

Year: 2022

**DISTRICT  
ENVIRONMENT  
PLAN  
BALANGIR, ODISHA**



**Collector & District Magistrate**  
Collectorate, Balangir

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## 1.0 DISTRICT PROFILE

### Geographical Location of the District

District of Balangir is situated in the western part of Odisha. The District finds its circumferential limits within 29°9" and 21°05" North Longitude and 82° 41' to 83°42" East Latitude and is situated in the valley of rivers Ang and Tel, which are having important tributaries like Lanth, Sonegarh and Suktel. The western and north western boundary formed by the magnificent range of hills known as Gandhamardan with an average height of 3000 feet which separates the District from Sambalpur and Kalahandi. It is surrounded on the North by Bargarh and Subarnapur, East by Subarnapur and Boudh, South by Kalahandi and West by Nuapada District. The state of Madhya Pradesh also remains in the western border. The total geographical area of the District is 6575 Sq. kms which is 4.74 Percentage to Total area of the State and 10<sup>th</sup> largest District of the state in term of its geographical area.

### (a) District Administrative Set up

The Collector and District Magistrate is the administrative head of the District. For smooth administration, he is assisted by Additional District Magistrates, Sub-Collectors, Block Development Officers, Tahasildars, Deputy Collectors, and other Officers. Balangir district consists of three Sub-Divisions viz. Balangir, Patnagarh and Titlagarh. One Sub-Collector is in charge of each Sub-Division. For the convenience of revenue administration, the District is divided into 14 Tahasils viz. Patnagarh, Kantabanji, Titlagarh, Tushura, Loisinga, Balangir, Khaprakhol, Belpara, Bangomunda, Muribahal, Saintala, Deogaon, Puintala and Agalpur with one Tahasildar in charge of each Tahasil. Further, district has 68 RI circles which is headed by one Revenue Inspector. For development of rural areas consisting of 1794 villages in 317 Gram Panchayats, the District is divided into 14 Blocks with one Block Development Officer in charge of each Block. The number of habited villages is 1768 in 2011 and remaining 41 villages are found-inhabited. For maintenance of law and order, the District is divided into 18 police stations viz. Patnagarh, Kantabanji, Titlagarh, Tushura, Loisinga, Balangir, Khaprakhol, Belpara, Bangomunda, Saintala, Turekela and Sindhekela, Puintala, Muribahal, Town PS, Larambha PS, Lathor PS and Energy PS. There are five Statutory Towns in the District viz. Balangir Municipality, Titlagarh Municipality, Kantabanji NAC and Patnagarh NAC and Tusura NAC. In order to look after the developmental activities in the urban areas of the District, one Executive Officer has been kept in charge of each town. Besides, four villages viz. Bangomunda, Tushura, Loisinga and Badmal under respective Tahasils have been declared as non-statutory towns i.e. Census Towns during 2011 Census.

### (b) Local Institution

Education		
Primary School (2017-18)	No. of Schools	2460
	Enrolment (No)	170430
	Pupil Teacher Ratio	22.14
Upper Primary School 2017-18	No. of Schools	573
	Enrolment (No)	51686
	Pupil Teacher Ratio	19.74
General College 2017-18	Junior	25
	Degree	29
	Medical College	2
	Govt. LAW College	01
Secondary School	No. of Schools	233
	Enrolment (No)	23074
	Pupil Teacher Ratio	31.70
Literacy Rate, 2011	Male	75.85
	Female	53.5

### (c) Natural Resources

#### River System: Main Rivers and Tributaries

##### Tel

This river starts from the north-west of the District of Nabarangpur and flowing through the District of Kalahandi touches the border of District about 6 km to the west of Kesinga railway station. It crosses the boundary between the Districts of Kalahandi and Balangir for a considerable distance after which it enters into Balangir District about 3 km south of Tusura and flows only about 8 km within the

District. It then forms the boundary between this District and the District of Baudh till it meets the river Mahanadi at Sonepur. In fact excepting a course of about 8 km, the river forms the eastern boundary of this District. It had earlier no perennial source of water-supply, however, maintains a flow of water throughout the year due to release of water from Indravati Reservoir in Kalahandi District, sufficient to raise paddy and other crops during rabi season through lift irrigation points in Gudvella Block area. But during monsoon, the river Tel is the principal source of flood in Mahanadi. It receives surplus release of water from main reservoir of Indravati Dam project.

### Tributaries of the Tel

The Tel is fed by a number of tributaries of which those flowing inside the District of Balangir are the Undar, the Lanth, the Sungad and the Suktel. The Undar starts from Nuapada District and drains into the southern part of the Titlagarh subdivision. The Lanth (also called Barabhai Lanth) and the Sungad are local streams and take their rise from the north-western belt of the hills of the District. The Suktel takes its origin from the slopes of the Gandhamardan range and flows through the subdivisions of Patnagarh and Balangir. It meets the Tel a few miles south of its confluence with the Mahanadi in Subarnapur District.

### Ong/Ang

This river originates from the hills of Borasamber in the District of Bargarh and is fed by the streams flowing down the northern slope of the Gandhamardhan range. In Bargarh District, it first flows in northerly direction for a short distance and then swerves to the east in wide semicircular shape and enters the District of Balangir near Agalpur. It joins the Mahanadi a few miles up Sonepur town in Subarnapur District. A portion of its course forms the boundary between Sonepur and Balangir District. This river carries considerable volume of water during the rains, but it soon dries up in cold season.

### 1.1 Ground Water

The district has net annual ground water availability is 56091.34 HaM from which gross existing Gross GW Draft (extraction) for all uses is 25049.35 HaM which is about 45% to the net ground water availability. From the total Gross GW Draft, Gross GW Draft for Irrigation is estimated at 19884.25 HaM which is about 80% to the total ground water extraction. The district fall under safe ground water extraction zone but extraction of ground water in Loisingha blocks is a major area of concern (i.e. gross ground water extraction is 68%). Besides, the district has also identified 54 GP as critical GP and 58 GPs as Semi-Critical GP based on their ground water prospects in the GP using GIS based exercises. Extensive Soil and Ground Water structures have been planned in those GP in priority under MGNREGS to increase the ground water recharge in the district in general and critical and semi-critical GPs in particular.

