6 |
| 2 | Balasore | 336.1 | 267.6 | 25.6 | 199.4 | 170.5 | 17.0 | 41.7 | 34.6 | 20.4 | 0.0 | 5.5 | -100.0 | 1579.6 | 1592.0 | -0.8 |
| 3 | Bargarh | 144.1 | 222.6 | -35.3 | 34.5 | 52.8 | -34.7 | 0.0 | 10.4 | -100.0 | 0.0 | 5.1 | -100.0 | 1139.0 | 1367.3 | -16.7 |
| 4 | Bhadrak | 278.6 | 216.8 | 28.5 | 157.4 | 145.3 | 8.3 | 30.1 | 37.3 | -19.4 | 0.0 | 4.9 | -100.0 | 1619.9 | 1427.9 | 13.4 |
| 5 | Bolangir | 134.2 | 237.4 | -43.5 | 14.5 | 68.4 | -78.8 | 30.1 | 7.2 | 317.5 | 0.0 | 2.3 | -100.0 | 1442.5 | 1289.8 | 11.8 |
| 6 | Boudh | 155.3 | 244.8 | -36.6 | 26.9 | 90.5 | -70.3 | 22.6 | 21.1 | 7.0 | 0.0 | 4.4 | -100.0 | 1249.0 | 1623.1 | -23.0 |
| 7 | Cuttack | 240.8 | 229.2 | 5.0 | 178.8 | 125.6 | 42.3 | 16.4 | 45.0 | -63.6 | 0.0 | 4.1 | -100.0 | 1806.5 | 1424.3 | 26.8 |
| 8 | Deogarh | 72.6 | 228.2 | -68.2 | 92.3 | 84.4 | 9.3 | 21.9 | 8.0 | 174.2 | 0.0 | 3.5 | -100.0 | 992.5 | 1582.5 | -37.3 |
| 9 | Dhenkanal | 126.9 | 220.6 | -42.5 | 189.3 | 104.4 | 81.3 | 12.3 | 36.2 | -66.2 | 0.0 | 2.2 | -100.0 | 1471.6 | 1428.8 | 3.0 |
| 10 | Gajapati | 166.2 | 237.9 | -30.1 | 79.4 | 168.6 | -52.9 | 53.9 | 61.8 | -12.9 | 0.0 | 5.7 | -100.0 | 1149.4 | 1403.3 | -18.1 |
| 11 | Ganjam | 127.7 | 216.3 | -41.0 | 170.1 | 177.7 | -4.3 | 80.0 | 71.1 | 12.5 | 0.0 | 7.1 | -100.0 | 1218.0 | 1276.2 | -4.6 |
| 12 | Jagatsinghpur | 243.9 | 241.4 | 1.0 | 148.6 | 151.1 | -1.6 | 35.9 | 80.4 | -55.4 | 0.0 | 7.9 | -100.0 | 1484.0 | 1514.6 | -2.0 |
| 13 | Jajpur | 305.7 | 238.0 | 28.4 | 124.5 | 140.2 | -11.2 | 5.8 | 41.0 | -85.9 | 0.0 | 3.9 | -100.0 | 1551.9 | 1559.9 | -0.5 |
| 14 | Jharsuguda | 89.2 | 210.7 | -57.7 | 129.4 | 54.9 | 135.7 | 0.0 | 7.7 | -100.0 | 0.0 | 4.4 | -100.0 | 1142.4 | 1362.8 | -16.2 |
| 15 | Kalahandi | 101.3 | 204.6 | -50.5 | 48.7 | 74.0 | -34.2 | 13.6 | 10.9 | 24.9 | 0.0 | 1.6 | -100.0 | 1504.3 | 1330.5 | 13.1 |
| 16 | Kandhamal | 216.7 | 239.1 | -9.4 | 72.0 | 117.7 | -38.9 | 32.3 | 31.0 | 4.2 | 0.0 | 4.5 | -100.0 | 1603.6 | 1427.9 | 12.3 |
| 17 | Kendrapara | 362.6 | 237.3 | 52.8 | 170.8 | 183.7 | -7.0 | 34.7 | 67.2 | -48.4 | 0.0 | 5.2 | -100.0 | 1568.9 | 1556.0 | 0.8 |
| 18 | Keonjhar | 167.6 | 241.1 | -30.5 | 165.7 | 101.3 | 63.6 | 40.0 | 20.5 | 95.3 | 0.0 | 3.4 | -100.0 | 1321.6 | 1487.7 | -11.2 |
| 19 | Khordha | 206.5 | 234.5 | -11.9 | 137.8 | 149.3 | -7.7 | 62.4 | 50.4 | 23.7 | 0.0 | 5.0 | -100.0 | 1396.4 | 1408.4 | -0.9 |
| 20 | Koraput | 125.1 | 256.3 | -51.2 | 88.5 | 126.1 | -29.9 | 26.3 | 32.6 | -19.4 | 0.0 | 6.5 | -100.0 | 1038.4 | 1567.2 | -33.7 |



| | | | | | | | | | | | | | | | | |
|---------------|-------------|--------|-------|-------|--------|-------|-------|-------|------|--------|-----|-----|--------|--------|--------|-------|
| 21 | Malkanagiri | 166.9 | 281.2 | -40.6 | 48.3 | 109.5 | -55.9 | 0.1 | 23.6 | -99.6 | 0.0 | 3.0 | -100.0 | 1101.3 | 1667.6 | -34.0 |
| 22 | Mayurbhanj | 241.8 | 262.0 | -7.7 | 173.2 | 114.1 | 51.8 | 21.3 | 21.6 | -1.5 | 0.0 | 7.3 | -100.0 | 1213.5 | 1600.6 | -24.2 |
| 23 | Nawarangpur | 146.1 | 225.6 | -35.2 | 64.4 | 168.6 | -61.8 | 36.0 | 18.7 | 92.5 | 0.0 | 4.6 | -100.0 | 1506.8 | 1569.5 | -4.0 |
| 24 | Nayagarh | 169.2 | 226.8 | -25.4 | 153.7 | 134.5 | 14.3 | 29.0 | 39.0 | -25.6 | 0.0 | 4.8 | -100.0 | 1491.0 | 1354.3 | 10.1 |
| 25 | Nuapara | 74.0 | 214.5 | -65.5 | 65.0 | 68.9 | -5.7 | 26.3 | 15.3 | 71.8 | 0.0 | 3.2 | -100.0 | 1302.4 | 1286.4 | 1.2 |
| 26 | Puri | 240.0 | 243.2 | -1.3 | 152.4 | 181.6 | -16.1 | 39.8 | 67.3 | -40.8 | 0.0 | 6.4 | -100.0 | 1463.4 | 1408.8 | 3.9 |
| 27 | Rayagada | 94.4 | 199.1 | -52.6 | 96.3 | 109.7 | -12.2 | 45.6 | 32.9 | 38.7 | 0.0 | 4.7 | -100.0 | 1328.1 | 1285.9 | 3.3 |
| 28 | Sambalpur | 134.1 | 224.7 | -40.3 | 76.8 | 54.7 | 40.4 | 0.0 | 12.7 | -100.0 | 0.0 | 4.4 | -100.0 | 1294.3 | 1495.7 | -13.5 |
| 29 | Sonepur | 171.3 | 228.0 | -24.9 | 27.3 | 59.8 | -54.3 | 37.0 | 11.4 | 224.6 | 0.0 | 3.3 | -100.0 | 1553.5 | 1418.5 | 9.5 |
| 30 | Sundargarh | 108.6 | 211.5 | -48.7 | 99.2 | 67.7 | 46.6 | 22.5 | 8.7 | 158.8 | 0.0 | 4.2 | -100.0 | 1076.5 | 1422.4 | -24.3 |
| Total | | 5252.1 | | | 3306.5 | | | 844.2 | | | 0.0 | | | 408774 | | |
| State Average | | 175.1 | 231.9 | -24.5 | 110.2 | 114.7 | -3.9 | 28.1 | 31.5 | -10.7 | 0.0 | 4.5 | -100.0 | 1362.6 | 1451.2 | -6.1 |





CHAPTER - V

NATURAL CALAMITIES DURING 2009-10

In the year 2009-10, the State experienced following natural calamities:

1. Floods & Heavy Rain
2. Drought
3. Fire Accidents
4. Lightning
5. Hail Storm
6. Earthquake
7. Heat Wave



CHAPTER - VI

FLOOD & HEAVY RAIN

Since 2003, the State of Orissa has been a regular victim of recurring floods. Of these years, the high floods came in 2001, 2003, 2006, 2007 and 2008. Given this backdrop, the State was affected by Floods yet again in July 2009 due to heavy precipitation.

Under the effect of deep depression over Bay of Bengal, the State received 77.3% more rainfall during July than the long term average rainfall of the month. Most of these precipitations were limited to first three weeks of the month. Such excessive rainfall caused flash floods in most of the Districts. Similarly, during August and September 2009, excessive rainfall resulted in flood situation in some Districts. 17 out of 30 Districts namely Balasore, Bhadrak, Bolangir, Cuttack, Ganjam, Jajpur, Kalahandi, Kandhamal, Kendrapada, Keonjhar, Khordha, Koraput, Nayagarh, Mayurbhanj, Puri, Subarnapur, and Sundargarh were affected by floods and heavy-rain.





Damages

Floods and heavy-rain in 2009 caused extensive damage to private and public properties. 59 persons died and 6.61 lakh people in 2711 villages of 687 Gram Panchayats under 67 Blocks and 108 wards of 13 Urban Local Bodies were affected by floods. 2399.04 hectares of agriculture areas were sand cast. The detailed district-wise damages are given in the table below.

| Sl. | District | Blocks | G.Ps | Villages | ULBs | Wards | Human Casualty | Area Sand Cast(Hect) |
|--------------|------------|-----------|------------|-------------|-----------|------------|----------------|----------------------|
| 1 | Balasore | 07 | 61 | 318 | 01 | 09 | 01 | |
| 2 | Bhadrak | - | - | - | - | - | 07 | - |
| 3 | Bolangir | 06 | 103 | 476 | 01 | 13 | - | - |
| 4 | Cuttack | 04 | 68 | 249 | 01 | 17 | 09 | 88.00 |
| 5 | Ganjam | 03 | 38 | 108 | 02 | 15 | 09 | 1384.8 |
| 6 | Jajpur | 01 | 06 | 14 | - | - | - | - |
| 7 | Kalahandi | 11 | 161 | 718 | 02 | 25 | 01 | 379.61 |
| 8 | Kandhamal | 12 | 119 | 402 | 02 | 11 | 06 | - |
| 9 | Kendrapada | 02 | 22 | 47 | 01 | 06 | - | - |
| 10 | Keonjhar | - | - | - | 01 | 03 | 04 | |
| 11 | Khordha | 02 | 02 | 06 | - | - | - | - |
| 12 | Koraput | 06 | 20 | 56 | - | - | 03 | - |
| 13 | Mayurbhanj | 04 | 24 | 62 | 01 | 03 | - | - |
| 14 | Nayagarh | 07 | 39 | 128 | | - | 14 | 546.63 |
| 15 | Puri | 01 | 01 | 01 | - | - | 02 | - |
| 16 | Subarnapur | 01 | 23 | 126 | 01 | 06 | - | - |
| 17 | Sundargarh | - | - | - | - | - | 03 | - |
| Total | | 67 | 687 | 2711 | 13 | 108 | 59 | 2399.04 |

