



## CHAPTER - I ORISSA AT A GLANCE

### 1.0 Introduction

The state of Orissa presents a paradoxical picture of poverty amidst plenty. Though state has achieved substantial progress in many areas in past 50 year of planned development, it continues to be one of the less developed states in the country plagued by acute and persistent poverty. Productivity of primary sector (agriculture, animal husbandry, fishery, industry, mining and quarrying) is low and dependency on primary sector, however, remains high. This results in significant fluctuation in the annual growth rate with bad crop year pulling it down. One calamity or the other hits the state every year. The state faced super cyclone in October 31, 1999. The state was hit by severe drought in 2000-2001 and also unprecedented flood in 2001. The year 2002 was also a drought year in the state. State is disaster prone with multiple natural disasters striking the state at regular intervals.

The state has 480 km long shoreline suitable for marine fisheries, which can double the fish production easily. The rich mineral resources of the State like coal, bauxite, alumina, chromite, salt, resins etc., are potentially very good sources of income.

### 1.1 Location

Orissa is located at the east at 17°49'N to 22°34' North Latitude and 81°24'-87°29' East longitude. It is bounded by the Bay of Bengal in the east and Bihar, Jharkhand, West Bengal on the north, Madhya Pradesh, Chhatisgarh on the west and Andhra Pradesh on the south. It has a coastline of about 450 km. The total area of the State is 1,55,707 square kms. which is about 4.74% of Indian land mass. The State has a total population of 36.81 million, which accounts for 3.57% of the total population of India. Administratively, it has 30 districts, 3 Revenue Divisions, 57 sub-divisions, 114 Tahasils, 314 Community Development Blocks comprising of 3830 Gram Panchayats, 51,057 villages and 123 urban centres.

### 1.2 Physiography

The state, from the physiographic point of view, is divided into four physiographic zones i.e., (a) the Northern Plateau (b) the Eastern ghat zone (c) Central table land & (d) coastal zone.

The north & north eastern portion is an extension of Chotnagpur plateau which lies to the west of Bengal basin. The Brahmani and the Subarnarekha rivers drain this plateau.

The southern parts of the State are the extension of the Eastern ghat mountains. The ghats run into fragmentary spurs and ranges down the east side of the peninsula receding in land and leaving broad plains between their base and the coast. Many rivers and rivulets flow in this part. The main rivers are Rushikulya, Bansadhara and Nagabali. The highest peak in these ranges is the Mahendragiri (1500 m).