Block	Net Annual GW Availability [HaM]	Existing Gross GW Draft for Irrigation [HaM]	Existing Gross GW Draft for all uses [HaM]	Stage of Ground Water Development	Category
Agalpur	3623.64	962.87	1224.85	33.80	Safe
Balangir	4836.10	2231.72	2818.71	58.28	Safe
Bangomunda	3027.37	1044.84	1401.99	46.31	Safe
Belpara	5085.12	1934.71	2401.41	47.22	Safe
Deogaon	4060.34	1455.79	1742.52	42.92	Safe
Gudvella	2341.25	1015.22	1205.54	51.49	Safe
Khaprakhol	4484.44	912.00	1212.36	27.03	Safe
Loisinga	3436.74	2051.55	2336.14	67.98	Safe (Attention Required)
Muribahal	4985.61	1477.89	1811.28	36.33	Safe
Patnagarh	5165.38	2030.60	2547.14	49.31	Safe
Puintala	3318.41	1063.13	1399.37	42.17	Safe
Saintala	4727.35	1637.62	1999.43	42.29	Safe
Titlagarh	2864.21	710.42	1235.35	43.13	Safe
Turekela	4135.39	1355.89	1713.24	41.43	Safe
Total	56091.34	19884.25	25049.35	44.66	Safe

Source: Ground Water Division, Balangir

### 1.2 Availability of Water Resource

Sl	Block	Water Bodies from 2019-2021			
		Total No of water bodies identified for restoration (In No.)	Irrigation Potential Area of total No of water bodies identified (In ha.)	No of water bodies restored (In No.)	Area Irrigated (In ha.)
1	Agalpur	226	111.18	123	102.52
2	Balangir	95	117.43	91	111.53
3	Belpada	356	224.53	347	252.16
4	Bangamunda	886	1314.68	363	741.88
5	Deogoan	323	147.96	96	159.09
6	Gudvela	72	110.55	63	124.24
7	Khaprakhole	129	63.87	239	30.93
8	Saintala	72	147.39	68	175.83
9	Loisingha	366	116.04	62	161.12
10	Muribahal	525	847.97	112	337.53
11	Puintala	335	686.16	56	110.74
12	Patnagarh	541	1060.73	112	211.09
13	Turaikela	237	111.03	101	47.63
14	Titilagarh	644	1133.76	196	540.10
TOTAL		4807	6193.30	2029	3106.39

### 1.3 Forest Coverage

Forest Area of the District

The forest area as per DLC is 1611.28 sq. km. of 161128.97 ha which is about 24.5 per cent of total geographical area of the District. Geographical area of Balangir Civil District is 6575.0 sq. km. It comprises 3 Civil sub-divisions namely 1) Balangir 2) Patnagarh and 3) Titilagarh. The Category wise forest area is as below

Sl. No.	Category of Forest	Area in ha
1	Reserve Forest (109 nos.)	110567.61
2	Proposed Reserve Forest (4 nos.)	363.21
3	Un classed forest	14.00
4	Forest as per Revenue Record	43440.09
5	Area not recorded as forest but which are sizable compact area of Natural forest growth and plantation of forest species in Govt. land	6695.91
6	Area not recorded as forest but which are sizable compact area of Natural forest growth and plantation of forest species in private land	48.15
<b>Total</b>		<b>161128.97</b>

Forest cover of the District as per FSI Report

Area in Sq.KM								
Year of Assessment	Geographical area	Very Dense Forests	Moderately Dense Forests	OpenFor ests	Total	Percentage of GA	Change	Scrub
1	2	3	4	5	6	7	8	9
2019	6575	70	3224	841.26	1135.26	17.27	27.63	84.18

The soil analysis of Balangir District is as under

Major Soils ( Common names)	Area ('000 ha)	Percent (%) of total
Mixed red and yellow	196.38	30
Red and black	189.33	29
Black	101.56	15
Laterite and lateritic	54.59	9

#### (d) Geography & Demography

In 2011, Balangir had population of 1,648,997 of which male and female were 830,097 and 818,900 respectively. In 2001 census, Balangir had a population of 1,337,194 of which males were 673,985 and remaining 663,209 were females. There was change of 23.32 percent in the population compared to population as per 2001. In the previous census of India 2001, Balangir District recorded increase of 8.63 percent to its population compared to 1991. Scheduled Castes and Scheduled Tribes make up 17.88% and 21.05% of the population. Based on the existing Average annual exponential growth rate, total population of the District is expected to be **2,076,106** by 2021 (Estimated as per present growth rate). In 2011, Balangir had population of 1,648,997 which is 3.93 percent of the total population of the state. Out of the total Balangir population for 2011 census, a majority of 88.03 percent of population lives in rural areas where as it is only 11.97 percent lives in urban regions of District. Population density of the District stood at 251 people per sq. km. With regards to Sex Ratio in Balangir, it stood at 987 per 1000 male compared to 2001 census figure of 984. In 2011 census, child sex ratio is 955 girls per 1000 boys compared to figure of 967 girls per 1000 boys of 2001 census data. There was net decrease of 12 female (1.24 percent) in child sex ratio compared to previous census. Moreover, the gap in Child sex ratio to total sex ratio increased during last decade. Average literacy rate of Balangir in 2011 were 64.72% compared to 55.70% of 2001. Male and female literacy were 75.85% and 53.50% respectively.

Description	2011	2001
Population	1648997	1337000
Male	830097	674000
Female	818900	663000
Population Growth	23.30%	8.63%
Density/km <sup>2</sup>	251	203
Sex ratio (per 1000)	987	984
Literates	64.72%	55.70%
Male literates	75.85%	71.67%
Female literates	53.50%	39.51%

#### (e) Land Use Pattern

The land use pattern of the district consists of the Total Geographical Area, Area under Agriculture, forest, wastelands and Area under other uses. The Gross Cropped Area, Net Sown Area, Area Sown more than once and Cropping Intensity come under the Area under Agriculture. The land use pattern of district Balangir has 657000ha of Geographical Area. The agriculture sector area has four categories in which the Gross cropped area and it covers an area of 459017 ha, Net Sown area under agriculture is 345475 ha, the Area Sown more than once under agriculture is 113542 ha and cropping intensity is 132.9%. The area Under Wasteland is 24656.04 ha which occupied fourth place in the state.