**House Damages**

13,547 houses were damaged due to floods and heavy-rain during 2009. The detailed category of damaged houses is given in the table below.

| District | House Damage | | | | |
|--------------|--------------|-------------|--------------|------------|--------------|
| | Fully | Severely | Partially | Hut | Total |
| Balasore | 02 | 08 | 120 | 14 | 144 |
| Bhadrak | -- | -- | -- | -- | -- |
| Bolangir | 13 | -- | 2431 | 423 | 2867 |
| Cuttack | 12 | 54 | 345 | 03 | 414 |
| Ganjam | 198 | 876 | 2325 | 76 | 3475 |
| Jajpur | -- | -- | -- | -- | -- |
| Kalahandi | 103 | 273 | 2529 | -- | 2905 |
| Keonjhar | 11 | 11 | -- | -- | 22 |
| Khordha | -- | -- | -- | -- | -- |
| Koraput | 11 | 15 | 107 | -- | 133 |
| Nayagarh | 04 | 286 | 3297 | -- | 3587 |
| Puri | -- | -- | -- | -- | -- |
| Sundargarh | -- | -- | -- | -- | -- |
| <i>Total</i> | 354 | 1523 | 11154 | 516 | 13547 |

Human Casualty

59 persons lost their lives due to floods. The District-wise death tolls are given in the table below.

| Sl. | District | No. of Human Casualties |
|-----|--------------|-------------------------|
| 1 | Bhadrak | 07 |
| 2 | Cuttack | 09 |
| 3 | Ganjam | 09 |
| 4 | Kalahandi | 01 |
| 5 | Kandhamal | 06 |
| 6 | Keonjhar | 04 |
| 7 | Koraput | 03 |
| 8 | Nayagarh | 14 |
| 9 | Puri | 02 |
| 10 | Sundargarh | 03 |
| 11 | Balasore | 01 |
| | <i>Total</i> | 59 |



Sand Cast

An agricultural area of 2399.04 hectare was sand cast due to flood.

Loss to Public Utilities

Loss to public utilities due to impact of flash flood was enormous. There was again extensive damage to rural roads, river embankments, bridges and other public infrastructures. The total loss to public utilities comes to Rs.483.02 crore.

Response

- ❖ ODRAF teams with power boats and emergency equipments were deployed in Nayagarh and Balasore Districts for search and rescue operation.
- ❖ 62,200 people were evacuated.
- ❖ 98 boats were deployed for relief and rescue operation.
- ❖ Emergent relief was sanctioned for a period of 7 days and 15 days for the marooned people of the flood affected areas of Nayagarh and Ganjam Districts respectively. 77 free kitchen centres were opened.
- ❖ Emergent relief in shape of rice (1707.15 Qtl.), chuda (772.70 Qtl.) and gud (103.55 Qtl.) was distributed among the people in the flood affected villages. Candles, matchboxes, kerosene and other essential commodities were also distributed among the affected population.
- ❖ 48 MT of concentrated cattle feed was despatched through OMFED and distributed to the affected animals in the marooned areas.
- ❖ Funds to the tune of Rs.231.49 crore have been spent towards Flood-2009 mitigation measures.
- ❖ Ex-gratia assistance @ Rs. 1.00 lakh has been released to the NOK of the deceased persons who died due to floods.
- ❖ All financial assistance out of CRF for pure relief i.e. House Building Assistance, Sand cast assistance, etc. have been provided to the flood victims through account payee Cheque.

Flood Notification

As per Paragraph-79 of Orissa Relief Code, the State Government have notified 2711 villages covered under 687 G. Ps. of 67 Blocks and 108 wards of 13 Urban Local Bodies (ULBs) in 15 Districts of the State as affected by Floods during 2009. (Notification No.29312/ R&DM Dt.27.07.2010)





CHAPTER - VII

DROUGHT

Due to erratic behaviour of monsoon manifested in irregular and scanty rainfall, the State experienced severe drought during the year 2009.

Monsoon and its erratic behaviour

Normally monsoon breaks around the 10th of June in Orissa. In 2009, it actually broke around end of June in some parts of the State and beginning of July in some other parts, against the prediction of a near normal monsoon for the 2009 South-west monsoon season by the India Meteorological Department (IMD), resulting in an extended heat-wave condition. During June, rainfall in the State was deficient by 60.6%.

Although the South-west monsoon revived in July 2009 after playing truant in June, its spatial distribution in the State remained unsatisfactory. During July 2009, there was excess rainfall by 77.3%. There was 93 percent of excess rainfall up to 21st of July, whereas from 22nd July onwards, the rainfall was deficient by about 63%. The trend of deficient rainfall which started from 22nd of July continued in August as well as September. In August 2009, rainfall was deficient by about 20.3%.

During September the axis of monsoon did not lie in all parts of the State. Five Districts such as Cuttack, Jajpur, Kendrapada, Balasore and Bhadrak received more rainfall as compared to normal due to the effect of low pressure over North-West Bay of Bengal. The remaining Districts received rainfall much less than the normal and the State cumulatively received 24.5% less rainfall than the normal.

The table below indicates the normal and actual rainfall position in the State from June to October 2009.

| Month | Normal | Rainfall in MM | |
|-----------|--------|----------------|------------|
| | | Actual | Deficiency |
| June | 216.5 | 85.4 | -60.6 |
| July | 339.9 | 602.6 | 77.3 |
| August | 356.0 | 283.7 | -20.3 |
| September | 231.9 | 175.1 | -24.5 |

Rainfall Pattern 2009 in the affected districts

| Sl.No | Month | Number of Blocks with deficient rainfall | | | |
|-------|-----------|--|-------------|-------------|------------|
| | | 0 to -20% | -20 to -40% | -40 to -50% | Above -50% |
| 1 | June | 14 | 14 | 9 | 118 |
| 2 | July | 9 | 2 | 3 | 5 |
| 3 | August | 51 | 30 | 0 | 31 |
| 4 | September | 28 | 25 | 20 | 63 |

Agriculture

Agriculture in Orissa is mainly rain-fed. Only 33% of the cultivated areas have irrigation facilities from various sources some of which are again dependent on rainfall. The rivers of the State are rain-fed and they receive their runoff mainly from the monsoon rainfall.

The Normal Kharif area is about 61.80 lakh hectares comprising 29.16 lakh hectares (47.15%) highlands, 17.55 lakh hectares (28.39%) medium and 15.11 lakh hectares (24.44%) low land. About 20 lakh hectares (32.4%) are covered by irrigation from various sources and the remaining 41.80 lakh hectares (67.6%) depend on rains only. The normal area for Rabi crop is 23.90 lakh hectares.

Agricultural operations in Orissa traditionally start with the pre-monsoon showers in the month of May and continue till end of June. As rainfall was deficient in June, sowing was delayed for most kharif crops and yield of the early sown crops was affected. Against the normal sowing area of 16.21 lakh hectares in June, only 9.12 lakh hectares could be covered during the month. Although excess rainfall of 93% was recorded up to 21st July, the trend of deficient rainfall again started from 22nd of July and continued in August as well as September. As a result, the paddy transplantation was delayed due to lack of adequate rains and could not be undertaken in many areas later on.

To sum up, the month of June had almost a totally dry spell which affected sowing of crops whereas the dry spell after 22nd July delayed transplantation, weeding and the growth of the paddy crop across the State. Further, there was no sufficient soil moisture for the crops sown very late and there was moisture stress upon the standing crops. Thereafter, infestation of swarming caterpillar in August and September also affected the crop.

Thus, the deficient and erratic rainfall and consequential moisture stress as well as pest attack adversely affected both paddy and non-paddy crops particularly in western Districts during Kharif 2009.



Crop cutting experiment in respect of autumn paddy indicated that 3264 villages and 41 wards of 15 Districts sustained crop loss of 50% and above. 2030 villages and 7 wards of 12 Districts also sustained crop loss of winter paddy to the extent of 50% and above as revealed from the crop cutting report. Out of the total area of 3.09 lakh hectares under autumn paddy, the loss of production of autumn paddy was estimated to be 3,41,993 quintals, the cost of which worked out to be Rs.341.99 crore. Similarly, 60,913 hectares of non paddy crops like vegetables and spices was affected, the cost of which came to Rs.48.73 crore.

Impact on life and property

About one and half a crore population in fifteen Districts of the State were affected due to drought. The areas affected by drought are mostly located in the tribal belts of Western Orissa with sizeable population belonging to the Scheduled Caste and Scheduled Tribe Communities. The average size of land holding of most of the families is less than one hectare. Low Kharif productions due to the poor monsoon have broken the backbone of the rural economy. People of the affected areas are at a disadvantage from various angles starting from inability to work more in the field, low income and procuring ration at a higher price. Drought affected the availability of food grains with the family. It had caused agricultural employment to decline. The incidence of debt increased at the household level both for the purpose of production and consumption.

Due to shortage of water and food, people in the drought affected areas very often suffer from water borne diseases like diarrhoeas and dysentery, common types of diseases like anaemia, malnutrition and skin diseases like scabies. In order to tackle these problems in the drought affected areas, health measures, both curative and preventive, were taken. Health camps were organized in the affected Districts for treatment of people. No epidemic was reported affecting human population in the affected Districts.

Mitigation activities

The drought situation of 2009 was monitored constantly through Control Room set up in the State Emergency Operation Centre and District Emergency Operation Centres. A committee of Crop Weather Watch Group was constituted under the Chairmanship of Agriculture Production Commissioner, Orissa to monitor the progress of Kharif 2009 crops on weekly basis. Similarly, a Drought Monitoring Committee under the Chairmanship of Agriculture Production Commissioner, Orissa was constituted with effect from 28.10.2009 for regular monitoring of various short term and long term measures to deal with the situation arising out of deficient and erratic rainfall.



Hon'ble Chief Minister took review meeting with high level officers on drought situation on 28.10.09 in which decisions were taken to create large number of farm ponds in a campaign mode under NREGS, make special drive for revival of defunct Lift Irrigation points, take steps for repair / renovation of Minor Irrigation projects, provide subsidized seeds and other inputs to drought affected farmers. Hon'ble Minister, Revenue and Disaster Management also held meeting on 29.10.2009 with Revenue Divisional Commissioners and high officials to take stock of the situation. On 17.11.2009, Hon'ble Minister, Revenue and Disaster Management took another meeting with the concerned officers to review the crop loss position due to deficient rainfall and pest attack.

All Revenue Divisional Commissioners and Collectors were instructed to monitor the situation by conducting frequent tours and meetings with Revenue and Agricultural Field Level Officers and submit weekly report to Special Relief Commissioner. The Collectors of the affected districts were instructed to convene special meeting of the District Level Natural Calamity Committee to review the situation and to take necessary drought mitigation measures.

A chapter on drought was incorporated in the MIS (Management Information System) report for Tracking Hunger and Malnutrition from the fortnight ending 15th October, 2009 with a view to keeping track of the drought situation in the field so that prompt interventions could be made to diffuse the situation with the resources available.