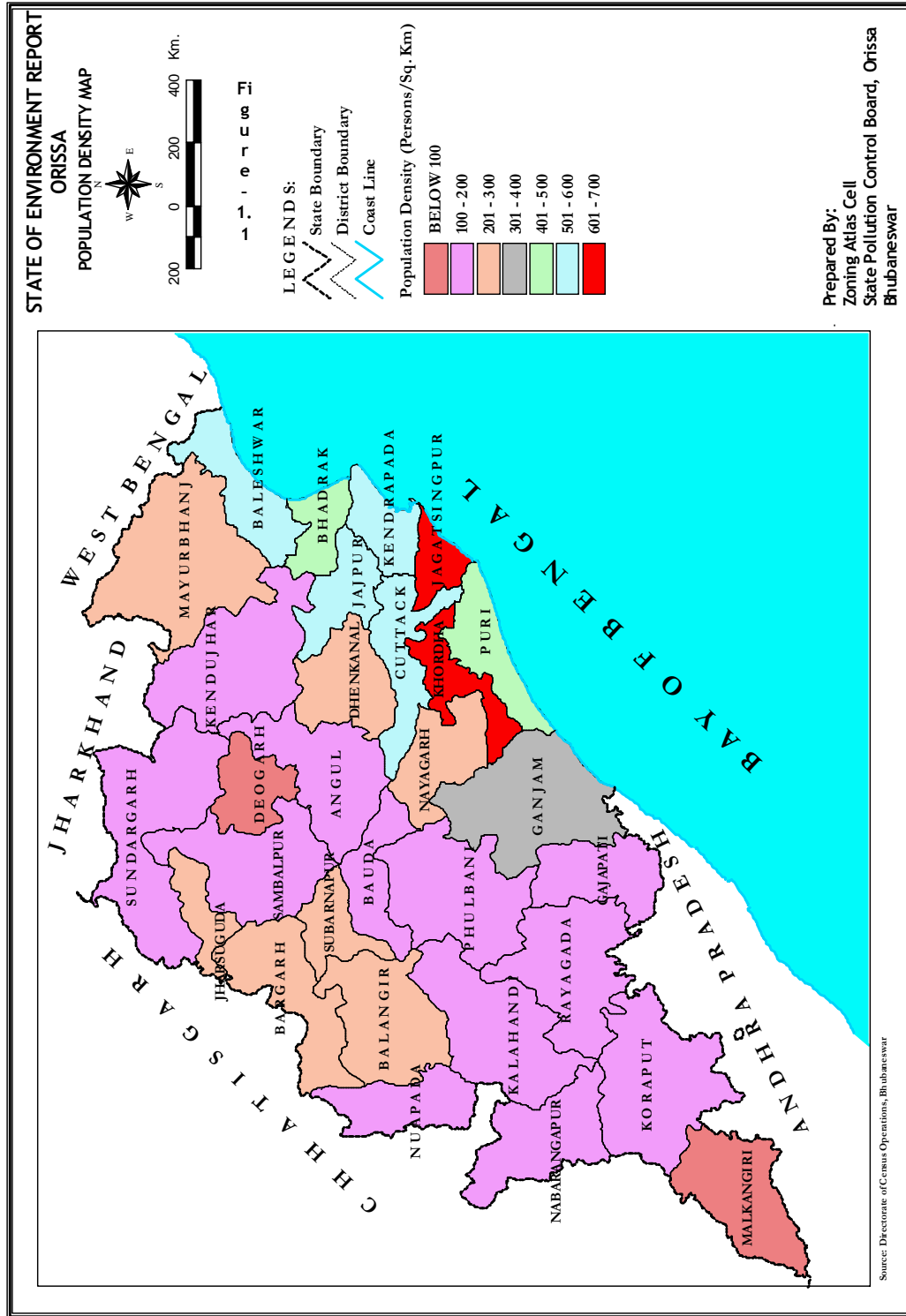
In between the Chotnagpur plateau and the eastern ghats lies a vast stretch of tableland, called the Central Table land. This table land has also small hills and hillocks. Mahanadi and Brahmani river basins are within this table land.

The coastal region of the state extend inland ward from the sea for about 100-120 km. These coastal regions have been formed by the alluvial deposits of the rivers, like Subarnarekha, Budhabalanga, Baitarani, Mahanadi, Brahmani and Nagavali. The costal zone of the State can be broadly divided into 3 long and narrow strips from NE to SW, the first strip being the saline coast live with swampy mangrove vegetation having no hills, the second strip the alluvial plain and the third strip the hilly strip having small hills.

### 1.3 Demographic Profile

The population of Orissa as per census 2001 is 36.81 million and increase of 5.15 million since 1991 (*Figure 1.1*). The scheduled tribes (ST) and scheduled castes (SC) constitute respectively 22.13 and 16.53% of the total population. The decennial growth rate of population during 1991-2001 was 15.94% as against 20.06% in the previous decade i.e., 1981-91. The decline in the growth rate may be attributed to the rise in literacy rate, effective dissemination of information and better access to family planning measures. Nearly 85% of the total population of the State live in the rural areas and depend mostly on agriculture for their livelihood. The urban population has increased from 13.38% in 1991 to 14.97% in 2001. There are total of 123 no. of towns and 51057 nos. of villages in the State. The male to female ratio i.e., (no. of females per 1000 males) has marginally increased from 971 in 1991 to 972 in 2001 as compared to the all India average which increased from 927 to 933 during the same period. The population density has increased from 203 persons per sq. km. in 1991 to 236 per sq. km. in 2001 compared to the corresponding all India figures of 267 and 324.

The total literacy rate in the State which was 49.09% during 1991 has increased to 63.08% in 2001 census. The female literacy rate has increased remarkably from 34.68% to 50.97% during the same period.