Name of the Block	Area under Agriculture(ha)				Area under waste land
	Gross cropped area	Net sown area	Area sown more than once	Cropping Intensity (%)	
Bolangir	28786	20135	8651	143	1392
Deogaon	27931	20175	7756	138.4	7771.91
Gudvella	21567	13115	8452	164.4	393.08
Puintala	30932	21995	8937	140.6	2386

Loisingha	26879	21215	5664	126.7	1973
Agalpur	29859	21675	8184	137.8	421.22
Patanagarh	49978	41120	8858	121.5	1535.59
Belapara	44605	35810	8795	124.6	124.33
Khaprakhol	36504	29000	7504	125.9	491.33
Titilagarh	34025	25825	8200	131.8	451.38
Saintala	30352	21650	8702	140.2	5525
Muribahal	34816	27140	7676	128.3	1405.34
Bangomunda	31986	23310	8676	137.2	555.86
Tureikela	30797	23310	7487	132.1	230
Total	459017	345475	113542	132.9	24656.04

Source: CDAO, Balangir

### Rainfall

The climatic condition of the District is generally hot (7°C to 48°C) with high humidity (79%) during March to June and cold during November to February. The monsoon generally breaks during the month of June. The average Annual rainfall of the District was 1128.07 mm in 2018 which is lower than the normal rainfall of 1289.8 mm with 62 rainy days.

### Cloudiness

During the south-west monsoon season, skies are generally heavily overcast. In the summer and post-monsoon months there is moderate cloudiness, the afternoons being cloudier than the mornings. In other months the sky is mostly clear or lightly clouded.

#### Special Weather Phenomena

Storms and depressions in the Bay of Bengal, during the monsoon season and in October pass through the District or its neighborhood and cause widespread heavy rain and strong winds. Thunderstorms mostly in the afternoons occur in the summer season and in October. Rain during the south-west monsoon season is also very often associated with thunder. Even though there has not been large variation from the normal rainfall, almost every year there is scarcity in some area or other on account of irregular distribution of rainfall. Recently this District has experienced cyclonic effect of "PHAILIN", "HUDHUD" AND "FANI" in the month of October of the year 2013 and 2014 and in the month of May of the year 2019 respectively.

### (f) Climate

The climatic condition of the District is quite extreme. Summer is hot and dry. Rainy season is characterized by fairly good rainfall and high degree of humidity. Cold is equally severe in winter. Rains in the district are caused by the South-West Monsoon which breaks in June, reaches its peak in August and retreats in the middle of October. The temperature shows a wide fluctuation varying between 47 degree centigrade in summer and below 7 degree in winter. Three distinct seasons are experienced in Balangir District. The winter season starts from November and lasts until middle of February followed by continuous summer till the end of June and then followed by rainy season that last upto middle of October.

The Average Rainfall data of Balangir District (sources – Agricultural contingency plan – Odisha) is as under –

Rainfall Season	Normal Rainfall (mm)	Normal rainy days (nos.)
SW Monsoon ( June - September)	1134.3	49
NE Monsoon (October - December)	77.9	5
Winter ( January - February)	36.4	3
Summer (March - May)	41.2	3
<b>Total</b>	<b>1289.8</b>	<b>60</b>

### Temperature

Summer months are extremely hot. During these months temperature reaches 46° Celsius to 47° Celsius. The mercury shot up to a maximum of 47° Celsius in the month of May' 2003. The probable reason for increase in maximum temperature is due to the conditions of the soil and loss of forest cover during the past 30 years. The temperature drops down with approaching monsoon and when monsoons withdraws in the month of October day temperature remains almost constant but night becomes cooler. From November temperature decreases progressively and falls in the night. Temperature fall continues till the approach of coldest month i.e. December. The minimum temperature goes down to 6° to 7° Celsius approximately during the month of December.

### Wind

The velocity of the wind is generally slow to moderate with some increase in force during summer and monsoon seasons. The winds are mostly from direction between southwest and northwest in monsoon season. In post monsoon and cold seasons they blow from the direction. between west and northwest. The winds are variable in direction during summer months. Though there is no cyclone hazard in this region yet due to Phailin and Hud Hud some damages occurred to forests which is discussed under the heading of Natural Calamity.

### Water Supply

The availability of water by inflow of the river is less than average and scanty during summer season. There is no major or large river in the district. Only small rivers, Tel and Ong are in the district. The Table below shows major nallah with their catchments in Reserved Forests.

Name of the River/ Nallah	Catchment Area
Kantangi	Gandhamardan R.F.
Lanth	Bender RF
Sukha	Gandhamardan RF
Indra	Chhatradandi RF & Rajoo RF
Suktel	Thutha RF Budharaja RF , Sulia RF, Kharsel RF
Rawal	Sikerpat RF
Songad	Barghati RF, Sulia RF & Kiribanji RF

## 2.0 INDICATIVE GAP ANALYSIS & ACTION PLAN FOR COMPLYING WITH WASTE MANAGEMENT RULES

### (I) Solid Waste Management

#### (a) Current Status related to Solid Waste Management

SI No	Urban Local Bodies	No of Wards	No of Households	Population	Solid Waste Generated Per Day(TPD)
1	Municipalities (Nagar Palikas)				
	1. Balangir Municipality	21	21938	98238	26.02 TPD
	2. Titilagarh Municipality	15	7358	31258	15 TPD
2	Nagar Panchayats (Notified Area Councils)				
	1. Kantabanji NAC	16	4877	21819	6.54 TPD
	2. Patnagarh NAC	15	5025	25125	10 TPD
	3. Tusura NAC	11	2730	10638	3 TPD

