



# **DISTRICT SURVEY REPORT (DSR)**

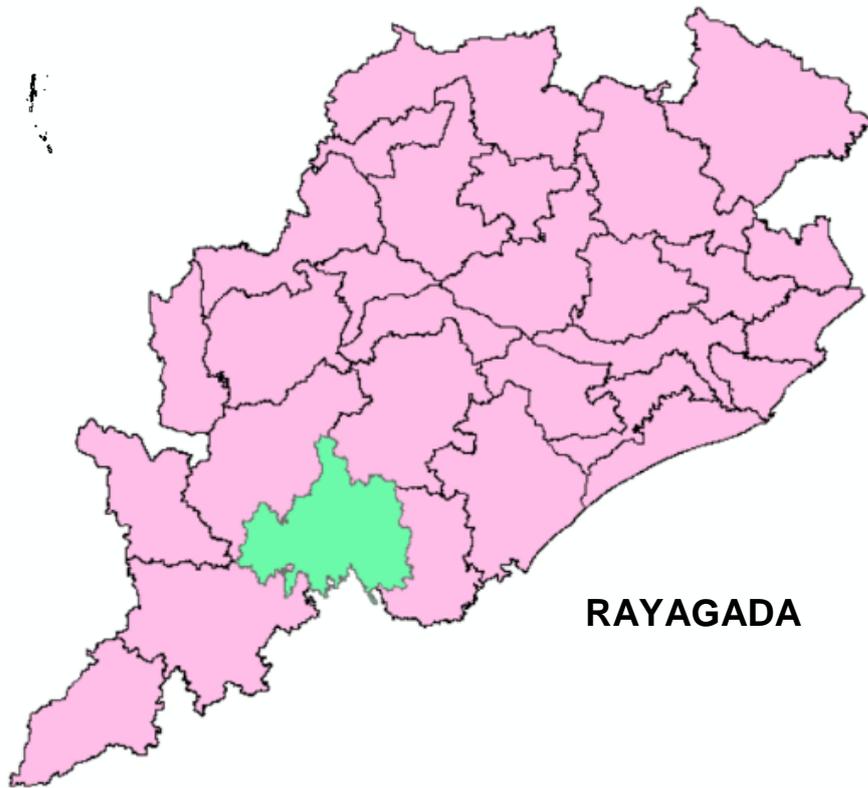
OF

**RAYAGADA DISTRICT, ODISHA.**

FOR

**RIVER SAND**

(FOR PLANNING & EXPLOITATION OF MINOR MINERAL RESOURCES)



As per Notification No. S.O. 3611(E)

New Delhi dated 25<sup>th</sup> July 2018 of

Ministry of Environment, Forest & Climate Change(MoEF & CC)

**COLLECTORATE RAYAGADA.**

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## **PREFACE**

Odisha is one of the Major Mineral rich State in India. Rayagada is a unique District in Odisha lies on the Southern part of the State with rich and varied mineral resource. It is a paradise for Geoscientists of India and abroad. It has preserved many important rock groups from the earliest of crust formation to the geologically recent times. The landmass constituting the Rayagada District, explorers to many Entrepreneurs on account of its diverse geological setting and rich and varied mineral resources.

In pursuance of MoEF & CC Notification S.O. 141(E) dated 15<sup>th</sup> Jan. 2016, District Environment Impact Assessment Authority (DEIAA) & District level Expert Appraisal Committee (DEAC) has been formed for Category –B2 Minor Minerals having area less than or equal to 5 ha. Prior to the formation of Odisha Minor Mineral Concession Rule 2004, (OMMCR -2004) the mining operation for minor mineral were carried out in unscientific manner. Identifying this fact in exercise of power, Conferred by Section 15 by Mines and Minerals (Development and Regulation) Act 1957 as amended in 2015 and all other powers enabling it in that behalf, the industry Mines & Geology Department, Govt. of Odisha framed the aforementioned rule, which has been amended with period of times in the year 2014, 2015 and 2016.

Keeping in view of experience gained in period of decade, the MoEF & CC came out with Environmental Impact Assessment Notification S.O.-1533(E) dated 14<sup>th</sup> Sept. 2006. It has been made mandatory to obtain environmental clearance for different kinds of development projects as listed in Scheduled -I of notification. Further, pursuance of the order of Hon' ble Supreme Court Petition (C) No. 19628- 19629 of 2009, dated 27<sup>th</sup> Feb. 2012 In the matter of Deepak Kumar etc., Vs State of Haryana and others etc., Prior Environmental Clearance has now become mandatory for mining of Minor Minerals irrespective of the area of Mining Lease. And also in view of the Hon' ble National Green Tribunal, order dated the 13<sup>th</sup> Jan. 2015 the matter regarding Sand, Brick Earth, & Burrowed Earth cutting for Road Construction has to take prior E.C. for Mining Lease irrespective of the fact that whether the area involved is more or less than 5 hectares. They also suggested to make a policy on E.C for minor minerals lease in cluster.

MoEF & CC in consultation with State Government has prepared Guidelines on Sustainable Sand Mining & Minor minerals other than sand mining in 2016, detailing the provisions on Environmental Clearance for cluster. Creation of District Environmental Impact Assessment Authority (DEIAA) & proper monitoring of Minor Minerals. Mining, using Information Technology to track the mineral out material from source to destination.

DEAC will scrutinize and recommend the prior environmental clearance of mining of minor mineral to DEIAA on basis of District Survey Report. This will model and guiding document which is a

compendium of available mineral resources, geographical setup, Environmental and Ecological set up of the District and replenishment of minerals and is based on data of various departments, published reports, Journal and websites. Subsequently, Hon'ble Supreme Court vide their order dt. 18.01.2022 in connection with Civil Appeal Nos. 3661-3662 of 2020, the State of Bihar and others Vrs- Pawan Kumar and others at Paragraph 14 “ We therefore find it appropriate to substitute the directions issued by Tribunal vide judgment and order dated 14<sup>th</sup> October-2020 with the following directions,

(i) The exercise of preparation of DSR for the purpose of mining of the State of Bihar in all the Districts shall be undertaken afresh. The Draft DSRs shall be prepared by the Sub-Divisional Committees consisting of the Sub-Divisional Magistrate, Officers from Irrigation Department, State Pollution Control Board or Committee, Forest Department, Geological or Mining Officer. The same shall be prepared by undertaking site visits and also using modern technology. After the Draft DSRs are prepared the District Magistrate of the concerned District shall forward the same for examination and evaluation by the SEAC. The same shall be examined by the SEAC and its report shall be forwarded to SEIAA. The SEIAA will thereafter consider the grant of approval such DSRs.

(ii) Needless to state that while preparing DSRs and appraisal thereof by SEAC and SEIAA. It should be ensured that a strict adherence to the procedure and parameters laid down in the policy of January-2020 should be followed.

The District Survey Report will form the basis for application for Environmental Clearance, preparation of reports and appraisal of projects. District Survey Reports are to be reviewed once in every five years as per statute, however this is an interim report, which will be updated at regular intervals.

In lieu of above guideline and orders of Hon'ble Supreme Court and in compliance to the orders of Hon'ble NGT, EZ, Kolkata, in connection with O.A No. 63/2020, the Member Secretary, SEIAA, Odisha issued a Letter on 27<sup>th</sup> December, 2022 to Collector & District Magistrate, Kendrapara with a direction “ the DSR is to be signed afresh by the Collector and District Magistrate, along with members of the designated sub-committee consisting of Sub-Divisional Magistrate, and District Level Officers from Irrigation Department, State Pollution Control Board, Forest Department, Geology and /or Mining Department. Keeping in view of the orders of Hon'ble Supreme Court, Hon'ble NGT and directions of SEIAA, Bhubaneswar a fresh DSR has been prepared observing all formalities in the year, 2024.

The Main objective of the preparation of District Survey Report is to ensure the following:-

1. Identification of Mineral Resources in the District.
2. Identification of areas of minor minerals having the potentiality where mining can be allowed.
3. Identification of area and proximity to infrastructure and installations where mining should be prohibited.

## **1. INTRODUCTION**

### **Rayagada at a Glance:**

#### **1.1 History**

In the third century B.C, during the reign of Ashoka the Great, Rayagada District was covered under Kalinga Empire. Bhojpur Rock inscription in Brahmi of Rastrik King Mandhata adds some facts about the history of Rayagada District. Later on, the Rastriks were defeated by Kharvela during Ganga Vansi and Surya Vansi Kings, it was under Dadarnab Dev of Gudari Kataka. A rock inscription found at Pataleswar temple in Brahmi script provides an evidence to this effect.

A subsequent literature found at Pataleswar temple speaks about the River Langully, giving a supporting evidence to the various facts of the District. This region went to Bahamanis when Mukund Dev was defeated at Gohera Tikiri in 1519. Then, it was under Nandapur Kingdom for brief period of 47 years. Biswambar Dev who was defeated and killed by Hasin Khan was perhaps the third king installed at Rayagada. Still, the Sati Kunda Goddess Majhi Ghairani and the Mud fort around it speaks much about its evidence. In subsequent years it was under Bobilli, a Tahasil of Vijayanagaram. Later, during the English regime, Rayagada District was covered under the Jeypore Zamindari, which continued till Independence.