Crop Loss Assessment as per Orissa Relief Code

Orissa Relief Code lays down the detailed procedure for crop loss assessment in a most scientific way. As per Paragraph 28 of the Code, crop loss of paddy, ragi, maize and other major crop is undertaken by the Revenue field staff every year through eye estimation and crop cutting experiments. The eye estimation survey is undertaken in respect of every village commencing from the month of October or even earlier when a major crop is ready for harvest. Crop cutting experiments are taken up jointly by the Revenue, Agriculture and Statistical field officials in the villages where the crop loss appears to be more than 50% on eye estimation survey. In case, no village in a Gram Panchayat appears to have crop loss of 50% and more as per eye estimation survey, sample crop cutting experiments are taken up in a representative village in a Gram Panchayat. The senior officers of the related departments test check the assessment made by the field officials in a specified percentage of villages.

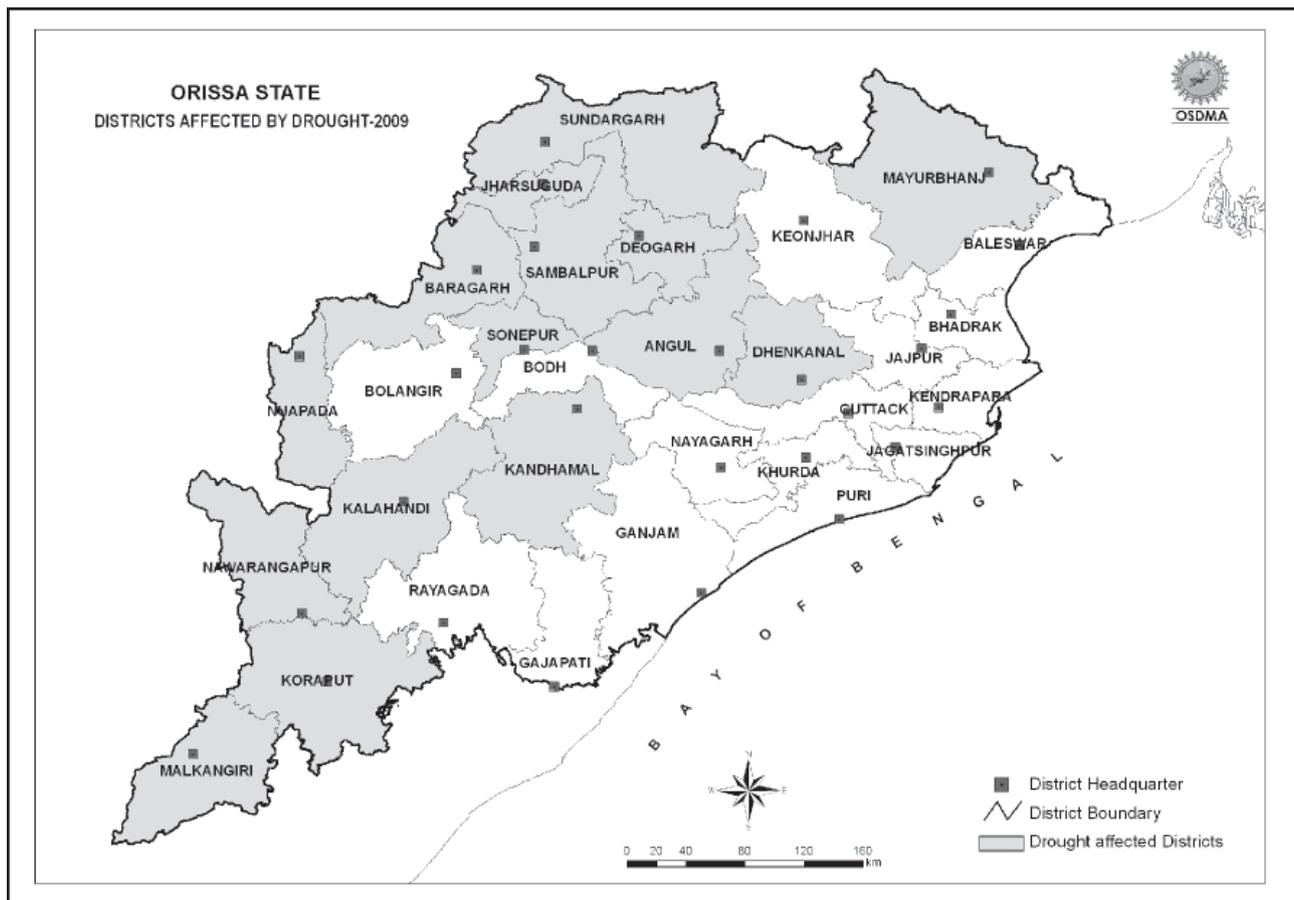
The Special Relief Commissioner compiles the District figures in accordance with the detailed rules and procedures and furnishes the reports with views.

Declaration of Drought

As per Paragraph 29 of Orissa Relief Code, declaration of drought in respect of a particular area is made by the Government taking into consideration the crop assessment report submitted by the Collector together with the views of Revenue Divisional Commissioners and Special Relief Commissioner.

Crop loss for Autumn Paddy

On the basis of reports received from Collectors, on 21st November, 2009, the State Government declared 3264 villages under 70 Blocks and 41 wards under 9 ULBs of 15 Districts namely Angul, Bargarh, Deogarh, Dhenkanal, Jharsuguda, Kalahandi, Kandhamal, Koraput, Malkangiri, Mayurbhanj, Nabarangpur, Nuapada, Sambalpur, Subarnapur, Sundargarh as drought affected having sustained crop loss of 50% and above for Autumn Paddy during the year 2009.



Crop loss of Winter Paddy.

Similarly, the State Government declared 2030 villages under 54 Blocks and 7 wards under 3 ULBs of 12 Districts namely Bolangir, Gajapati, Ganjam, Jharsuguda, Kalahandi, Koraput,



Malkangiri, Nabarangpur, Nuapada, Sambalpur, Subarnapur and Sundargarh as drought affected having sustained crop loss of 50% and above for Winter Paddy during the year 2009 on the basis of crop cutting reports.

Cumulatively, 5294 villages and 48 wards in 18 Districts were affected due to drought during 2009.

| | |
|--------------------------------------|--|
| <i>Districts affected by Drought</i> | Angul, Baragarh, Bolangir, Deogarh, Dhenkanal, Gajapati, Ganjam, Jharsuguda, Kalahandi, Kandhamal, Koraput, Malkangiri, Mayurbhanj, Nabarangpur, Nuapada, Sambalpur, Subarnapur and Sundargarh |
|--------------------------------------|--|

Drought Relief Measures

In response to the serious drought situation, the State Government undertook different relief measures which include distribution of input subsidy, ensuring supply line of food, provision of drinking water, provision of immediate irrigation facilities and distribution of fodder in cattle camps. An amount of Rs.50.00 crore out of CRF was released to Agriculture Department to provide agriculture input subsidy to the affected farmers who have sustained crop loss of 50% and above. An amount of 3.23 crore was released for supply of drinking water.

Agriculture damage mitigation activities

With a view to recouping the loss in Kharif, a comprehensive Rabi Programme was mounted. The food grain production target in Rabi was fixed at 17.51 MT (9.42 lakh MT of rice, 10.44 MT of cereals, 7.07 MT of pulses). Besides, production of oilseeds was also programmed for 6 MT. Subsidized seeds were provided to farmers of drought affected Districts during current Rabi Season.

Due to erratic monsoon during 2009 and the poor reservoir level of the Hydro electric stations within the State, the hydro electric generation which supplements major portion of States power demand had been reduced. As a result, power supply to agriculture sector also suffered. As per the request of the State, Government of India allotted 50 MW of extra power during peak hours from ER NTPC stations for the period from 27.6.09 to 17.7.09 and 24 MW from 18.7.09 to 05.8.09.

Drinking water

Due to abnormally low rainfall in large parts of the State during the Monsoon 2009, drinking water problem was experienced in the affected Districts. Drinking water was supplied through tankers to water scarcity pockets. Cross bundh / dredging of river bed was done to



collect required quantity of water. Steps were taken for repair of the defunct tube wells promptly and extension of Riser Pipes was taken up wherever required. New Hand Pump Tube Wells were installed in water scarcity pockets. 1463 defunct tube wells / sanitary wells and 300 rural water supply projects were repaired.

Cattle care

Generally drought affected animals are prone to a number of contagious diseases. Vaccination and mass de-worming of animals is necessary to combat the drought situation. Mobile veterinary clinics, animal health camps and de-worming camps in order to safeguard the livestock health were conducted in the affected areas.

PDS Monitoring

Steps were taken to ensure availability of all essential food grains like wheat products, pulses, edible oil, sugar, potato and onion in the open market. Regular checks and raids were conducted by the State and District authorities over business premises against hoarding of food grains. Rice, wheat, sugar and kerosene were distributed to the ration card holders at the Government prescribed rate under Public Distribution System (PDS) through 14209 Fair Price shops in the affected Districts. All BPL families, all beneficiaries under Antyodaya Anna Yojana, APL families of KBK Districts, all S.C./S.T. boarders staying in S.C. and S.T. Development Department Hostels were provided rice @ Rs.2.00 per kg. 76102 MT of food grains per month was allotted for distribution in the drought affected districts under Targeted Public Distribution System. With a view to providing safeguard against starvation for marginalised food unsecured households during natural calamities and in lean season, Village Grain Banks with 40 Quintals of rice were set up to enable those families to borrow food grains. 500 such Village Grain Banks was created in the State.

Involvement of local Government Institutions

All concerned Departments and agencies including Panchayat Raj Institutions were involved in drought mitigation programmes. Works under MGNREGS were implemented by the Gram Panchayats and Panchayat Samitis to provide employment to people in drought affected areas.

Submission of Memorandum

The State Government submitted Memorandum on Natural Calamities 2009 to Ministry of Home Affairs, as well as to Ministry of Agriculture, Government of India on 19.12.2009 seeking Central Assistance of Rs.2257.032 crore, which includes Central Assistance for Floods and Drought of 2009. The sector wise assistance sought for is mentioned in the following table.



| Sl. | Item/Activity | Purpose | Amount (Rs. in Crore) |
|--------------------|-----------------------|--|-----------------------------|
| 1 | Agriculture | Agriculture input subsidy | 150.00 |
| | | Soil Conservation / Drought proofing measures | 39.70 |
| | | Provision of Subsidised seed | 4.23 |
| | | Provision of Diesel pumps | 20.00 |
| | | Installation of private Lift Irrigation Points | 20.00 |
| | | Provision of sprayers and pesticides | 3.05 |
| | | Sub-total | 236.98 |
| 2. | Co-operation | Waiving of Crop Loan Interest | 37.92 |
| | | Liquidity support for financing fresh loan | 700.00 |
| | | Sub-total | 737.92 |
| 3 | Water Resources | Revival of L.I. Points | 59.92 |
| 4 | Food Security | Gratuitous Relief | 128.88 |
| | | Emergency Feeding | 21.75 |
| | | Supplementary Nutrition | 10.77 |
| | | Sub-total | 161.40 |
| 5 | Drinking Water Supply | Rural water supply | 186.00 |
| | | Urban water supply | 1.67 |
| | | Sub-total | 187.67 |
| 6 | Animal Resources | Provision of fodder | 145.63 |
| | | Cattle Health measure | 3.77 |
| | | Sub-total | 149.40 |
| 7 | Health Measures | Provision of medicines | 1.70 |
| 8 | Calamity Fund Release | CRF- Outstanding release | 722.042 |
| Grand Total | | | 2257.032 |



Visit of Central Team (For Drought 2009)

The Inter-Ministerial Central Team led by Shri Atanu Purkayastha, Joint Secretary (Drought Management), Ministry of Agriculture, Department of Agriculture & Co-operation, Government of India visited the drought affected areas of the State from 6th January to 8th January 2010.