SI No	Local Bodies	No of Villages/ Panchayats / Blocks	No of Households	Population	Solid Waste Generated Per Day (TPD)
1	Block/Taluk / Mandal Tehsils	14	416824	1683727	6.10
2	Village/Gram Panchayats	1737 / 317			

#### (b) Action Plan for Solid Waste Management

Sl. No.	Action points for villages / blocks/ town municipalities/ City corporations	Identification of gap	Action Plan	Responsible agencies	Timeline for completion of action plan
<b>1</b>	<b>Segregation</b>				
(i)	Segregation of waste at source	About 50% to 60% waste segregation is being practiced by Households and Other Waste Generators	Swachha Sathis engaged to continuously take up IEC & BCC activities to ensure collection of Segregated Waste at Household and other waste generators	All ULBs & GPs	6 months
<b>2</b>	<b>Sweeping</b>				
(i)	Manual Sweeping	60% road not covered in Urban and Rural Area	Day & Evening sweeping to be ensured in Urban Areas to cover 100% of the area	All ULBs & GPs	03 Months
(ii)	Mechanical Road Sweeping & Collection	No Mechanical Tool Available	Mechanical Road Sweeping and Collection is being planned	All ULBs & GPs	06 Months
(ii)	Mechanical Road Sweeping & Collection	No Mechanical Tool Available	Mechanical Road Sweeping and Collection is being planned	All ULBs & GPs	06 Months
<b>3</b>	<b>Waste Collection</b>				
(i)	100% collection of solid waste	About 70% collection of solid waste is achieved in Urban Area	more no of Battery Operated Vehicles with separate chambers for Wet & Dry Waste are being procured. These BOVs designated as Swachha Sabari have been planned to reach household within a specified time and with a soothing miking arrangement every day.	All ULBs and GPs	03 Months
(ii)	Arrangement for door to door collection	About 70% Door to Door Collection is achieved in Urban Area.	Action Plan to augment Door to Door Collection is being planned for 100% Coverage	All ULBs and GPs	03 Months
(iii)	Waste Collection Trolleys with separate	100% has been provided for collection in Urban Area	Plan is being made for procurement of 50 No of BOV	All ULBs and GPs	03 Months

Sl. No.	Action points for villages / blocks/ town municipalities/ City corporations	Identification of gap	Action Plan	Responsible agencies	Timeline for completion of action plan
	compartments		for achieving 100% Collection		
(iv)	MiniCollectionTrucks with separate compartments	80% has been provided for collection	Action is being taken for procurement for more no of Mini Collection Trucks	All ULBs and GPs	03 Months
(v)	Waste Depositioncentres (for domestichazardous wastes)	Waste Deposition Center has been identified in Urban Area	For Collection & Storage of Domestic Hazardous Waste, a Separate corner is being established in each Material Recovery Facilities.	All ULB and GPs	03 Months
<b>4</b>	<b>Waste Transport</b>				
(i)	Review existing infrastructure for waste Transport.	Presently not adequate.	Additional 50 No of BOV and 7 no of Mini Collection Trucks required for District Headquarter ULB	All ULB and GPs	03 Months
(ii)	Bulk Waste Trucks	Presently not available	Atleast 1 Bulk waste trucks with separate chambers is required for each ULB	All ULB and GPs	03 Months
(iii)	Waste Transferpoints	No Waste transfer points exists	At least 1 Waste transfer points required in each ULB	All ULBs	03 Months
<b>5</b>	<b>Waste Treatment and Disposal</b>				
(i)	Wet-waste Management: On-sitecomposting by bulk waste generators(Authority may Decide on requirement as perRules)	Identification of Bulk Waste Generators in ULBs yet to be done	As these entities need to handle its own waste, continuous awareness programme is being carried out by Swachha Sathis & Supervisor to ensure onsite composting by BWG	All ULBs	06 Months
(ii)	Wet-waste Management: Facility(ies) for Central Bio methanation/Composting of wets waste.	Facility not available for Central Bio methanation/ composting of Wet Waste	Action plan for setting up Bio Methanation/ composting of wet waste plan not decided yet in Rural Area	All GPs	06 Months
(iii)	Dry-Waste Management: Material Recovery fordry-waste fraction	No Such facility available in GPs	Action plan for setting up Bio Methanation/ composting of wet waste plan not decided yet in Rural Area	All GPs	03 Months
(iv)	Disposal of inert and non-recyclable wastes:SanitaryLandfill	Improper disposal of Inert and Non recyclable waste in Rural Areas	Action Plan for disposal of inert and Non-recyclable waste to sanitary land fill is being planned	All GPs	12 Months
(v)	Remediation ofhistoric / legacydumpsite	Avaiability Legacy dumpsite in Urban area	Action plan for remediation of historic/legacy dumpsite is being planned	All ULBs and GPs	06 Months
(vi)	Involvement of NGOs	Involvement of NGOs yet to be done in both Urban and Rural Area	NGOs/CBOs could be engaged in IEC activities for segregated waste collection	All ULBs and GPs	6 Months
(vii)	EPR of Producers: Linkage with Producers/Brand Owners	Yet to be identified	Action plan to be developed for linkages with Producers/Brand Owners	All ULBs and GPs	6 Months
(viii)	Authorization ofWaste Pickers	Yet to be done in Rural Area	Authorization has been given to 28 no of waste pickers in urban Area	All GPs	03 Months

Sl. No.	Action points for villages / blocks/ town municipalities/ City corporations	Identification of gap	Action Plan	Responsible agencies	Timeline for completion of action plan
(ix)	Preparation of ownby-laws to complywith SWM Rules 2016	Yes	No Action required	All ULBs and GPs	3 Months

**(II) Plastic Waste Management Plan****(a) Current Status related to Plastic Waste Management**

SI No	Urban Local Bodies	Estimated quantity of Plastic waste
1	Municipalities	0.09 MT
2	Nagar Panchayat (Town Area Councils)	0.22 MT