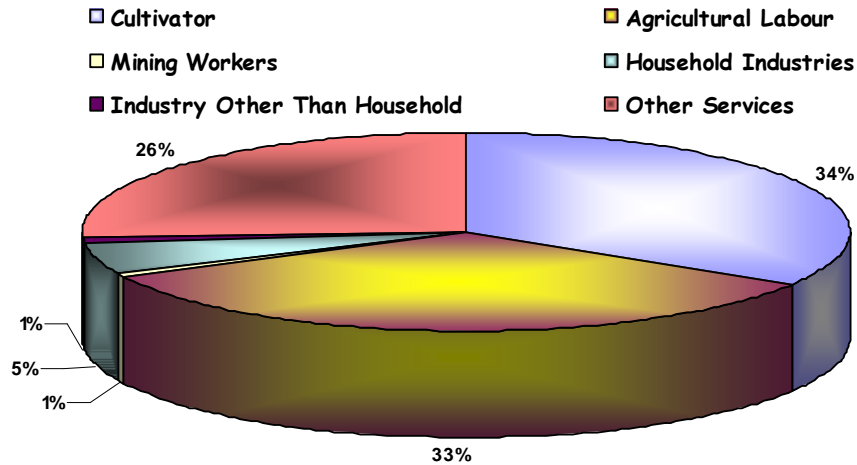


The proportion of workers to total population was 38.88%, which is higher than that of 1991 census. 37.53% main workers accounted for 67.07% of the total number workers while marginal workers accounted for 32.93%. The proportion of workers in rural areas was 88% and in urban areas 12%. The decemial decrease in the proportion of male workers to total workers from 73% to 69% in the year 1991-2001. The proportion of male workers to male population and female workers to female population is 53% & 25% respectively. The classification of workers in Orissa is presented in *Table 1.1* and *Figure1.2*.

**TABLE: 1.1**  
**Occupational Pattern in Orissa (Based on 2001 Census Data)**

Sl.	Name	Cultivator	Agricultural Labourer	Mining Worker	Household Industry	Industry other than household	Other services
1.	Bargarh	200542	247022	481	40617	3971	104716
2.	Jharsuguda	41910	46507	10681	14768	4576	86049
3.	Sambalpur	91096	133943	8	57895	3722	136445
4.	Debagarh	43570	55508	0	5143	0	22172
5.	Sundergarh	219115	220476	9779	16949	24843	283757
6.	Kendujhar	209789	107879	30708	10208	3625	12397
7.	Mayurbhanj	287509	396769	503	149037	1620	196914
8.	Baleshwar	229904	126723	2909	8669	5038	12017
9.	Bhadrak	150546	111110	0	9393	706	114224
10.	Kendrapara	164822	101271	0	9628	139	133107
11.	Jagatsinghapur	95836	83898	0	10659	2207	139688
12.	Cuttack	160195	182305	90	37047	7938	414586
13.	Jajapur	113991	135101	5638	13140	2149	183197
14.	Dhenkanal	91136	122229	681	13741	2746	129404
15.	Anugul	135600	127654	8699	26009	3986	164284
16.	Nayagarh	85049	94474	0	20368	302	88450
18.	Puri	157649	112887	0	13528	402	166444
19.	Ganjam	368938	311989	6153	28653	31090	31090
20.	Gajapati	95731	67481	13	2399	11	1995
21.	Kandhamal	102380	110190	53	21588	126	71889
22.	Boudh	65625	67813	14	11308	14	26090
23.	Sonapur	83310	58686	98	9791	9	3893
24.	Balangir	173943	225873	774	23595	1691	137729
25.	Nuapada	80706	109729	177	6884	339	47687
26.	Kalahandi	184173	312220	108	17826	1052	106299
27.	Rayagada	116342	39623	52	2314	3250	18949
28.	Nabarangapur	154117	264012	0	10732	268	75137
29.	Koraput	203728	132248	976	5522	3916	11179
30.	Malkangiri	142515	64282	0	5780	81	34511
<b>Total</b>		<b>4249767</b>	<b>4169902</b>	<b>78595</b>	<b>603191</b>	<b>109817</b>	<b>2954299</b>
<b>Total (in %age)</b>		<b>33.98%</b>	<b>33.47%</b>	<b>0.616%</b>	<b>4.858%</b>	<b>0.861%</b>	<b>26.207%</b>

Figure - 1.2  
Occupational Pattern in Orissa



Out of the total workers of 12739799, 33.98% are cultivators 33.47% are agricultural labourers and 26.20% are in other services.