Visit of Central Team (For flood 2009)

Similarly, another Inter-Ministerial Central Team led by Shri S. Suresh Kumar, Joint Secretary (PP), Ministry of Home Affairs, Government of India visited the flood affected areas of the State from 14th January to 16th January 2010.

Assistance Received from NCCF

Nil.



CHAPTER - VIII

FIRE ACCIDENTS

Majority of the people in the 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 & properties due to fire accident during the year 2009-10 and brief account of relief provided to the affected people are given in the table 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 | Bolangir | Tungaraj Bisi S/o Chakradhar | | Belpara | Titilagarh | 27.01.09 |
| 2 | do | Muskan Deep D/o Debsagar | | Belpadar | Titilagarh | 27.01.09 |
| 1 | Dhenkanal | Dipa Mallik D/o Anu | | Sadasibpur | Sadar | 03.02.09 |
| 2 | do | Kanak Patra W/o Jatia | 47 | Batagaon | Kamakshyanagar | 25.02.09 |
| 3 | do | Jayanti Pradhan W/o Kalakar | 25 | Nityanandapur | Gondia | 30.03.09 |
| 4 | do | Rasmita Pradhan, D/o Kalakar | 3 | Nityanandapur | Gondia | 30.03.09 |
| 5 | do | Koili Pradhan W/o Mohant | 60 | Nityanandapur | Gondia | 30.03.09 |
| 6 | do | Uttam Pradhan W/o Ghana | 70 | Nityanandapur | Gondia | 30.03.09 |
| 7 | do | Janga Jerei W/o Rama | | Annapurnapur | Tumusinga | 30.11.09 |
| 1 | Ganjam | Apurba Paricha S/o Sahadev | | Kalindi | Bhanjanagar | 25.05.09 |
| 2 | do | Suma Pradhan S/o Bauri | | Phasiguda | Degapahandi | 08.05.09 |
| 3 | do | Anita Gouda D/o Jhadeswar | | Arunapur | Ganjam | 01.09.09 |
| 1 | Jagatsinghpur | Basant Kumar Taf S/o Kailash | | Raghunathpur | | 06.03.09 |
| 1 | Jajpur | Tapi Mallik D/o Arjun Mallik | | Kuanlo | Jajpur | 28.03.09 |
| 1 | Kandhamal | Bhanumati Naik W/o Binod | | Lingagada | G. Udayagiri | 12.03.09 |
| 1 | Kendrapada | Madhusmita Behera D/o Binod | | Dimiripal | | 30.04.09 |
| 1 | Khurda | Ahok Kumar Sahu S/p Panchanan | | Narad | | 27.02.09 |
| 2 | do | Bipin Kumar Sahu S/o Panchanan | | Narad | | 27.02.09 |
| 3 | do | Benudhar Sahu S/o late Balunki | | Narad | | 27.02.09 |
| 1 | Mayurbhanj | Jharana Dalei D/o Trilochan | | Arjun Baria | Barasahi | 23.01.09 |
| 2 | do | Tuni Singh D/o Gopi | | Kandalia | Bangiriposhi | 04.08.09 |
| 3 | do | Sirish Bindhani S/o Sanatan | | Kohi | Morada | 06.05.09 |
| 1 | Nabarangpur | Ghana Bhatra S/o Ghasi | 8 | Gotibeda | Kodinga | 21.06.09 |
| 2 | do | Chitra Bhatra S/o Dhani | 12 | | | 21.06.09 |
| 3 | do | Mangulu Bhatra S/o Dakhi Bhatra | 35 | Gotibeda | | 25.06.09 |
| 1 | Nayagarh | Kamala Khanda W/o Sanjaya | 23 | Mehena | | 14.04.09 |
| 2 | do | Sukuri Behera S/o late Iswar | 60 | Khatia | Sarankul | 27.02.09 |
| 1 | Subarnapur | Madhabi Mohananda W/o Pancha | | Bagduli | Subarnapur | 11.02.09 |
| 2 | do | Dura Mohananda W/o Khaira | 60 | Bagduli | Subarnapur | 11.02.09 |
| 3 | do | Salini Mohananda D/o Pancha | 2 | Bagduli | Subarnapur | 11.02.09 |

**Loss of Property due to Fire Accident and Account of Relief given during the year 2009-10**

[Rs. in lakh]

| Sl. No. | Name of the District | No. of accident | No. of villages affected | No. of families affected | approximate value of properties lost | No. of persons died | No. of cattle died | Relief provided | |
|--------------|----------------------|-----------------|--------------------------|--------------------------|--------------------------------------|---------------------|--------------------|-----------------|---------------|
| | | | | | | | | HBA & Others | Ex-gratia |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 1 | Angul | 213 | 213 | 478 | 9416600 | 1 | | 1137000 | 100000 |
| 2 | Balasore | 466 | 337 | 466 | 18825400 | | 5 | 2459000 | |
| 3 | Bargarh | | | | | | | | |
| 4 | Bhadrak | 321 | 321 | 492 | 13581200 | 1 | 40 | 1840000 | 100000 |
| 5 | Bolangir | 71 | 70 | 97 | 719860 | | 89 | 220000 | |
| 6 | Boudh | 80 | 80 | 316 | 4815500 | | | 695000 | |
| 7 | Cuttack | 368 | 306 | 890 | 8545100 | | 4 | 1161100 | |
| 8 | Deogarh | 40 | 37 | 152 | 333760 | | 23 | 95000 | |
| 9 | Dhenkanal | 359 | 254 | 803 | 15577100 | | 9 | 2851600 | |
| 10 | Gajapati | 58 | 57 | 226 | 4024500 | | | 1067550 | |
| 11 | Ganjam | 586 | 1256 | 2710 | 25237700 | 7 | 2 | 2727450 | |
| 12 | Jagatsinghpur | 570 | 302 | 517 | 22931000 | 1 | | 1091800 | 10000 |
| 13 | Jajpur | 423 | 255 | 443 | 9132000 | 2 | 2 | 827300 | |
| 14 | Jharsuguda | | | | | | | | |
| 15 | Kalahandi | 15 | 15 | 15 | 270540 | | | 16500 | |
| 16 | Kandhamal | 177 | 124 | 177 | 1991200 | | | 195700 | |
| 17 | Kendrapada | 314 | 291 | 505 | 16013500 | 2 | 2 | 1818000 | 200000 |
| 18 | Keonjhar | 192 | 120 | 239 | 3727900 | | | 409000 | |
| 19 | Khordha | 216 | 216 | 649 | 12836000 | | | 2301365 | |
| 20 | Koraput | 125 | 125 | 214 | 2474750 | | | 382188 | |
| 21 | Malkangiri | | | | | | | | |
| 22 | Mayurbhanj | 432 | 277 | 796 | 9979950 | 11 | 10 | 1022700 | |
| 23 | Nabarangpur | 111 | 111 | 194 | 1326040 | | | 146800 | |
| 24 | Nayagarh | 191 | 168 | 664 | 8522600 | 1 | 1 | 1065880 | |
| 25 | Nuapara | 16 | 16 | 16 | 464500 | | | 37500 | |
| 26 | Puri | 217 | 206 | 399 | 8077600 | | | 807300 | |
| 27 | Rayagada | 41 | 41 | 190 | 4689500 | | | 1121900 | |
| 28 | Sambalpur | 45 | 45 | 101 | 2140050 | | | 74000 | |
| 29 | Subarnapur | 103 | 103 | 284 | 6617400 | | | 1493000 | |
| 30 | Sundargarh | | | | | | | | |
| Total | | 5750 | 5346 | 12033 | 212271250 | 26 | 187 | 27064633 | 410000 |

LIGHTNING

In comparison to other natural calamities, the incidence of death due to lightning is high in Orissa. It occurs through out the year. 214 persons lost their lives due to lightning during the year 2009. The list of the persons died due to lightning is given below.

| Sl. | District | Name of the Deceased | Age | Village | Block /Tahasil / Police Station | Date of Death |
|-----|----------------|---|-----|--------------|---------------------------------|---------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1 | Angul | Bandhu Behera S/o Neta | 74 | Jhintipal | Chhendipada | 20.03.09 |
| 2 | do | Sanjulata Pradhan | 30 | Balasinga | Angul | 20.05.09 |
| 3 | do | Artatrana Pradhan S/o Prakash | 14 | Chhendipada | Angul | 04.06.09 |
| 4 | do | Karuna Adabar S/o Mangalu | 16 | Chhendipada | Angul | 04.06.09 |
| 5 | do | Padmabati Patra, W/o Chitaranjan | | Raging | Thakurgarh | 19.06.09 |
| 6 | do | Pada Biswal S/o Iswar | | Talaspal | Banarpal | 19.06.09 |
| 7 | do | Duhita Pradhan, W/o Bairakh | | Sandadar | Thakurgarh | 19.06.09 |
| 8 | do | Tanalu Naik S/o Akula | 40 | Chitalpur | Colliery | 19.06.09 |
| 9 | do | Balaram Palei S/o Daitari | | Khadagabal | Thakurgarh | 30.08.09 |
| 10 | do | Meghi Sethi W/o Bhaskar | 60 | Betigola | Kaniha | 25.08.09 |
| 11 | do | Urbasi Behera W/o Balaram | | Tanuda | Kishorenagar | 30.08.09 |
| 12 | do | Binod Bihari Sahu S/o Bakuli | | Odash | Khamar | 04.09.09 |
| 13 | do | Abhimanyu Sethi S/o Digambar | 47 | Dudum | Athamallik | 06.09.09 |
| 14 | do | Narayan@Naran Mahar S/o Sagar | | Kaimchhapada | Chhendipada | 11.06.09 |
| 1 | Bargarh | Balgopal Sa S/o Japa | | Badabaunsen | Bijepur | 05.06.09 |
| 2 | do | Bhaebali Mahananda @ Bhagyalata Mahandanda W/o Nilamani | | Gaisima | Bargarh | 14.07.09 |
| 3 | do | Ratu Nag S/o Mangulu | | Pakeldadav | Bheden | |
| 1 | Bhadrak | Biswanath Barik S/o late Umalhari | 38 | Rambhila | Bhadrak | 14.06.09 |
| 2 | do | Rashmikant Behera, S/o Kedar | 26 | Manipur | Chandbali | 14.06.09 |
| 3 | do | Sachismita Pal D/o Purusottam | 17 | Nirgundi | Bhandaripokhari | 14.06.09 |