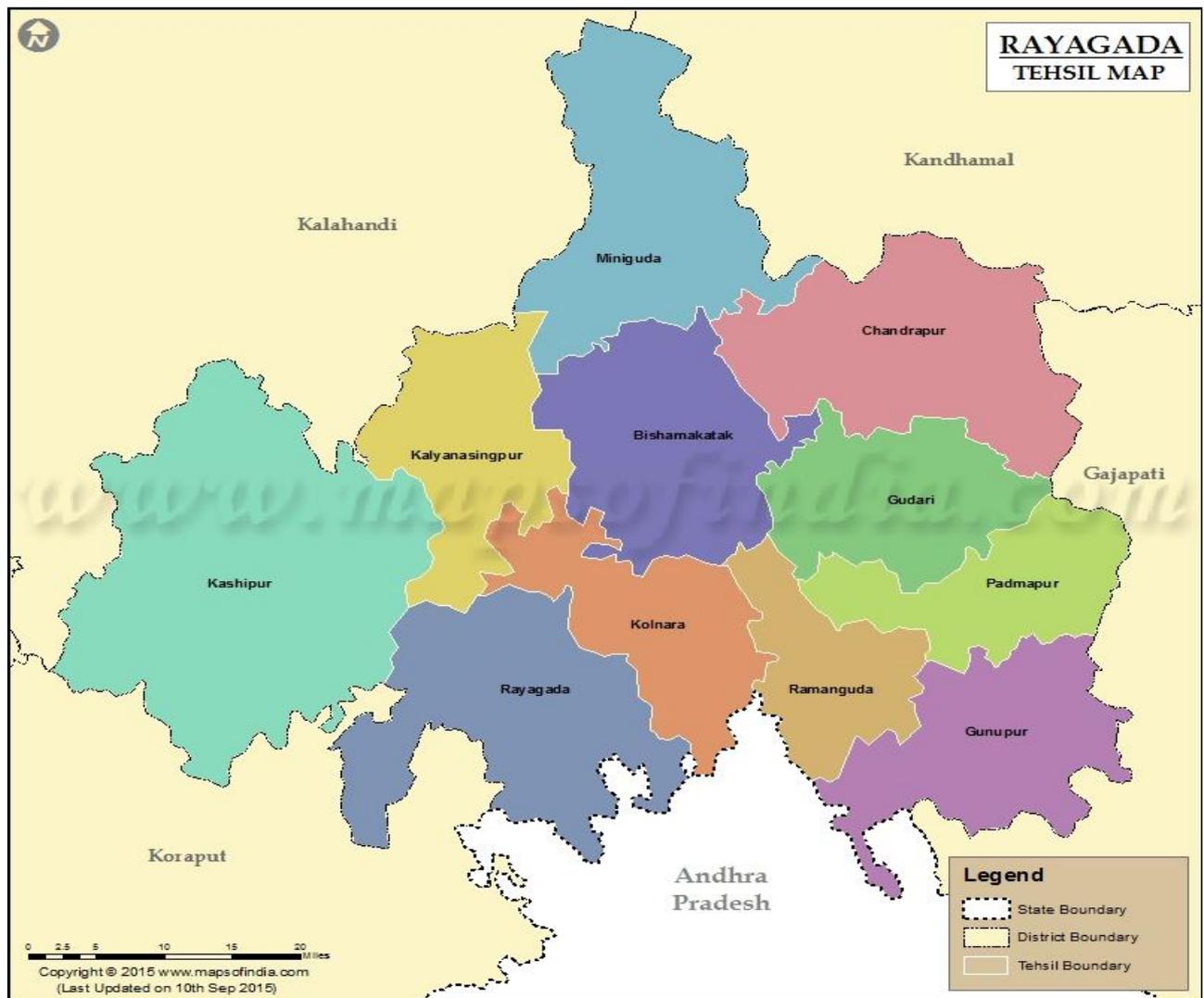
#### **1.2 Location and Geographical Area:**

Rayagada is one of the Districts of Odisha. Rayagada is the District Head Quarter, spreading over an area of 7584.7 sq.km. The District is surrounded by Kandhamala District in its northern side, Gajapati District in its East, Palasa District of Andhra Pradesh & Koraput District in its South and Kalahandi District lie on its Western side. It is the largest city of South Odisha. Rayagada is a district in southern Odisha, a state in India, which became a separate district in October 1992. Its population consists mainly of tribes, primarily the Khonds and the Soras. In addition to Odia, Kui and Sora are spoken by the district's indigenous population. Rayagada is divided into eleven blocks. Agriculture is the chief source of income and paddy, wheat, ragi, green and black gram, groundnut, sweet potato and maize being the district's major crops. Rayagada district is known as the most famous region of the state because of its longest human history.

It has long and glorious historical records evident by copper plates, rock inscriptions as well as different coins, which clearly indicate the region was the centre of attraction in all ages. In the third century B.C., during the reign of Ashoka the Great, it was covered under Kalinga Empire.

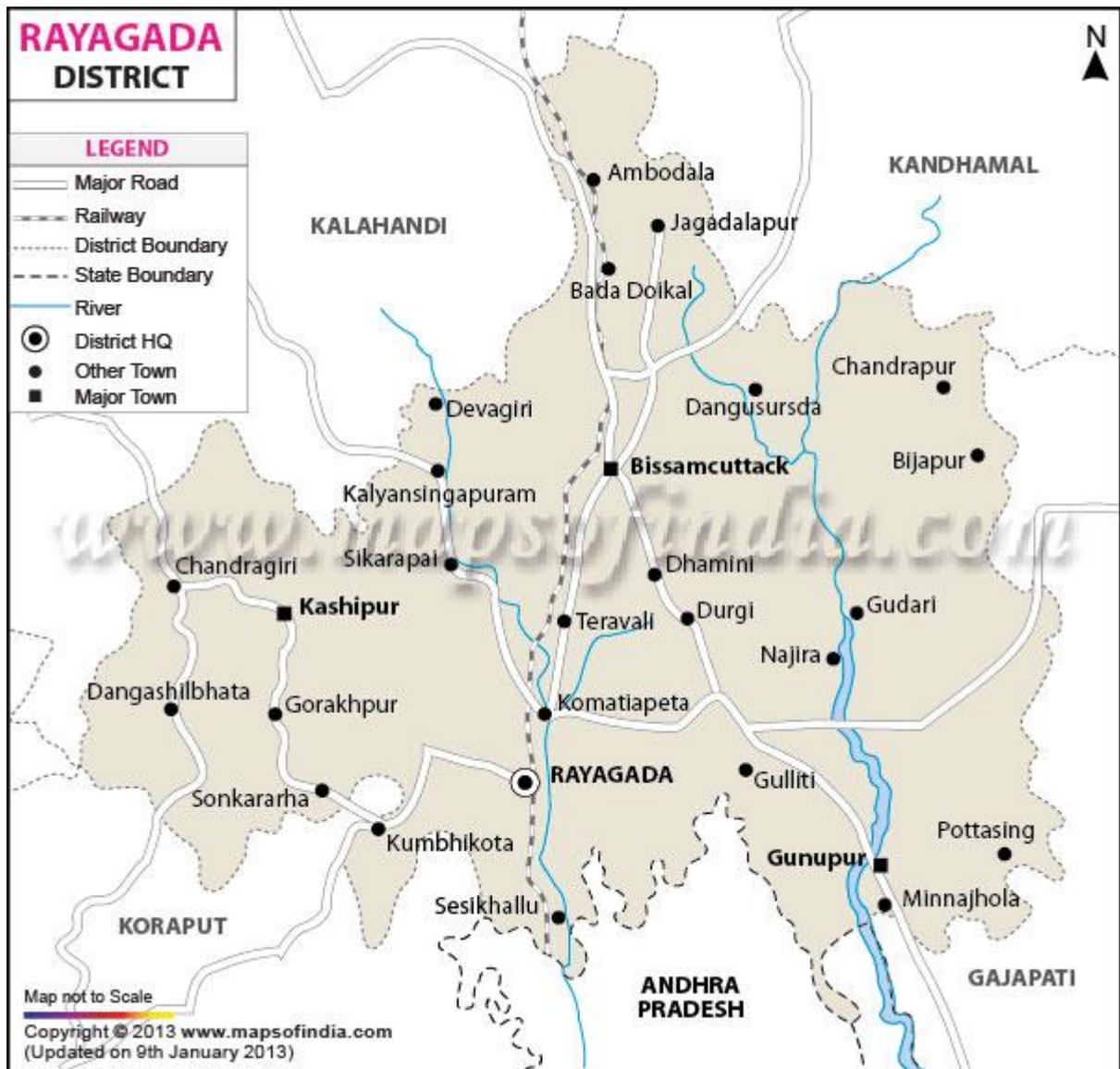
**1.3 Administrative Units:-**

Rayagada is the Administrative Headquarter of Rayagada District. It is located at a distance of 376 km from Bhubaneswar, State Capital of Odisha. It has 2657 villages covering 11 Blocks, 11 Tahasils and 2 sub-divisions. The district is sub divided into 2 divisions 1. Rayagada 2. Gunupur. & Tahasils namely 1) Rayagada 2) Gunupur 3) Bissamacuttack 4) Kasipur 5) Kolnara 6) Ramanaguda 7) Kalyansinghpur 8) Padmapur 9) Gudari 10) Muniguda 11) Chandrapur. The population of the District is 967,911 according to the 2011 Census. The District accounts for 4.78% of the State's territory and about 2.31% of State's population. The density of population of the District is 137 per square km as against 610 per square km of the State. As per 2011 census, the population of Scheduled Caste is 139514 (14.41%), and Scheduled Tribe is 549905 (56.81%). The literacy percentage of the District covers 43.50 against 84.67 of the State.



**1.4 Connectivity facilities:-**

The District is well served by a network of good roads and has been called the motorists paradise. The chief roads emanating from Rayagada town are NH-326 pass through the District. Rayagada Town is about 200 Kms from Berhampur, 110 Kms from Koraput, 363 Kms from Raipur, 376 Kms from Bhubaneswar. It is also connected with other cities such as Nabarangpur, Vizianagaram, Visakhapatanam, Balangir, Paralakhemundi.