#### 1.4 Climate

Climatologically the State of Orissa has 4 distinct seasons.

Winter	-	December, January, February
Pre-monsoon	-	March, April, May
Monsoon	-	June, July, August, September
Post-monsoon	-	October, November

##### 1.4.1 Winter Season

January is the coldest month of the year. Winter is characterized by clear sky with light winds. The coastal areas witness lighter winds than the interior parts. Lowest mean night temperature over the areas are 12°C - 15°C with exception in Phulbani, Sundergarh & Keonjhar where the minimum temperature could be 5°C - 7°C. Occasional rains with average rain-fall of 40mm is received during winter in association with western disturbances causing cold wave in the most part of the state where the night temperature drops/falls by 6°C to 7°C below the normal.

#### 1.4.2 Pre-monsoon Season

The winter season is followed by the pre-monsoon period and during this period the surface temperature reaches the maximum during May. Mean maximum temperature of interior parts reach upto 42°C and coastal parts witnesses about 35°C. Highest day temperature of 45°C to 47°C are recorded in most parts of interior Orissa. A high-pressure area lies over the Bay of Bengal, which advects moisture to the coastal region of the state. Thunderstorm, hailstorm, dust storm and squalls take place during this period. These phenomena are the manifestations of convective activity, which dominates the state during the hot weather season due to the heating of the lower atmosphere. The State is affected by severe weather phenomena known as “Kalabaisakhi”. Tornadoes, tropical cyclones also affect different parts of the State.

#### 1.4.3 Monsoon

The period June to September is the monsoon season. South west monsoon sets in over Orissa by the second week of June causing rain during this period. During such period the State receives average rainfall of 124 cm in interior part whereas the coastal area receives 106 cm of rainfall.

#### 1.4.4 Post-monsoon

October is the transition month which is also the representative month of this season. The sky becomes clear and day temperature decreases gradually and the night temperature drops sharply. Intensity of solar radiation also decrease. During this period, the state receives an average rain-fall of 22-25 cm, whereas interior Orissa gets 10-12 cm of rainfall. During this season, intense low pressure system called “Tropical Cyclonic Storm” are formed and strike the Orissa coast causing considerable loss of life and property.

#### 1.4.5 Rainfall

Orissa gets rainfall from south-west monsoon and very little from North-East monsoon. About 81-83% of annual rainfall is concentrated in 4 months (June-September) in about 53-57 days. After this, monsoon tapers and ceases in October. No rain occurs in December and January. It is the short-term rainfall variation - a week that is of great importance for crop production. Short-term rainfall variation dictates agricultural activities and affects more determinantly than monthly variation.

Annual or monthly rain of a place is of little consequence for the agriculture. The average number of rainy days (rainfall more than 2.5 mm/day) in the state is about 70. It has been experienced in the previous years that though there is not much variation in total rainfall per annum, variation in different months and its erratic nature is more evident. Monsoon is becoming more unreliable unlike that before.

Average rainfall of the state is 142.2 cm. Mayurbhanj receives the maximum rainfall of 158 cm followed by Koraput & Balasore. Ganjam receives the minimum of 129 cm per year. Data on annual rain of the state from 1901 to 2000 are presented in *Table 1.2*. The rainfall variation in Orissa is presented in *Fig. 1.3*.