| | | | | | | |
|----|------------------|--------------------------------------|----|-----------------|-----------------|----------|
| 4 | do | Anada Ch. Behera S/o Sanyasi | 35 | Dobal | Dhamnagar | 14.06.09 |
| 5 | do | Dukhiram Majhi S/o Nadei | 55 | Kuanchatar | Tihidi | 11.05.09 |
| 6 | do | Gangadhar Das s/o Sukadev | 55 | Nachhibindha | Tihidi | 18.07.09 |
| 7 | do | Pradeep Kumar Biswal S/o Gole Kha | 55 | Saramara | Bonth | 02.08.09 |
| 8 | do | Dinabandhu Raut S/o Kushna | 40 | Saranichhapur | Banshada | 09.08.09 |
| 9 | do | Suresh Mallik S/o Sikar | 20 | Shyamasundarpur | Tihidi | 14.08.09 |
| 10 | do | Hrushikesh Das S/o Pahali | 45 | Shyamasundarpur | Tihidi | 14.08.09 |
| 11 | do | Debasasan Mahalik S/o Laxmidhar | 17 | Mangalpur | Tihidi | 14.08.09 |
| 12 | do | Jadumani Panda S/o Sukadev | 38 | Nerada | Bhandaripokhari | 07.08.09 |
| 13 | do | Jemnamani Das W/o Kulamani | 33 | Singiti | Chandbali | 09.08.09 |
| 14 | do | Smt. Gagan Das W/o Payodhar | 87 | Khadijana | Tihidi | 06.08.09 |
| 15 | do | Mayadhar Behera S/o Binod | | Ghatapur | Chandbali | 14.08.09 |
| 16 | do | Gajendra jena S/o Dinabandhu | | Kumbhakaral | Bonth | 28.08.09 |
| 1 | Bolangir | Bishesan Rana S/o Abhi | | Dungibahal | Tusra | 07.05.09 |
| 2 | do | Baida Bariha S/o Dasa | | Solabandh | Patnagarh | 03.10.09 |
| 1 | Boudh | Laibana Gaigouria S/o Kanhei | | Kumursinga | Boudh | 11.06.09 |
| 2 | do | Srabani Nayak O/o Chandrasekhar | | Khaliapali | Boudh | 28.09.09 |
| 3 | do | Surendra Sehti S/o Lalsahadi | | Ambapakhal | Boudh | 28.09.09 |
| 1 | Cuttack | Bharat Behera S/o Raghu | | Champeswar | Kanpur | 21.05.09 |
| 2 | do | Santosh kumar Rout S/o Gurubari | | Champeswar | Kanpur | 21.05.09 |
| 3 | do | Jatan Rout S/o Jogendra | | Salhilo | Athagarh | 14.06.09 |
| 4 | do | Sitarant Maity W/o Manindra | | Gadeikuda | Baranga | 01.07.09 |
| 5 | do | Kamalakanta Sahoo | | | | 19.07.09 |
| 1 | Deogarh | Seta Samal W/o Binod Bihari | | | | 27.09.09 |
| 2 | do | B. Kumar Sahu S/o Dhubadhan | | Mardang | | 04.09.09 |
| 3 | do | Laxmidhar Behera S/o Mangulu | | Rengali | Barkote | 05.10.09 |
| 1 | Dhenkanal | Sankar Mahalik S/o Fagu | 53 | Dighi | Kamakshyanagar | 19.07.09 |
| 2 | do | Sum Munda W/o Bipin Munda | 38 | Panasia | Birasal | 19.07.09 |
| 3 | do | Sisira Behera S/o late Ranka | | Khankar | Gondia | 19.07.09 |



| | | | | | | |
|----|----------------------|---|----|------------------|----------------|----------|
| 4 | do | Seshadev Behera S/o Subal | | Krushna Kumarpur | Dhenkanal | 02.08.09 |
| 5 | do | Adwaita Majhi, S/o Gourang | 42 | Sanda | Parjang | 04.09.09 |
| 6 | do | Smt. Jhili Behera W/o Dilip | | Sankarpur | Korangasahi | 16.09.09 |
| 7 | do | Usha Naik W/o Malaya | | Sananadaba | Mothanga | 17.09.09 |
| 8 | do | Basanti Dehury W/o Nrushinghi | | Padmapur | Sadar | 18.11.09 |
| 9 | do | Chandali Behera W/o Panu | | Dighi | Kamakshyanagar | 30.06.09 |
| 1 | Gajapati | Ippli Kuruma Naikulu S/o Ippili Laxminarayan | | Burujanga | Rayagada | 31.08.09 |
| 1 | Ganjam | Madili Dimanchal S/o Madili Ganesha | 20 | Bhishmagiri | Digapahandi | 26.03.09 |
| 2 | do | Anil Guru S/o Rohita | | Bori | Aska | 08.04.09 |
| 3 | do | Prakash Gouda S/o Durja | | Podamari | Sanakhemundi | 08.04.09 |
| 4 | do | G. Subash Patra S/o G. Raghu | | Jhadabai | Purusottampur | 22.06.09 |
| 5 | do | Rama Gouda W/o Panchu | | Mirigalendi | Khalikote | 15.05.09 |
| 6 | do | Rangabati Nahak W/o Raghunath | | Barapadar | Khalikote | 15.05.09 |
| 7 | do | Smt. Sujata paradhan W/o late Chitrasena | 22 | Deulapedi | Polasara | 23.08.09 |
| 8 | do | Anil Naik S/o Ananda | 18 | Golamunda | Digapahandi | 27.09.09 |
| 9 | do | Debendra Barada S/o late Chaitan | | Baisipala | Sheragada | 17.06.09 |
| 10 | do | P. Anil Kumar Naik S/p P Gopal | | Deula Madili | Chikit | 19.06.09 |
| 11 | do | Rama Chandra Gouda, S/o Maguthi Gouda | | Kumundi | Bellaguntha | 15.05.09 |
| 12 | do | Phula Nayak W/o Rama Ch. Nayak | | Pratapgiri | Sanakhemundi | 13.05.09 |
| 1 | Jagatsinghpur | Madhabananda Nath S/o Madhu | | Mahira | Jagatsinghpur | 17.06.09 |
| 2 | do | Debendra Swain S/o Janardhan | | Ichhapur | | 18.07.09 |
| 3 | do | Chakradhar Lenka S/o Jagabandhu | | Erada | Jagatsinghpur | 05.09.09 |
| 4 | do | Sumita Moharana W/o Giridhari | | Gandhan | Jagatsinghpur | 17.06.09 |
| 5 | do | Iswar Das S/o Chandramani | | Jagati | Paradeep | 18.07.09 |
| 6 | do | Kosalya Ojha W/o Ganes | | Salijanga | Naugaon | 23.08.09 |
| 1 | Jajpur | Amit Kumar Jena S/o Mahendra | | Saisanda haripur | Bari | 14.05.09 |
| 2 | do | Rajani Mohanta W/o Abhimanyu | | Giringamali | Kaliapani | 19.08.09 |



| | | | | | | |
|----|-------------------|--|----|---------------|---------------|----------|
| 3 | do | Suresh Sahoo S/o Laxmidhar | | Nijigarh | Sukinda | 19.08.09 |
| 4 | do | Nilamani Sethy S/o late Bhagban | | Pahanga | Jajpur | 18.07.09 |
| 5 | do | Pradeep Kumar Pradhan S/o Prafulla | | Mangarajpur | Sukinda | 27.08.09 |
| 6 | do | Chambu @ Chamburu Barada S/o Sidho | | Kansa | Tamka | 14.08.09 |
| 7 | do | Rama Chandra Jena S/o Aparti | | Anyasipur | Bari | 30.08.09 |
| 8 | do | Chandramani Patra S/o Anadi | | Jemadeipur | Tamaka | 19.08.09 |
| 9 | do | Babaji Charan Sahoo | | Kolangiri | Badachana | 23.09.09 |
| 10 | do | Pravakar Sethy | | Ransh Guhali | Binjharpur | 03.09.09 |
| 11 | do | Sudhansu Sekhar Rout | | Upulai | Jajpur | 11.05.09 |
| 12 | do | Gobinda Jena | | Pachhikote | Korai | 19.08.09 |
| 13 | do | Banambar Khunita S/o late Binod | | Patnai | Tirtol | 15.07.09 |
| 1 | Jharsuguda | Bihari Ganda | 62 | Kanjhiharan | Rengali | 05.06.09 |
| 2 | do | Ananta Patel S/o late Bhubaneswar | 40 | Tiliemal | Brajarajnagar | 11.06.09 |
| 3 | do | Sadhab Kisan S/o late Sarath | 18 | Katabaga | Rengali | 12.07.09 |
| 4 | do | Sobharam Nag S/o Shyam Sundar | 15 | | Jharsuguda | 20.07.09 |
| 5 | do | Surabhi Naik W/o Rukmana Naik | 47 | Bhauna | Laikera | 06.06.09 |
| 1 | Kalahandi | Tutu Majhi S/o Metla | 32 | Nangalabeda | Chhatrapur | 13.05.09 |
| 2 | do | Kurunji Lohara W/o Madan | 48 | Nangalabeda | | 13.05.09 |
| 3 | do | Josabanti Mahar W/o Tikeram | | Deogaon | Kesinga | 21.06.09 |
| 4 | do | Dhanurjay Punji S/o Bhainsaraj | | Mahiguda | Koksara | 16.06.09 |
| 5 | do | Kausalya Nial W/o Gyana | | Pipalpada | | 19.09.09 |
| 6 | do | Manu Naik S/o Jamodar | 40 | Gudang | Kalahandi | 18.07.09 |
| 1 | Kandhamal | Chabilal Pradhan S/o Khageswar | | Sataguda | Tikabali | 17.05.09 |
| 2 | do | Manoj Kumar Pradhan S/o Binod Pradhan | | | | 16.06.09 |
| 1 | Kendrapada | Nirmala Mallik W/o Sridhar | | Kaudiabarai | Patkura | 27.03.09 |
| 2 | do | Niranjan Sethy s/o Panu | 30 | Srirampur | Pattamundai | 16.05.09 |
| 3 | do | Saroja Mohanty S/o Bijaya | 17 | Balabhadrapur | Pattamundai | 16.05.09 |
| 4 | do | Susanta Behera S/o Sarat | | Balabhadrapur | Pattamundai | 16.05.09 |
| 5 | do | Bijaya Das S/o Gopal | 55 | Suniti | Makhalpur | 19.07.09 |