**2.0 GENERAL PROFILE OF THE DISTRICT:**

**2.1 Demography:**

<b>SINo</b>	<b>Unit</b>	<b>Rayagada</b>
1	Geographical Area in (Sq.Kms)	7073
2	Total forest area in (Sq.Kms)	2812.33
3	Normal rainfall(M.M)	1285.9
4	Actual Avg. rainfall 2012(M.M)	1192
5	Density of Population( person per square Kilometre) - 2011	136
6	No of Sub Divisions	2
7	No of Tahasils	11
8	No of CD Blocks	11
9	No of Municipality	1
10	No of NACs	2
11	No of PS including Mahila PS	15
12	No of GPs	171
13	No of Fire station	1
14	No of Assembly Constituencies	3
15	No of Village ( Total )	2667
16		Inhabited 2467
17		Un habited 200
18	Population (Total) - 2011	961959
19	Male - 2011	469672
20	Female - 2011	492287
21	Urban population -2011	115404
22	Rural population-2011	715702
23	SC population -2011	139514
24	ST population-2011	541905
25	Population in 0-6 age groups-2011	147892
26	Decadal growth (2001-2011)	15.74%
27	Sex Ratio (No of female per 1000 male) - 2011	1048
28		Rural 1064
29		Urban 967
30	(0-6) Yrs Sex Ratio Total-2011	1046
31	Literacy Rate (Total Population)-2011	50.88%
32	Literacy rate (Male) - 2011	62.67%
33	Literacy Rate (Female) )- 2011	39.27%
34	Literacy rate (Rural)	45.45%
35	Literacy rate (Urban)	79.20%

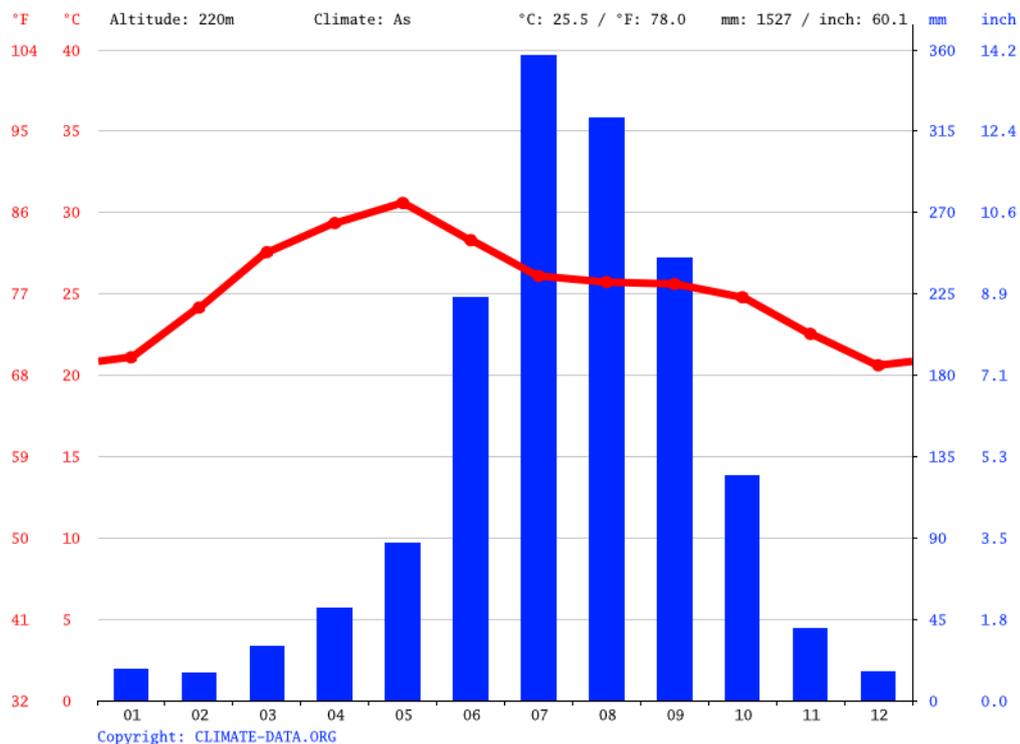
**2.2 Climate:**

The study area is characterized by tropical monsoon climate having three distinct seasons in a year i.e winter, summer and rainy seasons. Winter in this area commences from late November and continues till end of February. Winter is followed by summer season which continues up to mid-June. In the period from April to May, three to four cyclonic rains generally occur, which causes a drop in the temperature and bring some relief during summer. The rainy season sets in the study area at the advent of southwest monsoon, generally commences from middle of June and continues till the end of September. Vast stretch of high hills and Green forests control the climate to a great extent. December is the coldest month with mean daily average temperature of 20°C which reaches a maximum of 42°C in May.

**Temperature Graph- Rayagada**

The month of May/June is usually the hottest month when the maximum temperature in day time is about 44.6 °C. Monsoon season is between June to September. Relative humidity is around 55 to 81 % throughout the year. South-West monsoon is the principal source of rainfall in the study area and wind is active in this period. The wind speed is fairly strong during summer and monsoon months and major direction is between southwest and south. Mean wind speed is 14.3 km/hr at Bhubaneswar. The mean monthly potential evapotranspiration values range from 57 mm in January to 284 mm in May.

Source: Indian Meteorological Department.



### 3.0 LAND UTILIZATION PATTERN IN THE DISTRICT

#### 3.1 Forest and non forest land

The forest of Rayagada District is full of varieties of medicinal plant. Kendu leaves, Bamboo, Sal, Teak, other timber species and a wide range of carnivorous & herbivorous wild animals live in the forest. The District has one Wildlife Sanctuary known as Kalrapat Wildlife Sanctuary. This sanctuary is home to many wildlife species like tiger, leopard, sambar, nilgai, barking deer, mouse deer, a wide variety of birds like green munia, Great Eared-nightjar and various reptiles.

#### District-wise Forest Cover Area in Odisha (Area in Km<sup>2</sup>)

2017 Assessment								
District	Geographical Area Km <sup>2</sup>	Very Dense Forest	Moderate. Dense Forest	Open Forest	Total	Percentof GA	Change	Scrub
Angul	6375	371	1380	1004	2755	43.22	43	84
Bolangir	6575	70	224	837	1131	17.2	151	142
Baleswar	3806	23	127	234	380	9.98	30	48
Bargarh	5837	176	371	484	1031	17.66	88	47
Bouda	3098	263	546	480	1289	41.61	27	57
Bhadrak	2505	0	9	66	75	2.99	2	0
Cuttack	3932	53	226	517	796	20.24	11	68
Deogarh	2940	191	667	614	1472	50.07	-3	14
Dhenkanal	4452	174	418	825	1417	31.83	9	82
Gajapati	4325	84	1490	946	2520	58.27	12	262
Ganjam	8206	164	1075	864	2103	25.63	15	655
Jagatsinghpur	1668	0	5	131	136	8.15	6	0
Jajpur	2899	6	72	225	303	10.45	3	50
Jharsugada	2114	3	140	179	322	15.23	9	36
Kalahandi	7920	362	729	1327	2418	30.53	36	362
Kandhamal	8021	661	2588	2143	5392	67.22	16	380
Kendrapada	2644	84	88	133	305	11.54	14	2
Keonjhar	8303	289	1404	1519	3212	38.68	4	55
Khorda	2813	21	186	250	457	16.25	0	92
Koraput	8807	94	740	1255	2089	23.72	120	944
Malkangiri	5791	158	709	1475	2342	40.44	20	45
Mayurbhanj	10418	1335	1718	1027	4080	39.16	42	34
Nabarangpur	5291	168	428	507	1103	20.85	8	47
Nayagarh	3890	189	965	556	1710	43.96	28	173
Nuapada	3852	86	482	705	1273	33.05	33	109
Puri	3479	0	54	160	214	6.15	8	11
Rayagada	7073	422	853	1851	3126	44.2	7	349
Sambalpur	6624	499	1675	1106	3280	49.52	13	40
Subarnapur	2337	2	187	161	350	14.98	26	29
Sundargarh	9712	1019	1814	1431	4264	43.9	107	89
<b>Grand Total</b>	<b>155707</b>	<b>6967</b>	<b>21730</b>	<b>23008</b>	<b>51345</b>	<b>32.98</b>	<b>885</b>	<b>4306</b>

(Source: India State of forest report 2017-Odisha)

The major portion of the District is covered by forest (9.98 % of TGA) and has scattered settlement pattern. The forest is full of variety of medicinal plants, kendu leaves, bamboo, Sal, teak and other timber species. The District has considerably flat land, which provides suitable site for agricultural use. The hilly areas are mostly under forest with patches of cultivation on scarp areas. Major crops grown in the District are rice and pulses. Only 12.50 percent area of agricultural use are net irrigated and major source of irrigations are wells and tube wells.

Source: Fertilizer and Agriculture Statistics, Eastern Region (2006-2007)

**LAND USE PATTERN OF RAYAGADA DISTRICT**

S. No	Block	No. of G.P	Villages	Geographical Area	Area under Agriculture				Area under Forest	Area under Waste Land	Area under other uses
					Gross Cropped Area	Net Sown Area	Area sown more than once (1-2)	Cropping Intensity			
		No	No	ha			%	ha			
1	Rayagada	28	294	55857.65	22716	17536	5180	130	4160	540	510
2	Kolnara	15	199	39425	17785	15224	2561	117	17140	160	810
3	K.Singpur	13	254	44590	17533	14228	3305	123	8470	2020	1040
4	Kasipur	20	449	51251	45545	37000	8545	123	7700	1110	1850
5	Gunupur	18	129	99586.65	22616	16464	6152	137	0	900	3580
6	Padmapur	13	125	88390	20008	13190	6818	152	24530	210	940
7	Ramanaguda	12	119	66999	23543	16506	7037	143	28340	1050	760
8	Gudari	9	159	79460	15439	12784	2655	121	2670	600	1220
9	Bissam Cuttack	20	308	64807	23000	18085	4915	127	31770	850	2820
10	Muniguda	16	416	67608	18806	15428	3378	122	16280	1170	3340
11	Chandrapur	7	219	46100	8521	6462	2059	132	34730	13760	4110
<b>Total</b>		<b>171</b>	<b>2671</b>	<b>704074.3</b>	<b>235512</b>	<b>182907</b>	<b>52605</b>	<b>1427</b>	<b>175790</b>	<b>22370</b>	<b>20980</b>