SI No	Local bodies	Plastic Waste Generated per day (TPD)
1	Block / Taluk / Mandal Tehsils	4.10
2	Village / Gram Panchayats	-

**(b) Action Plan for Plastic Waste Management**

SL No	Action Points for villages/Blocks/Town Municipalities/City Corporation	Identificaton of Gap	Action Plan	Responsible Agencies	Timeline completion of Action Plan
1	Door to Door collection of dry waste including PW	100 % Collection, Segregation and Disposal of Dry Waste including Plastic Waste.	Strengthening of Infrastructure of Waste Collection vehicle is being undertaken to achieve 100% Door to Door collection of Dry Waste.	All ULBs & GPs	6 Month
	Facilitate organized collection of PW at Waste transfer point or Material Recovery Facility	Organized Collection of Plastic Waste at Material Recovery Facility.	The Collected Plastic waste through Door to door collection has been linked with Material Recovery Facility(MRF) wherein it is stored, categorized, sold and dispose off as per the nature of the plastic waste.	All GPs	6 Months
	Awareness and education programs implementation	Creation of Awareness programme among public for minimizing and recycling of Plastic Waste	Awareness is being carried out in each ward by Swachha Sathis and Supervisor and wall painting have also been created at prominent places of the ward to disseminate information about minimizing and recycling of Plastic Waste.	All ULBs & GPs	Continuing
	Access to Plastic Waste Disposal Facilities	Availability of disposal facility of non recyclable plastic waste	Balangir Municipality as nodal ULB of Balangir District has signed MOU with ACC Cements for sending non recyclable plastic waste for co-processing.	All GPs	6 Months

**(III) C& D Waste Management Plan****(a) Current Status related to C& D Waste Management**

Total C & D waste generation in MT per day (As per data from Municipal Corporations / Municipalities)	0.55 MT
Does the District has access to C&D waste recycling facility?	No

**(b) Action Plan for C & D Waste Management**

SI No	Action Points for villages/Blocks/Town Municipalities/City Corporation	Identificaton of Gap	Action Plan	Responsible Agencies	Timeline completion of Action Plan
1	Arrangement for separate collection of C&D waste to C&D waste deposition point.	Establishment of C& D Waste Deposition Center	In all 5 ULBs C& D Waste Deposition Center has been established, where collected C& D waste is stored.	All ULBs & GPs	6 Months
	Whether local authority have fixed user fee on C&D waste and introduced permission system for bulk waste generators who generate more than 20 tons or more in one day or 300 tons per project in a month?	Fixing of User charges for collection & transportation of C& D waste.	Preparation under progress for publishing notification of user charges for collection and transportation of C& D Waste	All ULBs & GPs	6 months
	Identification of Bulk C& D Waste Generators	Preparation of final list of Bulk C& D waste generators	As per the notification, waste generators who generates more than 20 MT or more in one day shall submit waste management plan to the ULB. In this regard, an action plan is being prepared to map potential Bulk C& D Waste Generators in each ULB.	BWG, ULBs	3 Months
	Usage of recycled C&D waste in non- structural concrete, paving blocks, lower layers of road pavements, colony and rural roads	Identification yet to be done.	Action to be developed for usage of recycled C & D waste in non-structural concrete, paving blocks	All ULBs and GPs	6 Months
	ICE on C & D waste management	Identification yet to be done.	A Special Drive is being undertaken by ULBs for making Bolangir C& D Waste free. Miking, Wall paintings on C& D waste management, Scrolling of message in local cable network, Signages on important road showing way to designated C&D waste deposition site is being planned for effective C& D Waste Management.	All ULBs & GPs	Moderate

## (IV) Biomedical Waste Management Plan

## (a) Current Status related to Biomedical Waste Management

Inventory of BMW in BBMCH Balangir	Quantity
Total no. of Bedded Healthcare facility	500 Beds
Total no. of non-bedded HCF	NA
Authorized by SPCBs/PCCs	Yes
No. of Common Biomedical Waste Treatment and Disposal Facilities	CBWTF - Under Progress Available Treatment Plant: with Autoclave, Shredder Disposal Facility: Deep Burial pits and sharp pits Maintained by Outsourcing M/s Bio Tech Solutions, Berhampur
Capacity of CBWTF	NA
No. of deep burial pits for BMWM	9 Numbers
No. of sharp pits for BMWM	3 Numbers
Quantity of Biomedical waste generated per Day	Avg. 75-80 Kg
Quantity of Biomedical waste treated per Day	Avg. 75-80 Kg

## (b) Action plan for Biomedical Waste Management

SL No	Action Points for villages/Blocks/Town Municipalities/City Corporation	Identificaton of Gap	Action Plan	Responsible agencies	Timeline completion of Action Plan
1	Inventory And Identification Of Healthcare Facilities	Whether All HCFS Including, Clinics, Hospitals, Veterinary Hospitals, Ayush Hospitals, Animal Houses, Etc Generating Biomedical Waste Area Identified And Authorized By SPCBS/PCCS	BBMCH/DHH Balangir is Authorized by SPCB, Odisha Authorization Validity upto :31.03.2023	BBMCH/DHH, Balangir	Completed
2	Adequacy Of Facilities To Treat Biomedical Waste	If there is any gap between Quantity of Biomedical Waste generated per day and quantity of Biomedical Waste treated and disposed in the district?  In case of no access to CBWTFs, adequacy of existing disposal of BMW	Quantity of Biomedical Waste generated per day and quantity of Biomedical Waste treated and disposed at BBMCH/DHH, Balangir is Same	BBMCH/DHH, Balangir	Completed
3	Tracking of BMW	whether barcode system is implemented by all HCFs and CBWTFs?	YES	BBMCH/DHH, Balangir	Completed
4	Awareness And Education Of Health Care Staff	Training has been organized for all stake holders?	Yes	BBMCH/DHH, Balangir	Completed
5	Adequacy of funds	Adequate Funds Is Allocated To Government Health Care Facilities For Bio-Medical Waste Management By State Govt.?	YES	Govt. Level BBMCH/DHH, Balangir	Completed
6	Compliance to Rules by HCFs and CBWTFs	Any district level mechanism to monitor compliance by Hospitals/ HCFs?	Yes	Govt. Level BBMCH/DHH, Balangir	Completed
7	District Level Monitoring Committee	Whether District Level Monitoring Committee has been constituted and meetings are being Organized?	YES, Waste Management Committee is available at DHH/BBMCH, Balangir and every month meeting is being conducted	BBMCH/DHH, Balangir	Completed
8	Waste water Treatment	HCFs are required to install ETPs for waste water Generated.	Yes ETP has been approved for Construction, will be constructed soon.	Public Health	12 Months