| | | | | | | |
|----|-----------------|---|----|----------------|----------------|----------|
| 6 | do | Sanatan Das S/o Govinda | 42 | Banabiharipur | Rajnagar | 25.07.09 |
| 7 | do | Dhaneswar Behera S/o late Chakradhar | 55 | Iswarpur | Rajhagar | 25.07.09 |
| 8 | do | Akhil Behera S/o Nakuli | 23 | Jadupur | Patkura | 18.07.09 |
| 9 | do | Babaji Ch. Behura S/o Harikrushna | 57 | Bharatpur | Kendrapada | 18.07.09 |
| 10 | do | Sabitri Jena, W/o Dolagobinda | 45 | Tanupur | Kendrapada | 18.07.09 |
| 11 | do | Arjun Pal S/o Jhadeswar | 40 | Patraparia | Rajnagar | 03.08.09 |
| 12 | do | Ahok Debanath S/o Manoranjan | 26 | Petchhela | Mahakalpada | 08.09.09 |
| 13 | do | Sebati Sahoo w/o Bishnu Ch.Sahu | 47 | Nahani | Kanika | 16.09.09 |
| 14 | do | Balaram nath S/o Ramesh | 14 | Sanagan | Kendrapada | 21.09.09 |
| 15 | do | Gopal Rout S/o Baisnab | 40 | Tentuli Kandha | Mahakalpada | 03.09.09 |
| 1 | Keonjhar | Fulamani Majhi D/o Totaram | | Seriabahal | Jhumpura | 20.05.09 |
| 2 | do | Paluni Juanga W/o Bandra | | Panasanasa | Kanjipani | 04.06.09 |
| 3 | do | Padmalochan Mohanta S/o Goura | | Sundurua | Telkoi | 24.06.09 |
| 4 | do | Kumari Gitanjali Dehury D/o late Sudur | | Telkoi | Telkoi | 24.06.09 |
| 5 | do | Giridhari Sha S/o Mangula | | Khalana | Ramachandrapur | 30.06.09 |
| 6 | do | Basta Murmu S/o Bhima | | Samukanenda | Ghasipura | 20.07.09 |
| 7 | do | Bamdev Naik S/o Dibakar | | Kalapat | Harichandanpur | 06.06.09 |
| 8 | do | Kisanlal Samad @ Munda S/o Shyam Munda | | Baranga | Ramachandanpur | 19.08.09 |
| 9 | do | Judhistira nath S/o Babaji | | Lallata | Ramachandrapur | 10.09.09 |
| 10 | do | Duli Mahakud D/o Bhima | | Singamanjuri | Baria | 13.08.09 |
| 11 | do | Ratnakar Naik S/o Srichandan | | Jagannathpur | Champua | 14.06.08 |
| 12 | do | Pratima Mohanta W/o Pitambar | | Balibandha | Patna | 08.08.09 |
| 13 | do | Shiba Mohanta S/o Kantha | | Brundabanpur | Ghatagaon | 12.05.09 |
| 1 | Khurda | Sukant Behera S/o Sribatchha | | Toresingh | | 15.05.09 |
| 2 | do | Dula Jena W/o Manguli | | Badahantada | | 15.05.09 |
| 3 | do | Rusia Jena S/o Mera | | Pariovada | | 26.06.09 |
| 4 | do | Jayadeve Nayak S/o Dinabandhu | | Godisahi | | 23.08.09 |
| 5 | do | Gopinath barik S/o Gouranga | | Odagaon | Banpur | 19.06.09 |
| 6 | do | Chaitanya Parida S/o Banamali | 47 | Gunthri | Jankia | 16.09.09 |



| | | | | | | |
|----|-------------------|---|----|-----------------|-----------------|----------|
| 7 | do | Biranchi Chhotray S/o Agadhu | 50 | Nalsingh | Jankia | 24.08.09 |
| 8 | do | Subha Narayan Badajena S/o Suresh | 15 | Saradhapur | Khorda | 01.07.09 |
| 9 | do | Puspalata Mohanty W/o Padapadma | 29 | Deulabasta | Jatni | 04.09.09 |
| 10 | do | Abhaya Pradhan, S/o Bhima | 50 | Aragul | Jatni | 04.09.09 |
| 1 | Koraput | Pidika Sandhu S/o late Pidika Kandru | | Sanasaupalli | Narayanpatna | 21.05.09 |
| 2 | do | Smt. Sitme Pangi W/o Singuru | 35 | Turia | Pattangi | 11.05.09 |
| 3 | do | Smt. Ratan Jani W/o Kamulu | | Ambagaon | Semiliguda | 17.05.09 |
| 4 | do | alita Bhoi D/o Daitari Bhoi | | Ambagam | Semiliguda | 17.05.09 |
| 1 | Mayurbhanj | Kali Prasad Singh S/o Hadibandhu | | Baunsabilla | Baripada | 30.03.09 |
| 2 | do | Muna Naik S/o Ablu | 12 | Kapand | Jashipur | 21.05.09 |
| 3 | do | Ashok Kumar Giri S/o Srikant | | Purunapani | Badampahad | 21.05.09 |
| 4 | do | Kaikeyee Das D/o Harish | | Nachhipuria | Baisinga | 03.06.09 |
| 5 | do | Karunakar Das S/o late Dinabandhu | | Rugudibeda | Thakurmunda | 04.06.09 |
| 6 | do | Jharana Sethi W/o Santosh | | Khandia | Kuliana | 01.06.09 |
| 7 | do | Chitta Kisku W/o Bajun | | Palasdiha Samil | Suliapada | 08.06.09 |
| 8 | do | Padmabati Bidnhan W/o late Tunia | | Baunsatofa | Rasgovindpur | 01.06.09 |
| 9 | do | Dukhini Bindhari W/o Suru | | Baunsatofa | Rasgovindpur | 01.06.09 |
| 10 | do | Dulal Murmu s/o Budhia | | Brundagadi | Udala | 24.06.09 |
| 11 | do | Basudeb Soren S/o Shyam Charan | 30 | Badabelpahadi | Rairangpur | 25.07.09 |
| 12 | do | Bholanath Dehuri | 47 | Dighisahi | Gopabandhunagar | 19.08.09 |
| 13 | do | Pravasi Dehuri | 25 | Dighisahi | Gopabandhunagar | 19.08.09 |
| 14 | do | Gulu Naik W/o Bipra | | Chandnapur | Udala | 13.08.09 |
| 15 | do | Ghana Pingua S/o Gaga | | Raipada | Badampahar | 22.08.09 |
| 16 | do | Sadharanjan Giri S/o Anirudha | | Jamunalia | Sukruli | 06.07.09 |
| 17 | do | Rukmani Naik | | Karanjia | | 24.08.09 |
| 18 | do | Gopinath Maharana | | Karanjia | | 13.07.09 |



| | | | | | | |
|----|--------------------|---|----|---------------|----------------|----------|
| 19 | do | Arun Kumar Nayak S/o Bhagaban | | Orcharndbilla | Betnoti | 20.09.09 |
| 20 | do | Bhagaban Tarei S/o Trilochan | | Angargadia | Rasgovindpur | 21.09.09 |
| 21 | do | Muralidhar Palei S/o Brundaban | 18 | Angargadia | Rasgovindpur | 21.09.09 |
| 22 | do | Malli Hansdah D/o Budhazai | | Chandnapur | Balidiha | 23.09.09 |
| 23 | do | Smt. Surnalata Mohapatra W/o Judhisthira | | Dhanpur | Baripada | 02.08.09 |
| 24 | do | Chandni Mahant W/o Duryadhan | | Juginuagaon | Barasahi | 06.05.09 |
| 25 | do | Susanta Mohanta S/o Duryadhan | | Juginuagaon | Barasahi | 06.05.09 |
| 26 | do | Dambarudhar Prusti S/o Bidyadhar | | Nachhipuria | Baisinga | 15.11.09 |
| 27 | do | Manas padhura S/o Abhiram | | Kapand | Jashipur | 21.05.09 |
| 28 | do | Sambari Munda W/o Birbal | | Guhaladanguri | Gorumahaishani | 25.08.09 |
| 1 | Nabarangpur | Ramachandra Pujari S/o Leba | | Umargaon | Kosagumuda | 04.06.09 |
| 2 | do | Saroti Bora W/o Golak | 45 | Mohanda Tola | Raighar | 28.09.09 |
| 3 | do | Mansingh Bhatra s/o Buda | | Kadabhata | Umerngkote | 17.07.09 |
| 1 | Nayagarh | Madhusudan Naik S/o late Nityananda | 55 | Jhilinda | Dasapalla | 13.05.09 |
| 2 | do | Kishore Chandra Naik S/o Gundicha Naik | 25 | Jhilinda | Dasapalla | 13.05.09 |
| 3 | do | Prakash Khatua S/o Krushna Ch. | 25 | Hatuari | Fategarh | 01.07.09 |
| 4 | do | Prahallad Dalei S/o Kamini | 31 | Hatuari | Fategarh | 01.07.09 |
| 5 | do | Manguli Behera S/o late Nabaghan | | Piasalia | Nabaghanpur | 24.06.09 |
| 1 | Nuapada | Giridhari Bag | 35 | Farsara | Boden | 19.05.09 |
| 2 | do | Tile Rout D/o Jamu Rout | 10 | Khaira | Boden | 11.06.09 |
| 3 | do | Nanda Kumar Sahu | 35 | Godfulla | Nuapada | 19.09.09 |
| 1 | Rayagada | Rebati Bag W/o Dandasi | 45 | Patraguda | Bishamcuttack | 03.05.09 |
| 2 | do | Kumari Ringo Dibaka D/o Pakena Dibaka | 20 | Madiguda | Chandrapur | 28.06.09 |



| | | | | | | |
|---|-------------------|---------------------------------------|----|--------------|-------------------|----------|
| 3 | do | Kumari Ganga Miriaka D/o Dalsingh | 20 | Kuljing | Rayagada | 19.08.09 |
| 4 | do | Tile Majhi W/o late Sunadhar | 55 | Sanamatikona | Tikere | 21.09.09 |
| 5 | do | Sudei Majhi W/o Maha | 45 | Musuripadar | Tikiri | 21.09.09 |
| 6 | do | Dasa Majhi s/o Ledana | | Lakrish | Kahsipur | 21.09.09 |
| 1 | Sambalpur | Bidyadhar Mohananda | 32 | Baghia | Tarbha | 08.04.09 |
| 2 | do | Sukru Munda S/o Chunda | 23 | Pandula | Degaba, Rajasthan | 10.06.09 |
| 3 | do | Giridhari Lal S/o Jagdish | 22 | Pandula | Degaba, Rajasthan | 10.06.09 |
| 4 | do | Sradhakar Rout S/o Dayanidhi | | Barbula | Kiskinda | 19.06.09 |
| 5 | do | Jagadish Kishan S/o Raja | 15 | Phalsachuan | Mahulpali | 29.05.09 |
| 6 | do | Kaladar Besan S/o late Bibhishan | 65 | Khunti | Maneswar | 03.09.09 |
| 1 | Subarnapur | Parameswar Meher S/o Jayadev Meher | | Tamgarsahi | Birmaharajpur | 13.07.09 |
| 2 | do | Parsanna Meher S/o Jayadev | | Tamgarsahi | Birmaharajpur | 13.07.09 |
| 3 | do | Mastram Meher S/o Mahana | | Sagarpali | Subarnapur | 19.07.09 |
| 4 | do | Upendra Sahu | 44 | Antarda | Tarbha | 27.08.09 |
| 5 | do | Senapati Surujal | 32 | Harinapali | Cellunda | 05.09.09 |
| 6 | do | Ashok Padhan S/o Baishnab | | Kanjharipali | Biramaharajpur | 25.09.09 |
| 7 | do | Kasturi Dora W/o Palasti | | Kandumunda | Rampur | 05.09.09 |
| 1 | Sundargarh | Ashok Bag S/o Biswanath | 46 | Kaisira | Hemgiri | 05.06.09 |
| 2 | do | Jiten Majhi S/o Govind | | Talsera | Birmitrapur | 05.06.09 |
| 3 | do | Dinesh Majhi S/o Muna | | Kepse | Sadar | 19.05.09 |
| 4 | do | Asmita Kujur D/o Silas | 15 | Kinalaga | Talsara | 27.06.09 |
| 5 | do | Bikas Kujur S/o Edman | 10 | Kinalaga | Talsara | 27.06.09 |
| 6 | do | Belaruis Tirkey S/o Lavantos | 14 | Kiralaga | Talsara | 27.06.09 |
| 7 | do | Asish Dilla S/o Kapila | | Darlipali | | 18.07.09 |



| | | | | | | |
|----|----|--------------------------------|----|-------------|------------|----------|
| 8 | do | Hirachand Khilari S/o Durga | 28 | Badkhaman | Bargaon | 05.06.09 |
| 9 | do | Anil Kumar Deb S/o Kailash | 40 | Routani | Bonai | 22.09.09 |
| 10 | do | Iswar Dehuria S/o late Bhranta | 49 | Kinjir Kela | Badagaon | 23.09.09 |
| 11 | do | Anashtesia Kulla W/o Yakaub | 53 | Pandaripani | Lephripara | 24.09.09 |
| 12 | do | Suresh Pradhan S/o Kirta | | Kumbahal | Bargaon | 24.09.09 |
| 13 | do | Manoj Bada S/o Duga | 22 | Rajabasa | Kutra | 15.11.09 |
| 14 | do | Rasmita Kullu D/o Ananda | | Simdega | Talsara | 19.08.09 |





CHAPTER - IX

HAILSTORM

Due to hailstorms 4 districts were affected during the year 2009-10. Rs.6,80,500 has been provided to Collectors of Jajpur, Angul, Kendrapada and Balasore districts out of CRF for disbursement of House Building Assistance, Ex-gratia assistance and other assistances. The district-wise details are given in the table below.