**3.2 Agriculture Land:**

The primary objective of Agriculture Department is to increase the production as well as productivity of major crops like Paddy, Cereals, Pulses, Oilseeds, vegetables, Fibres, Spices, Sugarcane & Fodder which is widely cultivated in this District in both Kharif & Rabi season. Another key objective is to bring all round development among farming community of the District. The Chief District Agriculture officer is the head of office so far as agriculture is concerned. As it has already been pointed out that agriculture is the main livelihood of the people in Kendrapara District, it is therefore designated as the food bowl of Odisha. Rice is the principal crop grown in this District, followed by other cereals, pulses, oilseeds, vegetables, spices and sugarcane. The agricultural statistics for the District is shown in tables below:

**Table – 3.6a: Crop Coverage Area of Rayagada District, Odisha (2023-24)**

	District Agriculture area	Land Use (fig: '000 Ha.)
1	Geographical area	758.746
2	Cultivable area	193.504
3	Cultivated Area	
	High	118.062
	Medium	43.561
	Low	20.981
	Total	182.604
4	Paddy Area (Kharif): -	
	High	5.354
	Medium	20.646
	Low	20.981
	Total	47.000
5	Cropping Intensity	125%
6	Irrigation Potential	
	Kharif	77.344
	Rabi	29.457
7	Major Crops	
	Kharif	Paddy, Ragi, Maize, Arhar, Vegetables
	Rabi	Blackgram, Sunflower, Vegetables

**Farmer Category in the district**

Marginal Farmers (<1.0 Ha) : 133653 Nos.

Small Farmers (1-2 Ha) : 71401 Nos.

Semi medium Farmers (2-4 Ha): 26809 Nos.

Medium Farmers (4-10 Ha): 5631 Nos.

Large farmers (>10Ha): 459 Nos.

Landless Agril. Labourer : 381530 Nos.

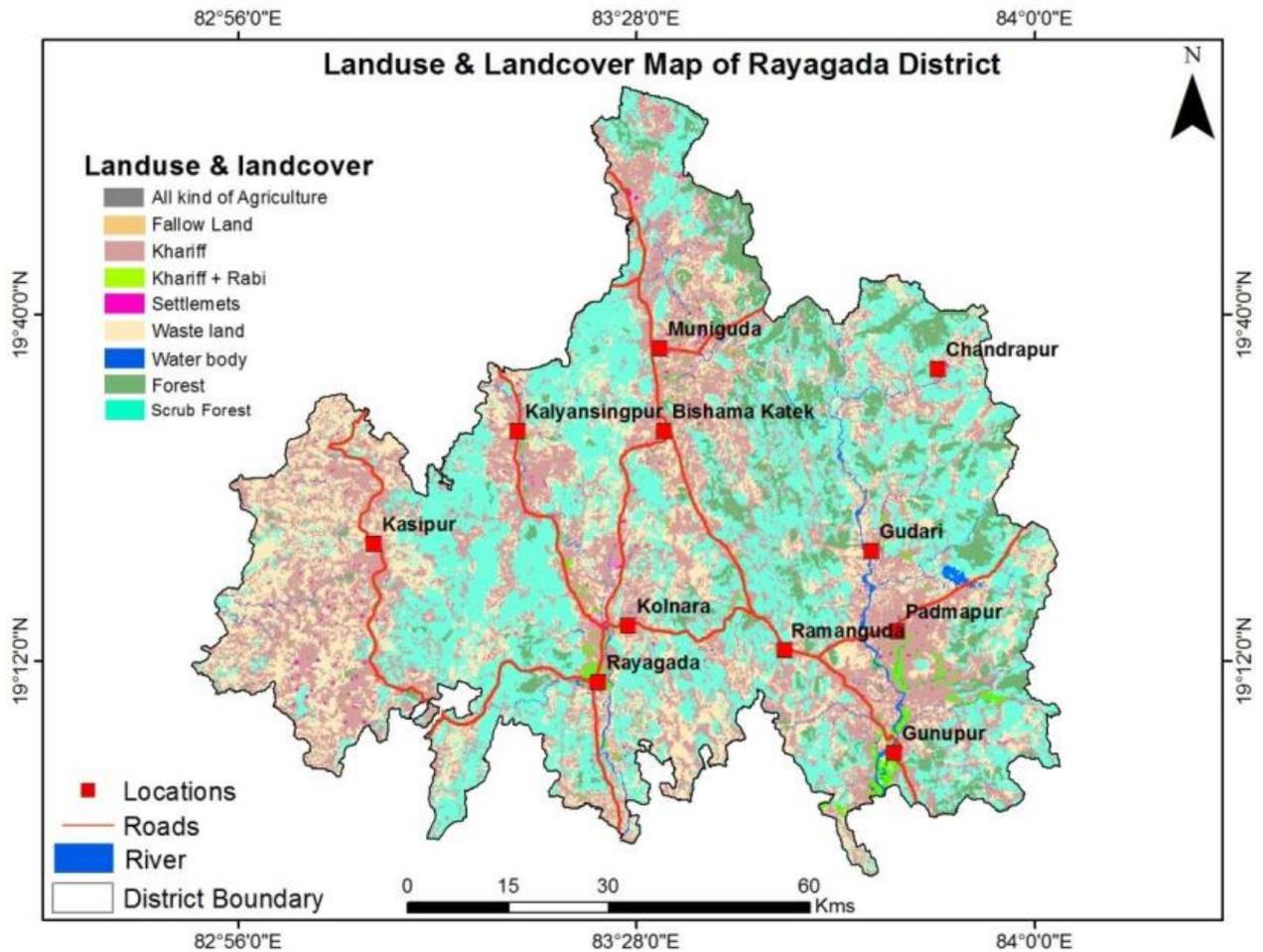
**3.3 Horticulture Land:**

The primary objective of Horticulture Department is to increase of production as well as productivity of major fruits like Mango, Guava, Citrus etc., which is widely covered in the District. Another key objective is the all-round development of the farming community of the District. The horticulture statistics for the District is shown in subsequent tables below:

**INFORMATION ON HORTICULTURE PLANTATIONS FOR RAYAGADA DISTRICT.**

Sl.No	Year	Fruit Plants				Perennial crop cultivation	Vegetables	Flowers
		Mango	Cashew	K.Lime	Jackfruit	Banana / Papaya		
1	2019	9240	10054	1100	730	1120	15255.46	102
2	2020	12980	11154.08	1500	950	1790	16173.56	133
3	2021	13241.56	12160.26	1500.03	950.58	2029.17	17969.43	132.35
4	2022	13950.75	12990.24	1505.04	962.64	2047.05	19632.75	132.42
5	2023	14347.21	13062.14	1521.15	970.8	2075.5	22550.67	206.17
	<b>Total</b>	<b>63759.52</b>	<b>59420.72</b>	<b>7126.22</b>	<b>4564.02</b>	<b>9061.72</b>	<b>91581.87</b>	<b>705.94</b>

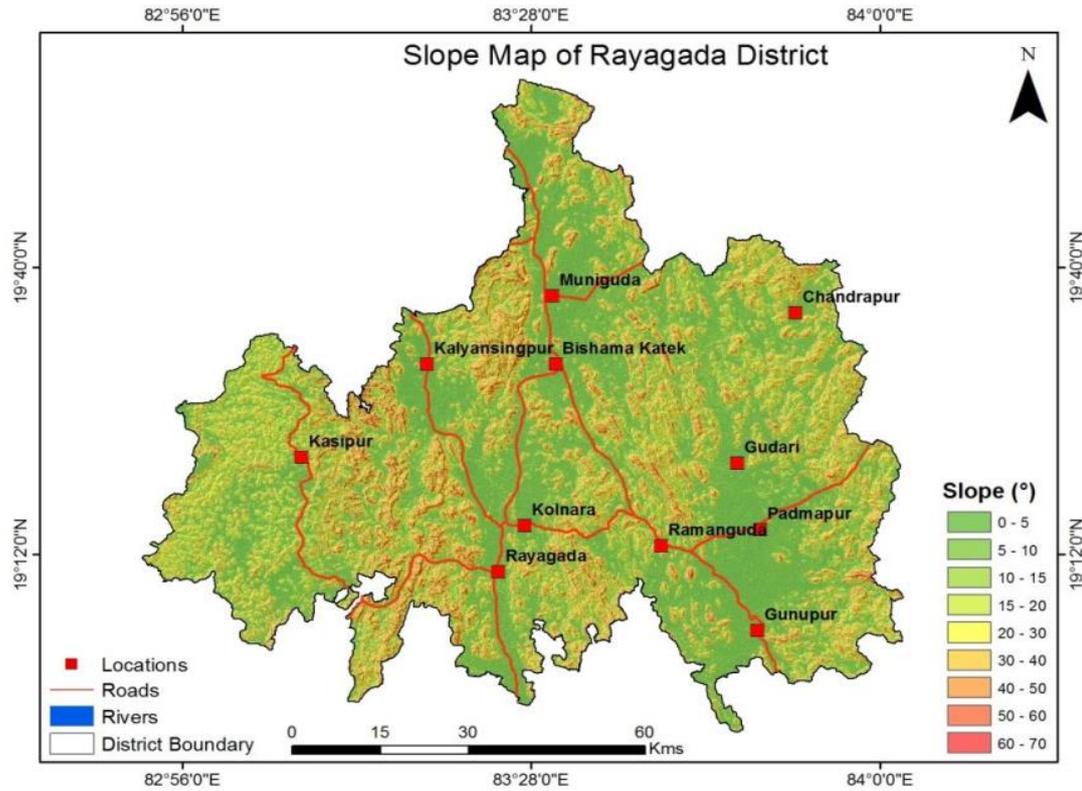
Source: Deputy Director of Horticulture, Rayagada.