**(IV) Hazardous Waste Management Plan****(a) Current Status related to Hazardous Waste Management**

Details of Data Requirement	Present Status
No of Industries generating HW	[02 Nos.]
Quantity of HW in the district	[115.50 MT/Annum]
(i) Quantity of Incinerable HW	[0 MT/Annum]
(ii) Quantity of land-fillable HW	[0 MT/Annum]
(iii) Quantity of Recyclable / utilizable HW	[115.50 MT/Annum]
No of captive/common TSDF	[1 Nos of TSDF]
Contaminated Sites or probable contaminated sites	[0 Nos]

**(b) Action plan for Biomedical Waste Management**

Sl. No.	Action Areas	Objective	Action Taken/Proposed	Responsible agency	Priority
1.	Regulation of industries and facilities generating Hazardous Waste	All hazardous waste industries are identified and authorised by SPCBs/PCCs	All the industries are having authorization under Hazardous Waste Management Rules, 2016 and are in compliance as per the rules.	SPCB	Completed
2.	Establishment of collection centres	Check district has collection centres for hazardous wastes with linkage to common TSDFs / recyclers	Local authority should ensure that adequate number of collection centers should be established and are linked to Common TSDFs.	All ULBs & GP	6 Months
3.	Training of workers involved in handling / recycling / disposal of HW	Identify facilities /industries engaged in recycling / pre-processing / disposal of hazardous waste in the district.	All the industries are having authorization under Hazardous Waste Management Rules, 2016 and are in compliance as per the rules.	All ULBs & GP	6 Months
4.	Availability / Linkage with common TSDF or disposal facility	Check if the generators of HW have access to common TSDF in the State?	0.02 MT stored in impervious pit and sent to CHWTSDF, Sukinda, Jajpur	SPCB	Completed
5.	Contaminated Sites	Are there any sites where soils /sediments/ groundwater contaminated due to dumping of industrial wastes	No contaminated sites are there in Bolangir district	All ULBs & GP	Completed

**(V) E-Waste Management Plan****(a) Current Status related to E-Waste Management**

Details of Data Requirement	Present Status	Balangir	Titilagarh	Patnagarh	Kantabanji	Tusura
Inventory of E-Waste in MT/year	MT/Year	1 MT/2021	1 MT/2021	1 MT/2021	1 MT(2021)	0.8 MT (2021)
Collection centers established by ULBs in the District	[Nos]	2	1	1	1	1
Collection centers established by Producers or their PROs	[Nos]	Nil	Nil	Nil	Nil	Nil
No authorized E-Waste recyclers / Dismantler	[Nos]	Nil	Nil	Nil	Nil	Nil

**(b) Action Plan for E-Waste Management**

S. No.	Action Areas	Objective	Action Taken/Proposed	Responsible agency	Priority
1	Inventory / Generation of E-Waste / Bulk-waste generators	Check whether SPCB/PCC has completed inventory of E-Waste in the District. Inventory of bulk waste generators	Completion of inventory	SPCB/ PCC	Continuing
2	E-Waste collection points	Availability of E-Waste collection points / call centres / kiosks in villages - Blocks / /towns / cities	In all 5 ULBs, 6 No of E-Waste Collection Points have been established	ULBs	Completed
3	Linkage among Stakeholders to channelize E-Waste	Liasoning with authorised E-Waste recyclers in the district or in State to channelize E-waste collected in District.	Lists of authorized Recyclers and dismantlers have been identified. Immediate liasoning is being planned for effective channelization of E-Waste Collected in the district	ULBs	High
4	Regulation of Illegal E- Waste recycling / dismantling	Prevalence of informal trading, dismantling, and recycling of E-waste is in District	Action plan to be prepared in coordination with SPCBs/PCCs and District Administration to check this activity.	ULBs & District Administration	High
5	Integration of informal sector	Mechanism for bringing informal sector into main stream in collection and recycling of E-Waste	Action is to be taken of bring informal sector into main stream in collection and recycling of E-Waste after conducting a feasibility study	ULBs	Medium
6	Awareness and Education	Programs at district level for awareness about E- waste management?	Special Drive is being undertaken for effective E- Waste collection and disposal. Social Media, Wall Paintings, miking on collection of E-Waste is being done.	ULBs	High

### 3.0 Air Quality Management

#### (a) Current Status related to Air Quality Management

Details of Data Requirement	Present Status
Number of Automatic Air Quality monitoring stations in the district. - Operated by SPCB / State Govt / Centralgovt./ PSU agency :Nil - Operated by Industry:Nil	NIL
Number of manual monitoring States operated by SPCBs	One
Name of towns / cities which are failing to comply with national ambient air quality stations	AAQ conducted in Bolangir town every month near Municipality office since May 2020 by SPCB. The PM 10

District Magistrate & Collector, Bolangir

	exceeding the prescribed limit on monitoring conducted in month of December 2020, January 2021, February 2021 and March 2021
No of air pollution industries	227 Nos.
Prominent air polluting sources [Large Industry] / [Small Industry] / [Unpaved Roads] / [Burning of Waste Stubble] / [Brick Kiln] / [Industrial Estate] / [Others] (Multiple selection)	Stone Crusher-42nos., Cotton Ginning Mill-14 ,Parboiled-50 no., Country Liquor- 62, Hotel 03, Bakery-02, Beverages-01, Cement product-01, Coke making-01, cold storage-02, corrugated paper box- 03, explosive- 01, minor mineral- 28, pharmaceutical formulaion-01, polythene plastic product- 04, poultry firms- 03, preboiled rice- 01, raw rice-02, ready mix-03, reprocessing of waste cotton-01, smoleless coke-012, vegetable Oil-01 [Hotspots of air pollution]