Hail Storm (2009-10)

| Sl. No. | Districts | Date of Occurrence | Nature of Calamity | No. of Blocks affected | No. of GPs affected | No. of villages affected | Casualty | |
|---------|--------------|----------------------------------|--------------------|------------------------|---------------------|--------------------------|----------|--------|
| | | | | | | | Human | Cattle |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 1 | Jajpur | 11.05.08 | Hailstorm | 1 | 1 | 1 | | |
| 2 | Angul | 15.05.09 17.05.09 03.06.09 | Hailstorm | 3 | 3 | | | |
| 3 | Kendrapada | 23.08.09 | Hailstorm | 1 | 1 | 1 | | |
| 4 | Balasore | 24.02.10 | Hailstorm | 1 | 1 | 2 | 5 | |
| | Total | | | 6 | 6 | 4 | 5 | |

| Sl. No. | Districts | No. of House damaged | | | | Crop damage more than 50% (in hect.) | Relief Assistance Provided | | | |
|---------|--------------|----------------------|----------|-------------|------------|--------------------------------------|----------------------------|---|--------------------------------|-----------------------|
| | | Fully | Severely | Margi-nally | Total | | 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 | 16 | 17 | 18 |
| 1 | Jajpur | | 1 | 2 | 3 | | 5,500 | | | 5,500 |
| 2 | Angul | | 3 | 88 | 91 | | 1,39,500 | | | 1,39,500 |
| 3 | Kendrapada | 3 | 1 | 2 | 6 | | 35,500 | | | 35,500 |
| 4 | Balasore | | | | | | | | | 5,00,000 |
| | Total | 3 | 5 | 92 | 100 | | 1,80,500 | | | 6,80,500 |

CHAPTER - X

OTHER CALAMITIES

HEAT WAVE

In Orissa, the conditions of heat-wave existed in the past mainly in the western Districts of the State. In the last eleven years, the temperature of the rest of the State during summer months has steadily risen leading to heat-strokes, death and other suffering to the people. In the summer of 1998, as many as 2,042 people died in the State due to heatstroke.

Heat-wave is defined as a condition of rise in atmospheric temperature that leads to physiological stress, which sometimes can claim human life.

The death toll as mentioned below due to heat-wave year-wise since 1998 gives a clear picture regarding the calamity.

| Year | Human Casualty |
|------|----------------|
| 1998 | 2042 |
| 1999 | 91 |
| 2000 | 29 |
| 2001 | 25 |
| 2002 | 41 |
| 2003 | 67 |
| 2004 | 43 |
| 2005 | 236 |
| 2006 | 22 |
| 2007 | 44 |
| 2008 | 68 |
| 2009 | 87 |

Poor people, farmers and workers mostly suffer from sunstroke and lose their lives. The State Government after the large number of deaths in 1998 started making concerted efforts to minimise the death toll and related suffering of the people on account of heat-wave conditions. The main activities to minimise the death toll and other sufferings because of heat-wave are through sustained awareness campaigns in the print & electronic media, prevention and response activities.

In 2009 the conditions of heat-wave existed in the State in the months of April, May and June. The impact of the heat-wave in 2009 can be well judged from the fact that there was early



closure and late opening of schools. A number of preparedness/ preventive activities were undertaken by the State Government for management of heat-wave situation during 2009, some of which are given below:

1. On 6th March, 2009 all Collectors were instructed to take all precautionary measures for mitigating the heat-wave situation.
2. Meetings under the chairmanship of Hon'ble Chief Minister, Orissa were held on 2nd March 2009 and 24th April 2009 to review the preparedness activities of all concerned Departments against heat wave conditions and drinking water problem in water scarcity areas of the State.
3. The Collectors were instructed to hold District level meeting and take necessary measures to tackle the heat-wave situation. Necessary steps as per the proceedings of these District level meetings were undertaken.
4. IEC materials relating to heat-wave were prepared and published by OSDMA for general awareness of the public. Advertisements were given through local newspapers, radio and television channels by OSDMA as well as Health & Family Welfare Department for raising awareness of the people.
5. All India Radio, Doordarshan and other Television channels also organised discussion and other programmes for creating awareness among people.
6. Action plan for mitigating water scarcity problems in different towns and rural areas, where acute scarcity of drinking water is felt, was prepared. Adequate water tankers were deployed for supply of drinking water and defunct tube wells were replaced / repaired.
7. Essential medicines, saline and ORS packets were stored in the District Headquarters Hospitals, Community Health Centres and Primary Health Centres. Separate beds were earmarked for treatment of heat-stroke patients in the District Headquarters Hospitals.
8. The working hour for daily labourers was re-scheduled i.e. from 6 a.m. to 11 a.m. and 3 pm to 6 pm. Provision of drinking water was made at the works site.
9. Plying of buses during peak hours i.e. between 11.00 AM to 3.00 PM was restricted.
10. Power distributing companies were instructed to ensure uninterrupted power supply during the summer.



11. The time table of the schools was re-scheduled from 6.30AM to 10.30 AM. Provision of drinking water and first aid was made available at the examination centres. Tub wells inside the school campus were repaired.
12. Ex-gratia assistance @ Rs.10, 000/- each was provided to the next of the kins of the victims of the heat-wave out of Chief Minister Relief Fund.
13. Seniors officers of OSDMA and Office of Special Relief Commissioner were deputed to different Districts to have an on the spot assessment of the situation and guide the District Administration in taking corrective measures.

Despite these measures of the State Government, the number of casualties due to sunstroke this year had exceeded those of the preceding three years. The District-wise number of human casualties due to sunstroke during the year 2009 is given below.

| Sl. | Name of the District | No. of persons died |
|-----|----------------------|---------------------|
| 1 | Angul | 4 |
| 2 | Balasore | 4 |
| 3 | Bargarh | 4 |
| 4 | Cuttack | 4 |
| 5 | Dhenkanal | 8 |
| 6 | Ganjam | 9 |
| 7 | Jagatsinghapur | 5 |
| 8 | Jajpur | 5 |
| 9 | Jharsuguda | 1 |
| 10 | Kandhamal | 1 |
| 11 | Kendrapada | 2 |
| 12 | Keonjhar | 5 |
| 13 | Khordha | 18 |
| 14 | Mayurbhanj | 2 |
| 15 | Nayagarh | 4 |
| 16 | Puri | 2 |
| 17 | Rayagada | 1 |
| 18 | Sambalpur | 4 |
| 19 | Sundargarh | 4 |
| | Total | 87 |



Since heat-wave has, so far, not been notified as a natural calamity, the State Government undertook all required measures to tackle the situation out of its own fund. So also, ex-gratia assistance @ Rs.10,000/- is being provided to the bereaved families of the sunstroke victims from the Chief Minister Relief Fund.

The State Government has repeatedly raised the issue for inclusion of heat-wave in the list of Natural Calamities before the Government of India and Finance Commission, which needs to be considered.

Drinking Water Problem

Due to acute heat-wave conditions from April to June, all drinking water sources dried up considerably. As a result, drinking water scarcity problem was noticed in almost all districts. There was huge depletion of ground water level. Water tankers were deployed in scarcity pockets. An amount of Rs.3.00 crore to H & U.D. Department and Rs.0.23 crore to F. & A.R.D. Department H & U.D. Department was released H & U.D. Department in order to combat drinking water scarcity problem.

EARTHQUAKE

- (1) An earthquake of great intensity having its magnitude 7.8 on the Richter scale occurred at 01 hour 26 minutes IST on 11.08.2009 with its epicentre at latitude 14.1 degree North and longitude 93.0 degree East in Andaman Islands. The epicentre is about 1020 kms in South- East of Bhubaneswar and the earthquake was felt at Bhubaneswar and nearby areas of Orissa.

(Source: India Meteorological Centre, Bhubaneswar)

- (2) An earthquake of slight intensity having its magnitude 2.4 on the Richter scale occurred at 12 hours 12 minutes IST on 25.03.2010 with its epicentre at about 80 kms away from seismological observatory, Bhubaneswar.

(Source: India Meteorological Centre, Bhubaneswar)

- (3) There is no report of loss of any life or property due to these earthquakes/ tremors.



CHAPTER - XI

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 for providing immediate relief to the victims according to the gravity of the situation arising due to impact of calamity,.

The position of both CRF and NCCF is shown below.

FUNDS POSITION 2009-10

(Rs. in lakh)

| Category of Funds | OB | Receipt | Total | Expenditure | Balance |
|-------------------|--------|----------|-----------------|-------------|---------|
| CRF | 434.90 | 23533.87 | 23968.77 | 23397.18 | 571.59 |
| NCCF | Nil | Nil | Nil | Nil | Nil |
| Total | 434.90 | 23533.87 | 23968.77 | 23397.18 | 571.59 |

Expenditure Position 2009-10

(Rs. in lakh)

| Category of Fund | Expenditure | | |
|------------------|----------------|-----------------|-----------------|
| | District | Department | Total |
| CRF | 1072.77 | 22324.41 | 23397.18 |
| Total | 1072.77 | 22324.41 | 23397.18 |





CHAPTER - XII

UTILIZATION CERTIFICATE OF CRF

Utilization Certificate amounting to Rs.840.18 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 2009-10.