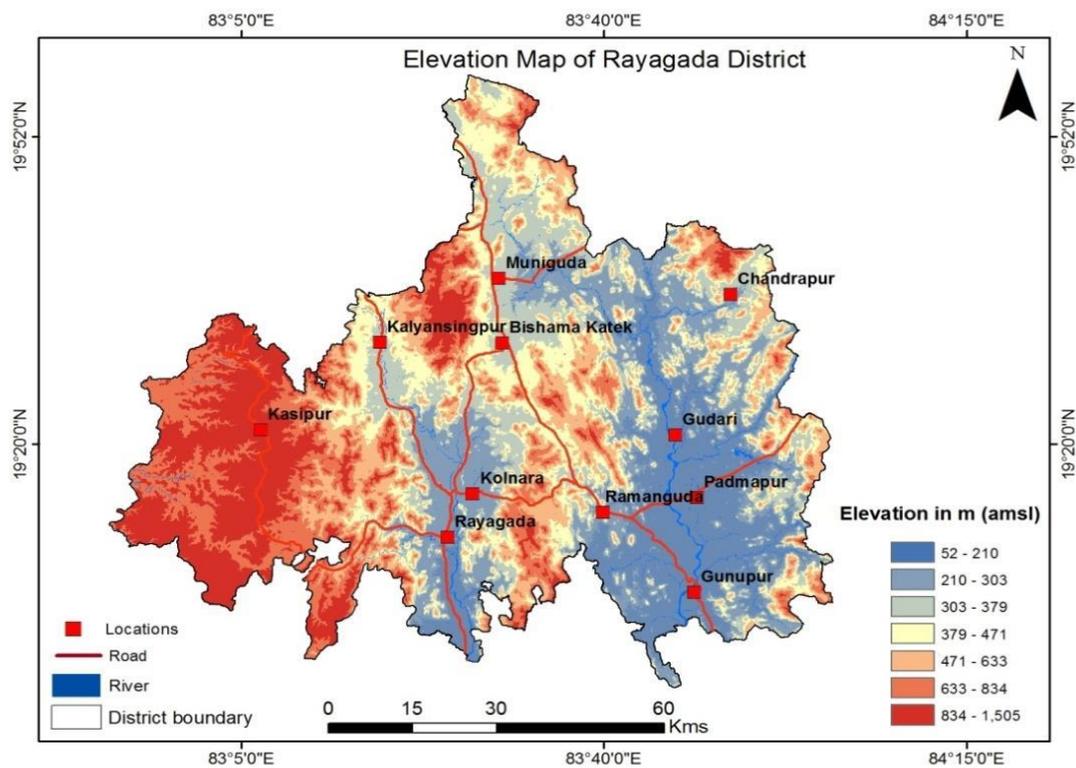
#### 4.0 PHYSIOGRAPHY OF THE DISTRICT:

Rayagada District in Odisha is distinguished by its diverse physiography, shaped significantly by the Eastern Ghats, which dominate the landscape with their rugged, hilly terrain and elevations reaching up to 1,200 meters above sea level. This mountain range features steep slopes and prominent peaks, interspersed with deep river valleys carved by major rivers such as the Nagavali, Vansadhara, and Indravati, which influence the district's drainage patterns. Between these hills and river valleys lie plateau regions and interflues with relatively flat terrain, utilized for agriculture and settlement. The district's dense forests, including both deciduous and evergreen types, cover the hilly areas and contribute to its rich biodiversity. Soil types vary from lateritic soils in the lower elevations, formed by intense weathering, to fertile alluvial soils found in river valleys. The tropical climate, influenced by seasonal monsoon rains, affects temperature and soil moisture across the varied topography, further contributing to the district's ecological and agricultural diversity.

**Slope of the area:** The average slope of Rayagada district is less than 100. Slope is as high as 700 in some parts of the district in scatter manner.



**Elevation:** The Digital elevation map is prepared and presented.



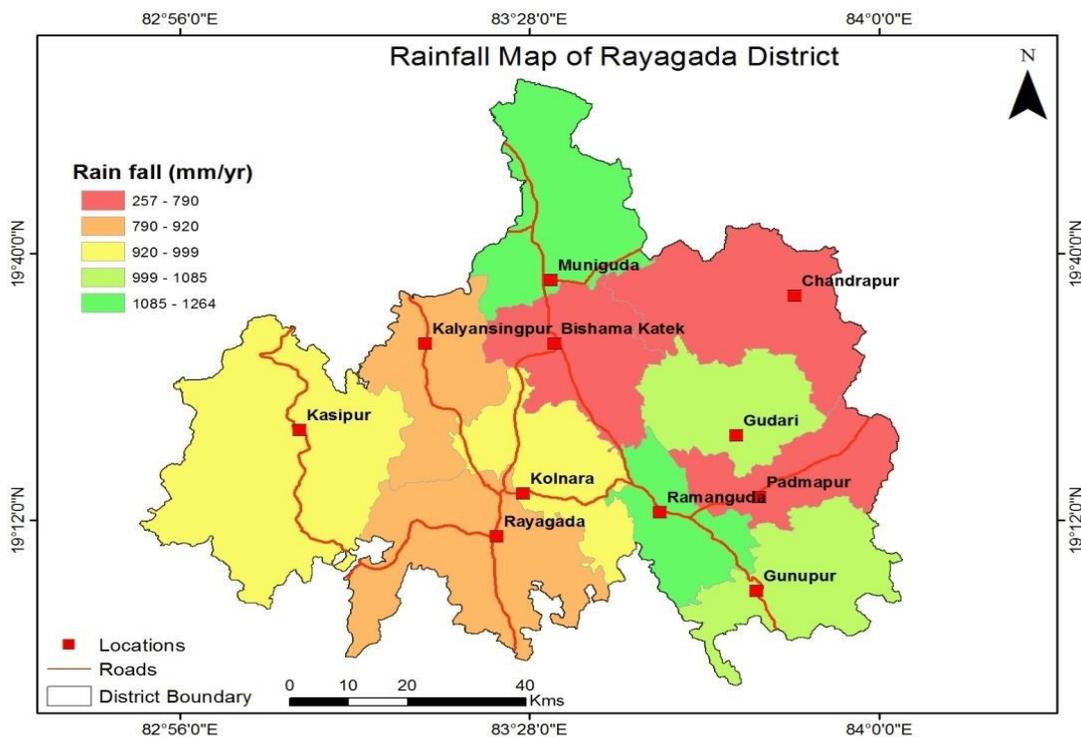
**5.0 RAINFALL OF THE DISTRICT AND CLIMATE CONDITION**

Rayagada, Odisha has a tropical climate with a lot of rainfall in the summer and very little in the winter. Here is some more information about the climate and rainfall in Rayagada. Rayagada receives an average of 1,312 mm of rainfall per year. The average annual temperature in Rayagada is 26.5 °C. July is the wettest month in Odisha, when the southwest monsoon brings heavy rainfall. January and February are dry months in Odisha. The summer season in Odisha begins in March and lasts until June. During this time, the sun is very harsh and temperatures can reach up to 40 °C.

**5.1 Month wise rainfall:**

<b>Year</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>
<b>Month</b>	<b>(mm)</b>	<b>(mm)</b>	<b>(mm)</b>
Jan	0.00	66.17	0.00
Feb	1.05	0.00	0.00
Mar	0.00	0.00	71.82
Apr	14.95	12.37	100.08
May	50.81	98.85	78.42
Jun	127.85	169.22	49.01
Jul	188.4	328.62	311.7
Aug	217.76	419.11	215.7
Sep	255.89	173.12	291.00
Oct	71.02	114.31	9.8
Nov	48.57	11.42	4.79
Dec	14.95	0.11	22.8
<b>Total</b>	<b>991.25</b>	<b>1393.3</b>	<b>1155.12</b>

The Indian Meteorological Department, Bhubaneswar, vide letter No. BBS/RMC/CS-312, dated 18th January, 2016 has provided the period of Rainy Season viz. Normal dates of Onset and Withdrawal of South West Monsoon over India as State-wise. The duration for the period is 10th June to 15th October.



## **6.0 GEOLOGY AND MINERAL WEALTH OF THE DISTRICT:**

### **6.1 Regional Geology:**

Rayagada District in Odisha presents a rich and varied geological landscape, reflecting a complex history of rock formation and tectonic activity. The district's geological foundation is anchored by Archaean crystalline rocks, including granites and gneisses, which are part of the Eastern Ghat Granulite Terrain. These ancient rocks, some of the oldest in the region, are often accompanied by greenstone belts containing metavolcanic and metasedimentary rocks, revealing the region's early geological processes.

Overlaying these ancient formations are Proterozoic sedimentary rocks, such as those found in the Bhadanpur Group. This group includes quartzites and schists that were deposited during the Proterozoic era, adding another layer of geological history to the district. The Eastern Ghats Supergroup further contributes to the geological complexity of Rayagada with its diverse range of metamorphosed sedimentary rocks, reflecting significant tectonic and metamorphic activity.

In addition to these ancient and metamorphic formations, the district also features laterite deposits, particularly in the lower elevations. These laterites are rich in iron and aluminum and have formed through extensive weathering of the underlying rocks, contributing to the soil composition and landscape of the region.

Economically, Rayagada District is significant for its mineral resources. The district hosts important bauxite deposits, which are essential for aluminum production, and limestone deposits, crucial for the cement industry. These resources play a key role in the local economy.

The geological setting of Rayagada is profoundly influenced by its location along the Eastern Ghats, a major tectonic feature that has shaped the region's geological and geomorphological characteristics. The district's hilly terrain, shaped by the Eastern Ghats, affects local drainage patterns and sediment distribution. Major rivers, such as the Nagavali and the Vansadhara, have carved valleys through the district, further influencing the region's geomorphology and contributing to its diverse landforms and sedimentary features.

Overall, the geology of Rayagada District is a testament to a dynamic history of rock formation, tectonic activity, and sedimentary processes, resulting in a diverse and resource-rich landscape.