## (b) Action Plan for Air Quality Management

Sl. No	Action points	Objective	Action Taken/Proposed	Responsible agency	Priority
1	Identification of prominent air polluting sources?	Carry out inventory of air pollution sources in District including hotspots or areas of concern pertaining to air pollution in association with SPCBs/PCCs may	NA	SPCB/ULB/District Administration	High
2	Ambient Air quality data?	Plan to get access to available air quality monitoring stations in the District operated by both Public and private agencies.	NA	District Administration	Medium
3	Setting up continuous Ambient Air Quality Monitoring Station	Like Weather Station, District may also have ambient air quality monitoring at major urban settlements or populated areas. Action plan may propose setting up at least one CAAQMS in District. Also access data generated by CAAQM stations installed by other pvt/public agencies. District Authority in association with local office of SPCB/PCC should ensure that at least one manual Air Quality Monitoring station is available in each city.	AAQ conducted in Bolangir town every month near Municipality office since May 2020 conducted by SPCB	SPCB & District Administration	Completed
4	District Level Action Plan for Air Pollution	Action plan should be prepared for both improvement of existing air quality as well as for non-attainment days to national ambient air quality standards. [Measures include multi sectoral approach for air pollution control such as promotion of public transport, use of green fuels, E-mobility, LPG based cooking, carpeting open areas/kerbs, etc. Action plans envisaged in NCAP project initiated by MoEF&CC maybe referred]	NA	District Administration	High
5	Hotspots of air pollution in District	hotspot with respect to air pollution (such as stubble burning, illegal waste burning, unauthorised operations, cluster activities, forest fires etc.) should be identified and localised action plan for mitigation of the same should be prepared	NA	District Administration	High
6	Awareness on Air Quality	Plan for dissemination of information on local air quality in towns and cities located in District. May consider developing Mobile App / Online portal for dissemination of air quality as well as to take complaints on local air pollution	NA	District Administration	Medium

## 4.0 Water Quality Management

### 4.1 Water Quality Monitoring

#### (a) Current Status related to Air Quality Management

Details of Data Requirement	Present Status
Rivers	[Names and Length of each river in Km]
Length of Coastline (if any)	[in Km]
Nalas/ Drains/Creeks meeting Rivers	[Nos]
Lakes / Ponds	[Nos] and [Area in Hectares]
Total Quantity of sewage from towns and cities in District	[MLD]
Quantity of industrial wastewater	3.287 MLD
Percentage of untreated sewage	0%
Details of bore wells and number of permissions given for extraction of groundwater	[Nos]
Groundwater polluted areas if any	[Name of areas]
Polluted river stretches if any	[Length in Km]

#### (b) Action Plan for Water Quality Management

Sl. No.	Action Areas	Objective	Action Taken/Proposed	Responsible agency	Priority
	Inventory of Water Bodies	An environment monitoring cell shall maintain data of all Water Bodies (Rivers/Canals/natural Drains/Creeks/estuaries/groundwater/ponds/lakes/etc. In district including its water quality	NA	District Administration	High
	Quality of Water Bodies in the District	Availability of data on water bodies. Create a district level monitoring cell for periodic monitoring of water bodies for specific parameters in association with SPCBs.	NA	SPCB, Urban & Rural Bodies	High
	Hotspots of Water Contamination	Trends of water quality and identify hotspot of surface water and ground water. Establish a system or separate cell to monitor water quality. Implement action points for restoration of water quality in association with SPCBs and department of environment.	NA	District Administration, SPCB	High
	Protection of river/ lake water front	Action plan should be prepared for control river side open defecation, dumping of Solid waste on river banks, for idol immersions etc.	NA	District Administration, Urban & Rural Bodies	High
	Inventory of sources of water pollution	Inventory of all sewage and wastewater discharge points into water bodies in the district. Action plan to complete inventory.	NA	District Administration & SPCB	
	Oil spill disaster management (for coastal districts)	District oil spill crisis management group and District Oil Spill Disaster Contingency Plan has been created? If not, create District Oil Spill Crisis Management Group and District Oil Spill Disaster Contingency Plan for the district.	NA	District Administration	High
	Protection of flood plains	Whether there is regulation for protection of flood plain encroachment? Action plan should be prepared for protection flood plain and prevention of encroachment.	Nil	District Administration	Medium
	Rejuvenation of Groundwater	Availability of groundwater and if required prepare action plan to rejuvenate ground water	NA	District Administration,	Medium

		in selected areas. Action plan should be prepared for Rain water harvesting		Urban & Rural Bodies	
	Complaints redressal system	Whether there is any complaint redressing system based on Mobile App / Online, is available? If not, a complaint redressing system based on Mobile App / Online should be available at district level.	Nil	District Administration	Medium

## 4.2 Domestic Sewage

### a. Current status related to domestic sewage

### b. Identification of gaps and action plan for treatment of domestic sewage

## 5.0 Industrial Wastewater Management Plan

### (a) Current Status related to Industrial Wastewater Management

<b>Number of Red, Orange, Green and White industries in the District</b>	<b>[Nos of Red industries], [161 Nos of Orange industries], [41 Nos of Green industries], [Nos of White industries]</b>
No of Industries discharging wastewater	116 Nos
Total Quantity of industrialwastewater generated	3.287 MLD
Quantity of treated industrialwastewater discharged into Nalas / Rivers	0 MLD
Common Effluent Treatment Facilities	Nil Nos
No of Industries meeting Standards	116 Nos
No of Industries not meetingdischarge Standards	0 No.