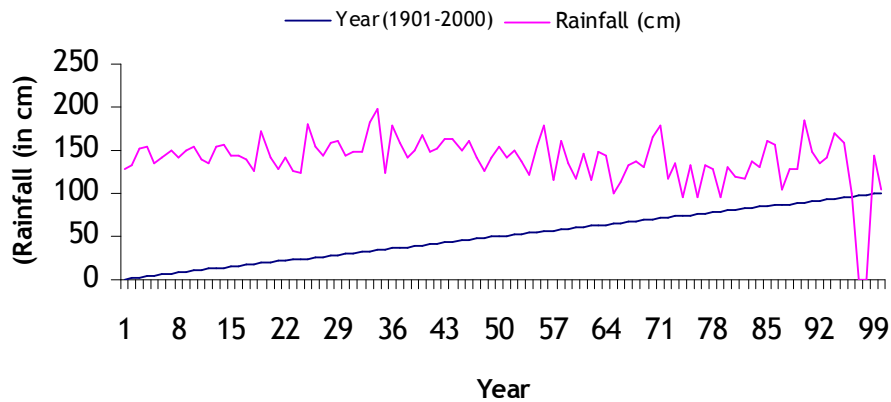
**TABLE: 1.2**  
**Average Annual Rainfall of Orissa**

Year	Rainfall (cm)	Yr.	Rainfall (cm)	Yr.	Rainfall (cm)	Yr.	Rainfall (cm)
1901	128	1926	155	1951	141	1976	95
1902	132	27	143	52	150	77	133
03	152	28	158	53	137	78	129
04	155	29	161	54	121	79	95
05	134	30	143	55	154	80	131
06	141	31	147	56	179	81	119
07	150	32	147	57	116	82	118
08	142	33	182	58	161	83	137
09	149	34	197	59	135	84	130
10	154	35	125	60	118	85	161
11	140	36	178	61	146	86	156
12	134	37	158	62	116	87	104
13	155	38	142	63	147	88	128
14	156	39	151	64	143	89	128
15	144	40	167	65	100	90	184
16	144	41	148	66	113	91	147
17	139	42	153	67	133	92	134
18	126	43	163	68	137	93	142
19	171	44	162	69	130	94	170
20	141	45	151	70	166	95	159
21	129	46	161	71	179	96	99
22	142	47	141	72	118	97	--
23	126	48	126	73	135	98	--
24	124	49	142	74	95	99	144
25	181	50	154	75	133	2000	104

### 1.4.6 Temperature

The mean annual temperature of the State is 26.2°C. The mean monthly maximum temperature in the month of May is about 37.1°C. Similarly the mean monthly minimum temperature in the month of December in the whole state is 13.8°C. Unusual high temperature was observed in the state in the month of May in 1998. In Titlagarh and Bhawanipatna, the temperature was 48.6°C on 25<sup>th</sup> May. On 29<sup>th</sup> of May, maximum temperature of 50°C was recorded at Talcher and 49.8°C at Titlagarh.

**Figure - 1.3**  
**Variation of Rainfall in Orissa**



### 1.4.3 Humidity

The mean monthly morning relative humidity in Orissa varies from 63% in April & May to 84% in August. Relative humidity may reach as high as 99%. The afternoon mean monthly relative humidity varies from 54% in January to 81% in August. During July to September morning and afternoon relative humidity remains almost same. On May days during this period relative humidity goes to as high as 99%. The mean relative humidity (%) at different places of Orissa is presented in **Table 1.3**.

**TABLE: 1.3**  
**Mean Relative Humidity (%) at different places of Orissa - 1990-97**

Month \ Place	J	F	M	A	M	J	J	A	S	O	N	D
Angul	70	75	58	65	52	70	78	84	64	78	74	47
Balasore	66	70	55	68	68	84	83	85	82	75	67	60
Bolangir	64	66	45	47	46	76	86	85	83	82	81	70
Baripada	71	71	56	70	72	87	88	87	85	80	73	71
Bhubaneswar	71	73	70	70	71	82	84	89	87	83	75	66
Chandabali	77	78	73	73	74	81	86	88	83	77	78	73
Cuttack	71	75	70	72	73	77	85	85	85	73	73	76
Gopalpur	78	75	75	78	83	82	86	84	84	88	84	76
Jharsuguda	62	54	46	47	40	76	88	89	88	87	73	70
Keonjhar	62	63	47	46	53	77	85	90	85	77	73	65
Paradeep	80	78	75	76	81	84	87	93	86	83	80	75
Phulbani	83	71	56	53	44	81	89	90	86	82	83	84
Puri	73	77	74	77	85	87	87	86	82	78	77	77
Sambalpur	52	61	50	56	40	71	86	87	84	46	74	71
Sundergarh	64	52	32	39	41	74	78	86	82	63	68	68
Titilagarh	65	57	52	37	43	76	84	93	80	77	76	63