**6.2 Geomorphology:**

Rayagada District, located in the southern part of Odisha, India, exhibits a diverse and complex geomorphology that reflects its varied geological history and topography. Here’s a broad overview of the geomorphological features of the district:

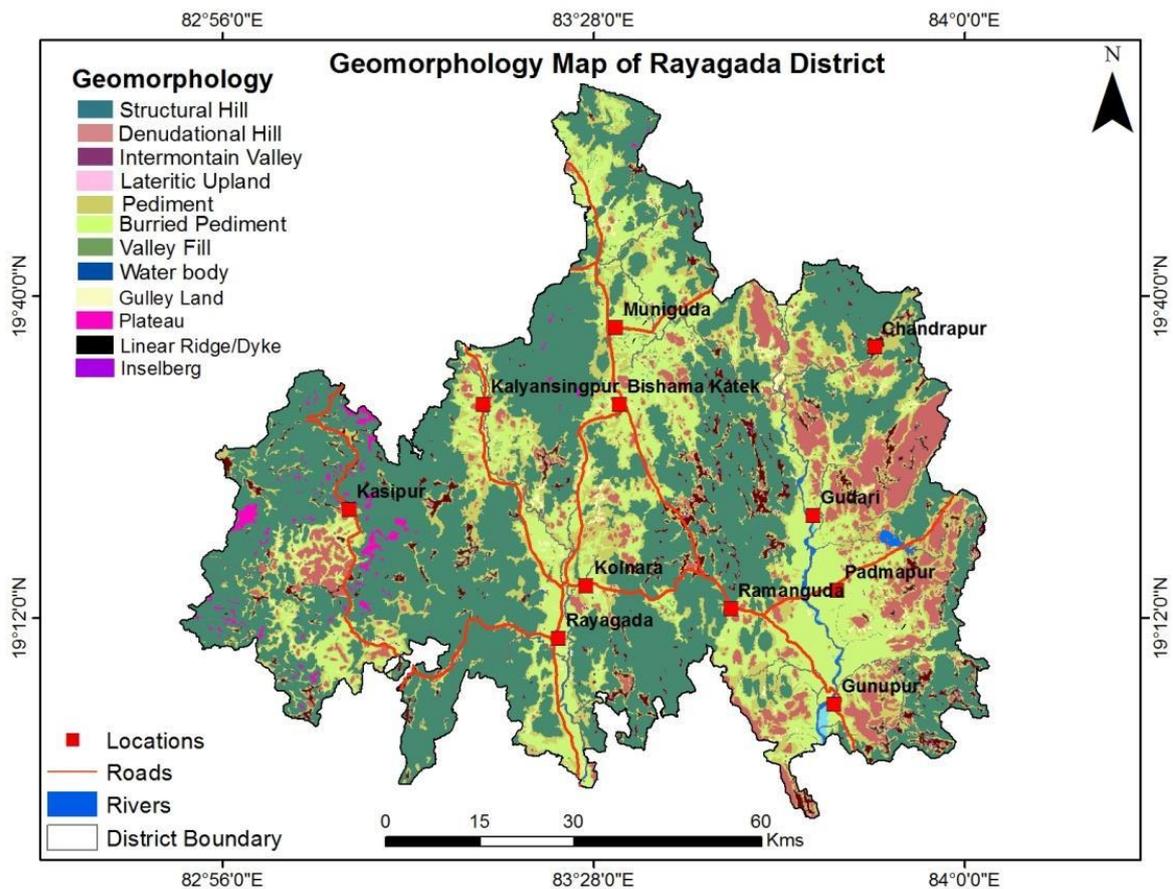
**1. Topography:**

Rayagada District is characterized by rugged terrain with a mix of hills, plateaus, and valleys. The elevation varies significantly, contributing to a varied topographic profile.

**Hills and Ranges:** The district is part of the Eastern Ghats, which run along the western border of the district. These hills are often covered with dense forests and are a significant feature of the region’s geomorphology.

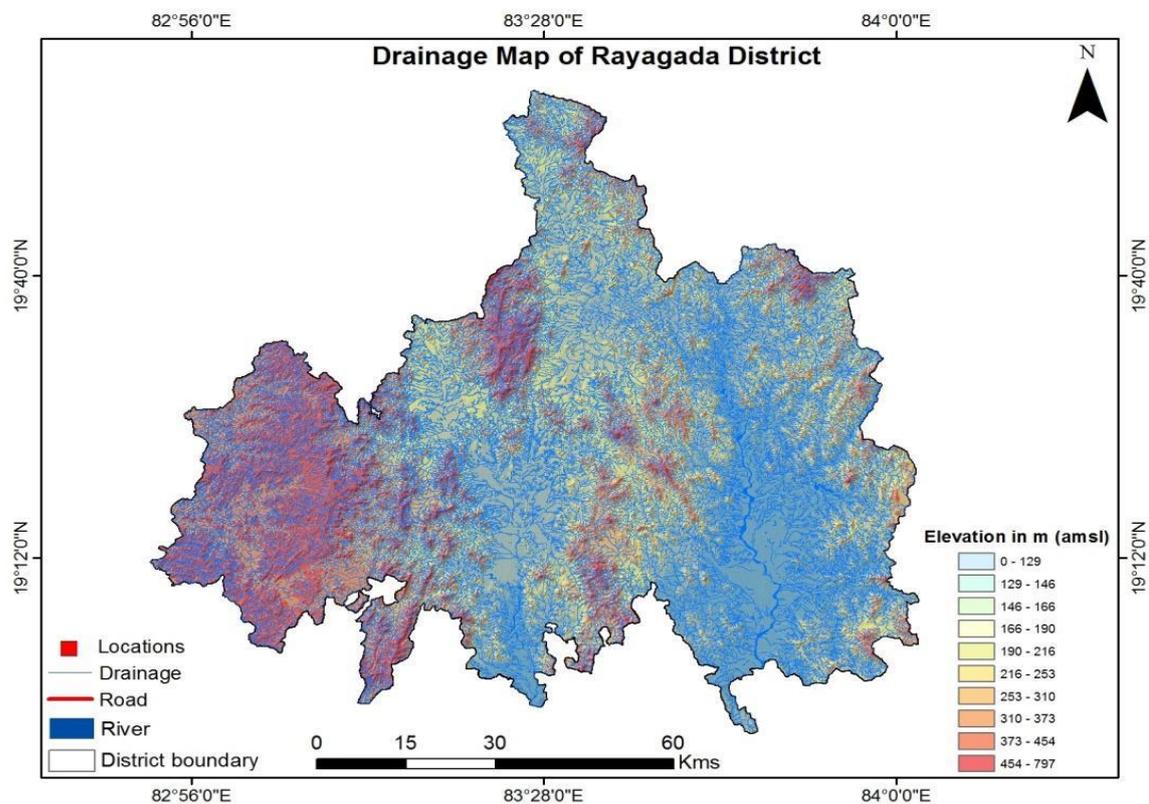
**Plateaus:** The district also contains plateau regions, particularly in the northern parts, which are generally more elevated and less rugged compared to the hill ranges.

**Valleys and Interfluves:** The areas between the hills and plateaus are marked by valleys and interfluves where rivers and streams have cut through the landscape.



### 2. Rivers and Drainage:

The area is mainly drained by the Vamsadhara and Nagavalli River which are effluent in nature. The Vamsadhara River originates in the extreme northern parts of the BissamCuttack flows southwards through Gudari and Gunupur and enter Andhra Pradesh. The length of the river in Rayagada district is approximately 140 kms. The Nagavalli River which originates from the Kalahandi district, flows southwards through Kalyansinghpur of Rayagada district and enters Andhra Pradesh below Rayagada town. In Rayagada, the Nagavalli River descends below Rayagada town. In Rayagada the Nagavalli River descends into a gorge with occasional waterfalls. The length of the Nagavalli River in the district is about 101 km. The general drainage pattern of the district is dendritic to subparallel.



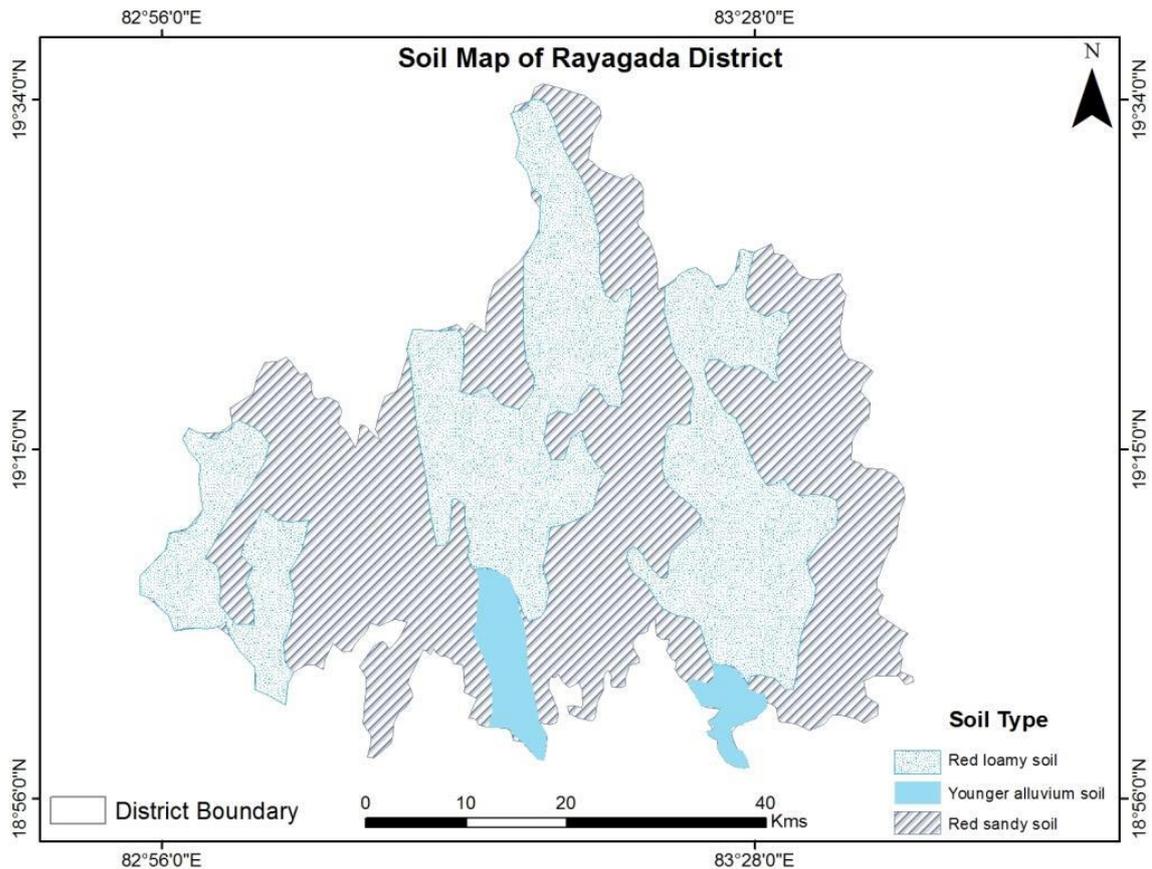
### 3. Soil Types

The soil in Rayagada District varies based on the topography and underlying geology:

**Red Soils:** Predominant in the plateau areas, these soils are typically well-drained and suitable for cultivation of a variety of crops.