[Rs. in lakh]

| | District | Department | Total |
|--------------------|----------------|-----------------|-----------------|
| CRF | 3757.80 | 33998.12 | 37755.92 |
| NCCF | 3767.80 | 42494.72 | 46262.52 |
| Grand Total | 7525.60 | 76492.84 | 84018.44 |

- (1) An amount of Rs.3552.07 crore has been received from 1999-2000 to 2009-10 under CRF and NCFR / NCCF. Out of which utilization certificate to the tune of Rs.2828.53 crore has already been furnished to AG, Orissa till 31.03.2010. The table below has shown the details.

| Fund | Receipt 1999-2000 to 2009-10 | UC Submitted 1999-2000 to 2009-10 | Percentage |
|--------------|---------------------------------|--------------------------------------|--------------|
| CRF | 2270.72 | 1622.90 | 71.47 |
| NCCF | 1281.35 | 1205.63 | 94.09 |
| Total | 3552.07 | 2828.53 | 79.63 |

- (2) The submission of UC in respect of allotment provided to different districts and department from 1999-2000 to 2009-10 till 31.03.2010 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 | 29840.37 | 29242.45 | 9249.63 | 8355.94 | 4545.52 | 3764.39 |
| Department | 18393.59 | 15621.77 | 22942.40 | 22557.97 | 21655.20 | 21340.16 |
| Total | 48233.96 | 44864.22 | 32192.03 | 30913.91 | 26200.72 | 25104.55 |

Contd...



| Agency | 2002-03 | | 2003-04 | | 2004-05 | |
|--------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| | Allotment | UC Submitted | Allotment | UC Submitted | Allotment | UC Submitted |
| District | 6711.04 | 5863.99 | 7396.50 | 5538.70 | 685.87 | 469.35 |
| Department | 13588.77 | 12981.88 | 19969.34 | 19019.61 | 25715.35 | 25084.82 |
| Total | 20299.81 | 18845.87 | 27365.84 | 24558.31 | 26401.22 | 25554.17 |

| Agency | 2005-06 | | 2006-07 | | 2007-08 | |
|--------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| | Allotment | UC Submitted | Allotment | UC Submitted | Allotment | UC Submitted |
| District | 3528.29 | 1925.44 | 5545.44 | 2540.54 | 4098.53 | 1574.40 |
| Department | 20154.60 | 17517.28 | 39309.61 | 33782.06 | 25472.53 | 19860.94 |
| Total | 23682.89 | 19442.72 | 44855.05 | 36322.60 | 29571.06 | 21435.34 |

| Agency | 2008-09 | | 2009-10 | |
|--------------|-----------------|-----------------|-----------------|---------------|
| | Allotment | UC Submitted | Allotment | UC Submitted |
| District | 12668.89 | 3400.86 | 2209.09 | 71.89 |
| Department | 50340.54 | 31659.76 | 22324.41 | 678.60 |
| Total | 63009.43 | 35060.62 | 24533.50 | 750.49 |





CHAPTER - XIII

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. With the view to preventing death due to starvation or malnutrition and ensuring food security, the Government of Orissa have introduced this system for regular monitoring of malnutrition and hunger for ensuring food security with emphasis on followings:

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 collect required information from grass-root level (Gram Panchayat) and submit report to the Special Relief Commissioner twice every month at the end of each fortnight. On receipt of the information from the Collectors of the Districts, compilation and analysis work are done at level of Special Relief Commissioner 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 basis of feedback from the field and submit regular compliance thereof. Thus, Management Information System has proved its utility for effective management of disaster.





CHAPTER - XIV

DISASTER MANAGEMENT INITIATIVES BY OSDMA

Orissa State Disaster Management Authority (OSDMA) has taken several preventive and preparedness measures in the State to minimise the effects of disasters. A brief account of the same is given hereunder.

Bank Protection Works

20 nos. of works relating to restoration of embankment, canals, bridge and bank protection works like spurs and revetments (19nos. started earlier years and one started work during 2009-10) were taken up by OSDMA through the line Departments during the year 2009-10. Out of these, 12 works were completed during the year and the remaining 8 works are likely to be completed during 2010-11. An amount of Rs.726.98 lakh has been spent during year.

Multipurpose Cyclone Shelters (MCS)

In addition to 97 MCS buildings already constructed, 41 more Multi-purpose Cyclone Shelters have been taken up for construction with funds sanctioned out of Prime Minister's National Relief Fund (PMNRF). Of these, constructions of 14 buildings were completed during the financial year.

The Cyclone Shelters are designed to withstand a wind speed of 300 km per hour and the plinth level of these buildings has been fixed above the recorded high tide level to protect from possible storm surge and high floods. Apart from functioning as safe shelters during cyclones and floods these buildings can be used for multiple purposes as community assets. Most of these buildings have been constructed within the school premises for use as schools and for other community activities during normal time.

Community based Cyclone Shelter Management and Maintenance Committees (CSMMC) constituted at the shelter level are responsible for the sustainable maintenance and management of these large sized buildings by generating resources on putting these buildings in income generating use. The MCS buildings have been handed over to the respective CSMMCs for management and maintenance.



Modern search & rescue, lighting and life saving equipment have been provided to the CSMMCs with suitable training to volunteers at each shelter level.

In addition to the shelters constructed by OSDMA, 65 MCSs have been constructed by Red Cross along the coast. The shelters have also been equipped.

Multipurpose Flood Shelters

Constructions of 50 multi-purpose flood shelters have been taken up with Chief Minister's Relief Fund in 9 flood prone districts during the year 2009-10. Fund to the tune of Rs.14 crore has been released out of CMRF in the 1st phase.

Orissa Disaster Rapid Action Force (ODRAF)

Previously, five units of Orissa Disaster Rapid Action Force (ODRAF) were set up at Cuttack, Chatrapur, Balasore, Jharsuguda and Koraput to assist the civil Administration at the time of calamities. 91 different types of emergency equipment have been provided to each of the ODRAF unit to handle multi faceted operations like Water Rescue, Relief Line Clearance, Collapsed Structure Search and Rescue (CSSR), Medical First Responder (MFR), Transportation, Communication, Personal Protective Equipment (PPE) and Logistics.

During the year 2009-2010, five more ODRAF Units have been established at Bhubaneswar, Paradeep, Bolangir, Rourkela & Baripada. These newly created units have been supplied 15 types of equipments in first phase. Steps are being taken to provide all required equipments as supplied to other 5 units. Construction works of four ODRAF Buildings have also been taken up at a cost of Rs.650 lakhs during the year 2009-10.

Comprehensive training programmes are chalked out for capacity building of ODRAF personnel in the state and national level training institutions. Logical Skill Matrix has been developed to monitor the level of efficiency of ODRAF personnel in different response activities. The ODRAF personnel have been sent to National Institute of Disaster Management (NIDM), New Delhi, National Industrial Security Academy (NISA), Hyderabad, Sea Explorer's Institute, Kolkatta, Atal Bihari Bajpayee



Mountaineering Institute, Manali for different training programmes. The ODRAF personnel have been trained in Basic First Aid, Self Contained Breathing Apparatus (SCBA), Rescue from Heights, Boat Operations, Maintenance of Chain Saw and Inflatable Tower Light, etc.

Standard Operating Procedures (SOP) for the personnel and equipment have been prepared and communicated to all concerned to be followed in letter and spirit. Most of the equipment are under Annual Maintenance Contract (AMC) to facilitate their readiness for emergency response activities.

The ODRAF units have been provided with communication equipment like telephone, fax, VHF and mobile phones. Steps are being taken to set up HAM Radio Stations at ODRAF units.

Besides the ODRAF units, the State Fire Service units have also been strengthened with 24 types of emergency equipment and training programmes. Emergency equipment are being provided to 50 selected fire stations in the vulnerable areas of the State to allow these units to act as mini ODRAFs for handling emergency situations. The fire service personnel have also been trained in different emergency operations along with ODRAF personnel.

The Bronto Skylift available with the Bhubaneswar Fire Service Unit has been repaired and made operational after a long gap. The equipment is also placed under AMC to ensure its all time operability for effective rescue operations from high rise buildings. Accessories are also being provided for better operability of the Bronto Sky Lift.

The Biju Pattnaik State Police Academy, Bhubaneswar has been strengthened by providing emergency and training equipment to the institutions for training of the police personnel in emergency management.

Mock drills have been conducted involving ODRAF, State Fire Service, National Disaster Response Force (NDRF), State Port Organisation and Community Volunteers for better coordination among the stakeholders for effective management of disasters.



Disaster Risk Reduction (DRR) Programme: (2009-2012)

GoI-UNDP Disaster Risk Reduction (DRR) Programme has been taken up during the financial year which is envisaged to support Central and State government initiatives by providing critical inputs that would enhance the efficiency and effectiveness of the efforts in Disaster Risk Reduction. The programme strives to strengthen the institutional structure to undertake disaster risk reduction activities at various levels including risk being enhanced due to climate change and develop preparedness programmes, policies and practices in order to minimize the risk to life and property. The programme has two components;

1. Institutional Strengthening and Capacity Building for Disaster Risk Reduction.
2. Urban Risk Reduction.

Institutional Strengthening and Capacity Building for disaster risk reduction project would be implemented in the three districts in Orissa such as Bolangir, Ganjam and Kendrapada. Urban Risk Reduction Project covers Bhubaneswar, Angul and Talcher Urban areas.

National Cyclone Risk Mitigation Project (NCRMP)

The National Cyclone Risk Mitigation Project (NCRMP) is going to be implemented in 13 States and Union Territories including Orissa with assistance from Government of India and the World Bank. Orissa State Disaster Management Authority (OSDMA) has been identified as the Nodal Agency for implementation of the project in the coastal districts of Balasore, Bhadrak, Kendrapada, Jagatsinghpur, Puri & Ganjam and parts or Khurda adjoining the Chilika Lake. The Government of India with World Bank assistance will provide 75% of the Project cost as grant and the State Government will bear 25% of the project cost. The project has following four components-

Component A- On last mile connectivity to villages within 2- 5 km of sea shore-100% grant by GoI to be executed by NDMA.

Component-B- On Structural measures-75: 25 share between centre & State to be implemented by Orissa State Disaster Management Authority (OSDMA).



Component-C- On Capacity building activities- 100% Grant by GoI to be implemented by Gopabandhu Academy Of Administration, Orissa.

Component-D- Project Implementation and Monitoring cost- 100% by GoI to OSDMA.

Investment Proposal involving a cost of Rs.576.12 crore for Orissa under Component-B includes construction of Cyclone Shelters, construction of all weather approach roads to Cyclone Shelters and raising & strengthening of Saline Embankments. The World Bank has approved the project. The project will be implemented in a Five Years Span.

Strengthening Of Emergency Operation Centres (EOC)

Multi-hazard resistant Emergency Operations Centre (EOC) buildings have been constructed at District headquarters and the State level EOC has been set up in the Cell Office of SRC at Rajiv Bhawan.

Communication and other EOC equipment have been supplied to State EOC, three RDC's EOCs, 28 Sub-divisional EOCs and 30 District EOCs. The equipment provided to these EOCs includes computer, fax, VHF system, lifebuoy, lifejacket, generator set, inflatable tower light, branch cutter, etc.

Use of GIS Technology

Speed is the essence of disaster management. Use of technology provides speed and accuracy in decision making in emergencies. OSDMA has been using the latest technology and equipment for managing disasters. The GIS Cell of OSDMA has close coordination with prominent scientific institutions of the country like Indian Space Research Organization (ISRO), National Remote Sensing Centre (NRSC), Hyderabad, Indian National Centre for Ocean Information Services (INCOIS), Hyderabad, India Meteorological Department (IMD), Orissa Remote Sensing Application (ORSAC), Bhubaneswar, Indian Institute of Technology, Kharagpur and Xavier Institute of Management, Bhubaneswar.

OSDMA has been conferred with the internationally acclaimed Management System Certificate ISO 9001:2008. The certification is benchmarking the sustained commitment



to services related to handling of emergency operations, restoration & reconstruction works and programmes necessitated by any natural disasters in the State of Orissa. OSDMA is the only ISO certified disaster management authority in the country.