### 1.5 Live-stock

Animal husbandry is the most important income generating activity in rural households, which is next to crop production. The State Agricultural Policy, 1996, aims at increasing the production and product activity in dairy, poultry and other animal husbandry activities through scientific breeding, balanced feeding, adequate health care, better marketing facilities and improved management practices. The objective of the Animal Resource Development Programme is not only to increase the animal resources and to increase availability of their products but also to provide employment and income generating opportunities through both main and supplementary enterprises.

The total livestock population in the state in 2001 is 23.46 million. There has been a marginal decrease of about 3.3% of livestock of 2001 over the live stock census held in 1995. Out of the total livestock population, cattle population is about 58.9% and buffaloes population is about 5.9%. The percentage of cross breed / improved animals in our state is very poor.

The distribution of livestock is not uniform in the state, the concentration is maximum in the coastal districts.

The per capita availability of milk, meat and eggs in Orissa has by and large gone up steadily over the years. The production of milk during 2002-03 was 8.94 lakh tonne with per capita availability of 67 gm/day.

## **1.6 Environmental Governance**

Environment Department of Government acts as the nodal agency for environmental management in the State. The mandate of the Department includes protection of ecologically fragile sites, naturally living resources and endangered species and fragile ecosystems including land, wasteland, green land and mangroves and promotion of environmental awareness and environmental education.

For promoting awareness on environmental protection and conservation, 30 District Environmental Societies have been constituted under Chairmanship of District Collectors. The government have instituted 'Prakruti Mitra' and 'Prakruti Bandhu' awards to encourage voluntary organizations/ villages/ institutions/ individuals to work on protection of environment.

### **1.6.1 Orissa State Coastal Management Authority**

In exercise of powers conferred under section-3 of Environmental (Protection) Act, 1986, government of India in the Ministry of Environment and Forests, have constituted the Orissa State Coastal Zone Management Authority to deal with environmental issues relating to the Coastal Zone Management of the State.

### **1.6.2 State Pollution Control Board**

The State Pollution Control Board was constituted in 1983 under the provision of the Water (Prevention & Control of Pollution) Act, 1974 and the Air (Prevention & Control of Pollution) Act, 1981. Subsequently the scope of the Board was extended to include enforcement of certain provisions of the Environmental (Protection) Act, 1986. The Board has its headquarter at Bhubaneswar and eight Regional Offices at Cuttack, Sambalpur, Berhampur, Rourkela, Angul, Balasore, Rayagada and Keonjhar.

### **1.6.3 Chilika Development Authority**

The Chillika Development Authority was constituted as an autonomous body in 1992, with the objective of conservation and management of Chillika lake, which is a Ramsar site.

#### **1.6.4 Regional Plant Resources Centre**

The Regional Plant Resource Centre (RPRC) was established in 1985 at Bhubaneswar as an autonomous organization with the objective to preserve and develop plant genetic resources of the state. It has been working in the field of introduction, conservation, propagation and genetic upgradation of plants of non-agricultural important in the state and in the country.

#### **1.6.5 Centre for Environmental Studies**

The Centre for Environmental Studies was formed in 2000 as an autonomous registered society, primarily to carryout environmental awareness programmes, disseminate environmental information and undertake other consultancy services.

#### **1.6.6 Environment Appellate Authority**

The State Government have constituted three Appellate Authorities under the Water (Prevention and Control of Pollution) Act, 1974, Air (Prevention and Control of Pollution) Act, 1981 and Bio-Medical Waste (Management and Handling) Rules, 1998 to hear appeals preferred against orders made by State Pollution Control Board, Orissa, under Section 28 of the Water (Prevention and Control of Pollution) Act, 1974, Section 31 of the Air (Prevention and Control of Pollution) Act, 1981 ad Rule 13 of the Bio-Medical Waste (Management and Handling) Rules, 1998.

The said Appellate Authorities have been functioning in the premises of the State Pollution Control Board, Orissa at Bhubaneswar, November, 2005.