**Laterite Soils:** Found in the hilly regions, these soils are rich in iron and aluminum oxides and are often reddish or brownish in color. They are less fertile compared to red soils but support forest vegetation.

**Alluvial Soils:** Along river valleys and floodplains, alluvial soils are found, which are fertile and support intensive agriculture.



#### 4. Geological Formation

The geology of Rayagada is diverse, with significant formations from the Precambrian era:

**Eastern Ghats Rock Formations:** The rocks in the Eastern Ghats are primarily of ancient metamorphic origin, including gneisses, schists, and granites.

**Sedimentary Rocks:** In the river valleys and plains, sedimentary rocks and alluvial deposits are common.

#### 5. Erosion and Soil Conservation

Given the district's hilly and plateau terrain, erosion is a concern, particularly in areas with deforested slopes. Soil conservation efforts are important to prevent loss of fertile topsoil and maintain agricultural productivity.

#### 6. Land Use and Human Impact

The geomorphology influences land use patterns:

**Agriculture:** The fertile valley soils are extensively used for agriculture, with crops such as rice, pulses, and oilseeds being commonly cultivated.

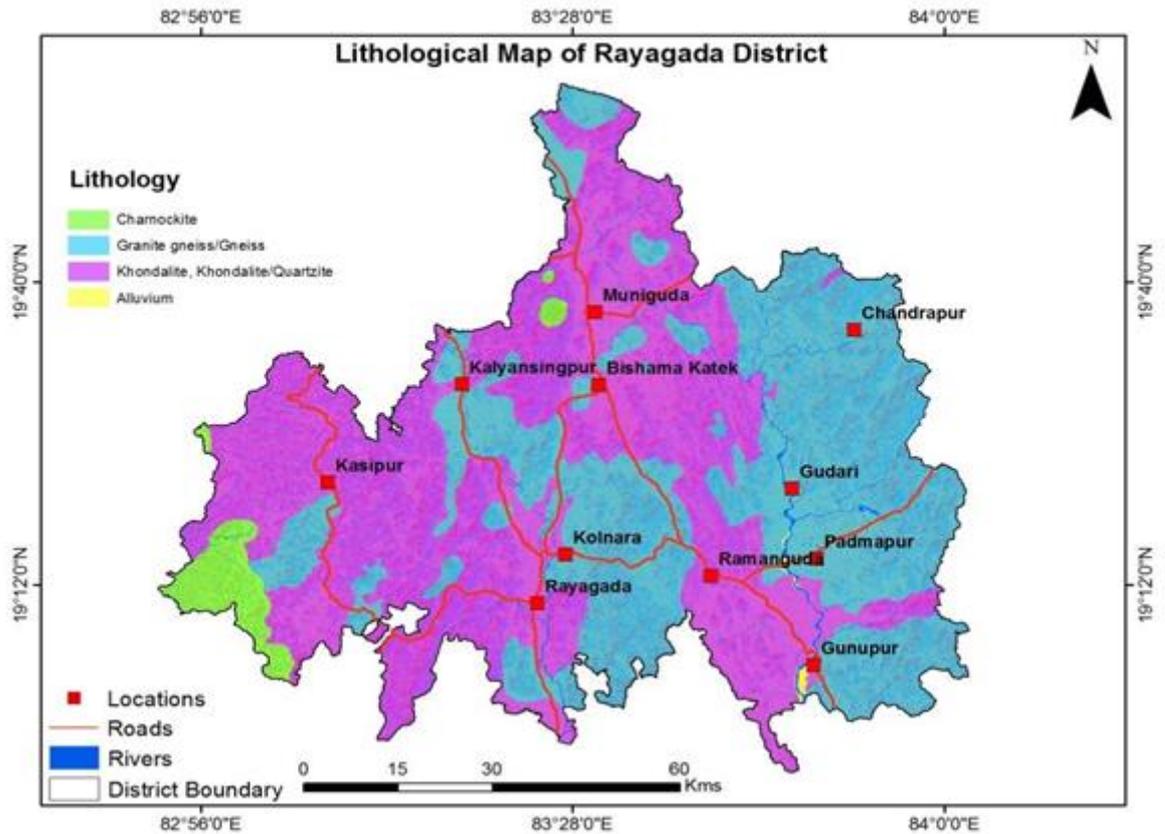
**Forestry and Mining:** The hilly and forested areas support various types of forestry activities, and there is also mining activity, which can impact the geomorphological balance if not managed properly.

Understanding these geomorphological aspects helps in planning sustainable development, managing natural resources, and mitigating natural hazards in Rayagada District.

**6.3 Stratigraphy:**

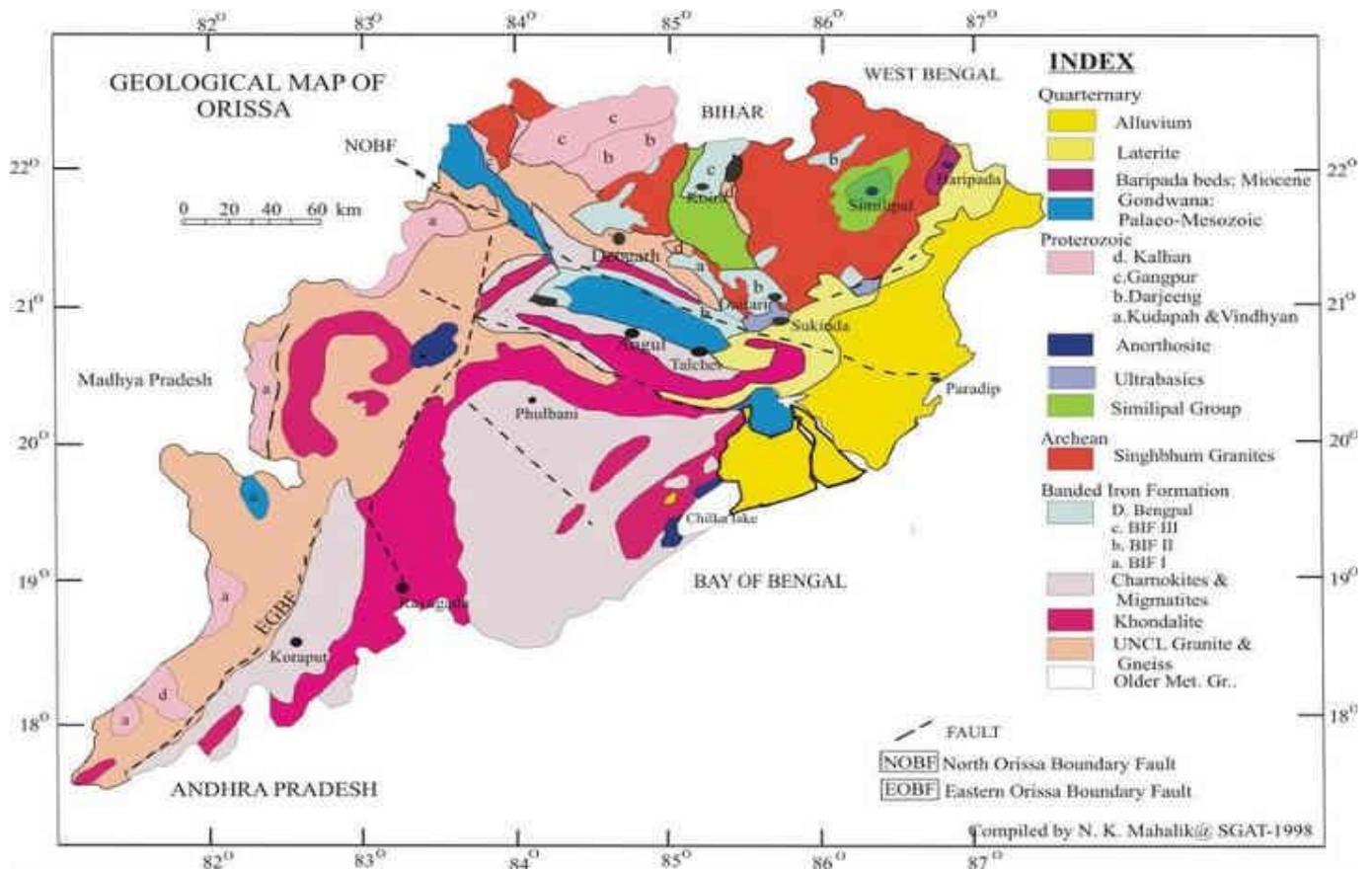
The study area comprises the following distinct geomorphic units:

Age	Super Group	Group	Litho-unit
Cenozoic			Laterite and Lateritic bauxite
Meso to Neo Proterozoic	Chhatisgarh	Sabari	Shale Limestone Sandstone
Palaeo to meso Proterozoic		Tulasi dongar	Gabbro and related basic rocks Sandstone
Proterozoic		Intrusive	Quartz vein Granite Dolerite
Archaean to Proterozoic	Eastern ghat	Migmatite	Granite gneiss, Leptynite (Acid to Intermediate)
		Charnocite	Charnockite, pyroxene granule, Garnetiferous sillimanite
		Khondalite	Schist/gneiss, Porphyry granite, meta basics, Amphibolite
Archaean		Bengpal	Andalusite Schist, Hornblende schist, magnetite quartzite, quartz-magnetite-grunerite schist



6.4 Mineral Resources:

Rayagada district in Odisha is rich in minerals including significant deposits of bauxite, essential for aluminum production; limestone, used in the cement industry; iron ore; chromite, important for stainless steel; and graphite, valuable for lubricants and batteries. These resources play a crucial role in the region's economy and industrial development.