## (b) Action Plan for Water Quality Management

S. No.	Action Areas	Objective	Action Taken/Proposed	Responsible agency	Priority
1.	Compliance to discharge norms by Industries	Identifying Gap w.r.t industries not meeting the Standard. Necessary Action be initiated through SPCBs against the industries not meeting the standards.	Regular inspections are conducted to check the compliances. If non-compliances are found actions are taken as per the law.	SPCB	Medium
2.	Complaint redressal system	Check if there is any complaint redressing system based on Mobile App/ Online, is available? If not, a complaint redressing system based on Mobile App / Online portal may be prepared at district level.	Nil	District Administration	High

## 6.0 Mining Activity Management Plan

### (a) Current Status related to Mining Activity Management

Sl. No	Details of data Requirement	Existing Mining Operation
1	Type of Mining Activity	Open Cast. There are (3)three existing mines out of that one is Graphite Mine (2) Decorative Stone working - mines.(list enclosed)
2	No. of licensed mining operations in the district.	3(three)
3	%covered under mining in the district	1.Ainlapali/Radhbahal Graphite Mines= 14.937 hecets.

		2.Kurlubhata Decorative Stone= 17 ..676 hecets. 3.Darlipali Decorative Stone=0.809 hecets.
4	Area of Sand and Stone Mining	Normal Stone- 90.60 Ha., Sand - 253.00 Ha.

**(b) Action Plan for Mining Activity Management**

Sl.No.	Action Areas	Objective	Action taken/proposed	Responsible agency	Priority
1	Monitoring of Mining activity	A district level task team may be identified to identify mining activity and to monitor status weather respect to environmental compliance	A district level task force team has been constituted with Tahasildar, and Mining Officer for identification & monitoring of illegal mining activity.	All Tahasils of Balangir	Completed
2	Inventory of illegal mining in any mining	Action plan to identify illegal sand and other mining activity in the District through surveillance, patrolling and enforcement. District level task force may be constituted for control of illegal mining activity.	No illegal mining is going on in the district in respect of Graphite and Decorative Stone	All Tahasils of Balangir	NA
3	Environment compliance by Mining Industry.	Action plan for periodic verification of compliance to environmental conditions stipulated by SPCBs/PCC, MoEF&CC department of mines etc. SPCBs/PCC may be involved in this activity.	Environmental Clearance Certificate is obtained from the SPCBs before starting of the mining operation by the lessee, which is monitored by the officials of SPCB and Mining during inspection of the mines.	SPCB	2 months

## 7.0 Noise Pollution Management Plan

### (a) Current Status related to Noise Pollution Management

Details of Data requirement	Measurable Outcome
No of noise measuring devices available with various agencies in District	Balangir Police 08 nos of noise measuring devices are available (Town PS-02, Titilagarh PS-02, Kantabanji PM-01, Loisingha PS-01 & R.O., Balangir-01)

### (b) Action Plan for Noise Pollution Management

Sl. No.	Action points	Gaps and Action Plan	Responsible agency	Priority
1	Availability of Sound/Noise level Meters	Concerned IIC of PSs are instructed to check noise pollution by utilizing available noise measuring devices and take action against the defaulters as per law	District Administration, Balangir	High

## 8.0 Wetland Management Plan

The total geographical area of Bolangir district is 6552 sq. km. The District comprised of 5036 wetlands of which 3748 are < 2.25 ha while 1288 are > 2.25 ha. The wetland area is estimated to be 20276 ha. The major wetland types are River / Stream measuring 9040 Nos following by Tank / Pond 4196 ha and Reservoir / Barrage 2483 ha. In per cent, small wetland (< 2.25 ha) constitute a major part near about 18 % of wetland extent. Open water in post-monsoon constitute 13407 ha out of 16528 ha of wetlands has shown a reduction to 12503 ha in pre-monsoon. Similarly, an increase of 924 ha is observed in aquatic vegetation from post monsoon to pre-monsoon. Moderate turbidity dominated major part of the open water followed by low in both season. High turbidity is observed only in pre-monsoon season.

### a. Current Status related to Wetland Management Plan

Details of Data Requirement	Measurable Outcome
No. of Wetland and its extent	No- 1633; Area = 26307 in Ha.

Sr. No.	Wetland Category	No. of wetlands	Total wetland area(in Ha)
<b>Inland Wetlands - Natural</b>			
1	Ox-bow lakes/ Cut-off meanders	05	31
2	Riverine Wetlands	28	191
3	Waterlogged	78	580
4	River/Stream	85	9040
<b>Inland Wetlands – Man-made</b>			
5	Reservoirs/Barrages	94	2483
6	Tanks/Ponds	996	4196
7	Waterlogged	2	7
<b>Total - Inlands</b>		<b>1288</b>	<b>16528</b>
Wetlands (<2.25 ha)		3748	3748
<b>Total</b>		<b>2036</b>	<b>20276</b>

### b. Identification of gaps and action plan:

Sl no	Action Points	Gaps and Action Plan	Responsible agency	Timeline for completion of action plan
1	Sewerage discharge	Inadequate knowledge on water and aquatic land pollution. Load based assessment of Sewerage and additional STP for treatment of sewerage	ULB	6 months
2	Disposal of Solid & Other Waste	Unscientific disposal of solid waste into wetland. Load based assessment of Solid waste & other waste. Identification of additional land-fill sites and promotion of SLF	ULB	12 months
3	Water quality testing	Any such initiative of monitoring of water quality of wetland is not yet been taken up by OSPCB. Sampling in every quarter for testing and provision for mobile lab for on-site testing, Empanelment of private testing labs	SPCB	Half-yearly
4	Preventing Siltation	Almost all wetland silted up over the years and water bearing capacity got reduced. De-siltation of the water	Water resource department	Occasional

Sl no	Action Points	Gaps and Action Plan	Responsible agency	Timeline for completion of action plan
		bodies. Impose penalty clause on disposal of waste into wetland		
5	Demarcation of flood protection zone	Any such demarcation is yet not been done. Special initiative/ study require for such demarcation.	Water resource department	One time
6	Removal of Encroachment	Massive encroachment found specially in urban area. Revenue authorities along with DoWR and ULB officials will make inspection of drainage areas for removal of encroachment	District Administration(Revenue Authorities)	1 year

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Bolangir Forest Division

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