**7. OVERVIEW OF MINING ACTIVITY IN THE DISTRICT:**

Rayagada district has a potential reserve of graphite, manganese, bauxite, chinaclay, limestone, quartz, gemstones etc. The following paragraphs are a brief account of the minerals of the district.

**Bauxite**

The district has many high level bauxite occurrences. Important bauxite deposits of the district are Sijimali, Kutrumali, Baphilimali, Sashubhumali, Lakharasi. Kutrumali and Sijimali deposits extend into both Rayagada and Kalahandi districts.

Gibbsite is the main aluminous mineral. Al<sub>2</sub>O<sub>3</sub> content ranges from 44 to 57.80%, SiO<sub>2</sub> content is between 0.40 to 8.74%, Fe<sub>2</sub>O<sub>3</sub> content ranges between 16.2 to 27%. The resource of bauxite in the district is more than 600 Mt. However, this figure is likely to be much higher in view of numerous occurrences of smaller plateaux whose potentiality has not been quantified through detailed exploration. Almost all the plateaux rising more than 900 m above MSL contain bauxite which have been explored by Directorate of Geology and GSI.

**Manganese**

Manganese Ore deposits in the district are associated with khondalite suite of rocks belonging to Eastern Ghat Supergroup. Nishikhal manganese deposit is the most important, single largest deposit in the area with a reserve of nearly 10.2mt (Mn-28-38%). It is currently being mined by OMC and fed to Vishakapatnam Steel Plant. The other deposits in the area are Podakona-Taldhodshi (7mt), Kuttinga-Debjholla (1mt) etc. Manganese occurrences have been reported around Devajhola, Kutingpadar, Nisikhal, Rukunibadi, Paikaranipinda, Kandharanipinda, Taladoshi, Upardoshi, Podakona, Kinchikhal, Koka, Liliguma, Sirlijodi, Balkapai, Bhitardulki, Sikapai, Pariguda, Katubadi, Sunakhunti, Anjorhi, Bada Siringul, Purunapani, Mandhara etc. Manganese content varies from 7% to 38%.

**Graphite**

Graphite occupies a very prominent position in the district with regard to its extension, reserve and number of deposits. There are quite a number of graphite deposits in the district occurring at the contact of the khondalite and the granite gneiss. The important occurrences which are under active mining are in the famous Tumudibandh belt. Nearly 150 occurrences of graphite have been identified. The most important occurrences of the district are Bandhamandi, Solagudi, Birida, Naringponga, Jagdalpur, Dukkum, Pangadi, Hajaridangu, Sada, Minahala, Pichaliguda, Rauli, Bhitardulki, Jholaguda, Sikabarhi, Kaliapalli, Patrani, Gandrugam, Dallurgam, Malimunda, Disidaku, Deulbadi, Alanda, Budaguda,

Murkakona, Ajaygarh, Pipliguda, Bhitarsaja, Kumbhikota, Boragaon, Dongipadar, Tutter etc. Graphite is mostly of crystalline & flaky variety. It occurs in form of disseminations, veins, pockets, lenses and also as bedded deposits. Mineralisation is controlled by lithology, stratigraphy and structure. Graphite is associated with khondalite, calc- granulite, and granite gneiss and also with

Pegmatites and quartz veins. The fixed carbon value in low grade and high grade graphite occurrences varies between 5 to 25 % and 30 to 80 % respectively.

**Limestone**

Limestone occurrences in the district has been reported from Talasaja, Salimi, Gummigurha, Sikarpai, Ranjabadi, Bhitajhola, Bheja, Santinagar, Nilabadi, Karlakona etc. Limestone occurs as lenticular bands associated with calc-granulite. The average CaO content varies from 28 % to 52 %.

**Chinaclay / Kaolin**

Chinaclay / kaolin occurrences have been reported in the district from Ambadola, Bandhamandi, Pipliguda, Kanipai, Bondichuan, Ladiponga, Loharahira, Bantichura etc. These occurrences are associated with khondalite, granite gneiss as pockets & lenses. The occurrences are highly gritty.

**Quartz**

Quartz veins of different dimensions are reported in the district. Among them, the notable occurrences are found around Bainibasa, Jamraguda, Bhaliapadar, Dangipada, Torumohra, Gudikhal, Sikampadar, Machhkhunti, Srirampur, Purlikona, Chitikapangu, Kusumpadar, Kasli etc.

**Quartzite**

There are several quartzite bands analysing more than 97% SiO<sub>2</sub> content in the Eastern Ghats Super Group of rocks. Notable among them are the occurrences around Kondakora, Karlakona, Sana Kuanga, Loharasahi, Malkajuba, Pordiguda, Bhitajhola, Matiguda, Adabarhi, Guriaguda and Sikarpai etc.

**Calc-Tufa**

Minor occurrences of calc-tuffa have been reported from Kiribiri, Durgi, Podabai, areas of Rayagada district. These occur as pockets in khondalites.

**Red-Ochre**

Red-ochre has been reported to occur at Marichakona with Fe<sub>2</sub>O<sub>3</sub> content of 20.4 to 42.8% and Al<sub>2</sub>O<sub>3</sub> content of 28.58 to 42.4 %. Red-ochre has also been found at Ganiabhadra with Fe<sub>2</sub>O<sub>3</sub> of 36.16-36.69%, SiO<sub>2</sub> of 12.40-12.56% and also at Budharaja Parbat with Fe<sub>2</sub>O<sub>3</sub> of 25.20-42.44%, Al<sub>2</sub>O<sub>3</sub>-28.58-42.44% and SiO<sub>2</sub> of 0.03-0.85%.

**Gemstones**

- (i) **Garnet:** Hessonite garnets are reported around Bandhaguda, Hata dahikhal, Lataguda.
- (ii) **Chrysoberyl:** Gem quality chrysoberyl occurrences are reported in the area around Dhakalguda, Berhu. Often, the chrysoberyl exhibits cat's eye effects.
- (iii) **Sillimanite Cat's eye:** Fibrolite variety of this group with excellent cat's eye effect is reported from the areas around Hamsa, Anabadi, Bada irkubadi.

**Dimension and decorative stones**

The district has good potential as regards to the occurrences of dimension and decorative stones. The massive granite and charnockite serve as excellent construction material extensively used in foundation structures, roads and buildings. Of these, the pink granite of Gurumulu, porphyritic granites of Chatikona, granite gneiss of Bissamcuttack are important.

Other than the above mentioned minerals, minor minerals such as river sand, laterite slabs, building stone/black stone/road metals, morrum, brick earth etc. are also available in the district.

**8.0 LIST OF MINING LEASES WITH LOCTION, AREA, AND PERIOD OF VALIDITY IN THE DISTRICT:**

**8.1 List of Mines in operation in the District:**

Attached as Annexure-A

**8.2 List of Mines not in operation in the District:**

Attached as Annexure-A

**9.0 DETAIL OF ROYALTY OR REVENUE RECEIVED IN LAST THREE YEARS:**

SL. NO.	Name of the Tahasil	Amount of revenue received from minor mineral sources (Amount in Rs.)			
		2020-21	2021-22	2022-23	Total
1	Bissamacuttack	--	--	189794	189794
2	Chandrapur	266300	266300	266300	798900
3	Gudari	591151	2337502	2337502	5266155
4	Gunupur	2768197	561015	800567	4129779
5	Kalyansinghpur	1166030	1166030	1166030	3498090
6	Kashipur	--	--	330807	330807
7	Kolnara	--	--	--	--
8	Muniguda	945267	945267	243716	2134250
9	Padmapur	170921	2422934	9972722	12566577
10	Ramanaguda	265671	1332448	1885792	3483911
11	Rayagada	2337066	2799734	8052246	13189046
<b>Total</b>		<b>8510603</b>	<b>11831230</b>	<b>25245476</b>	<b>45587309</b>

**10.0 DETAILS OF PRODUCTION SAND OR BAJRI OR MINOR MINERAL IN LAST THREE YEARS:****Details of Production in Cum:**

Sl. No.	Name of the Tahasil	2020-21	2021-22	2022-23	Total in Cum.
1	Bissamacuttack	1200	1200	1200	<b>3600</b>
2	Chandrapur	6000	6000	6000	<b>18000</b>
3	Gudari	12072	12072	12072	<b>36216</b>
4	Gunupur	62554	8020	18220	<b>88794</b>
5	Kalyansinghpur	21856	21856	21856	<b>65568</b>
6	Kashipur	4311	4311	4311	<b>12933</b>
7	Kolnara	--	--	--	<b>--</b>
8	Muniguda	57461	57461	57461	<b>172383</b>
9	Padmapur	5000	12600	12600	<b>30200</b>
10	Ramanaguda	19800	19800	19800	<b>59400</b>
11	Rayagada	12937	13700	28446	<b>55083</b>
<b>Grand Total</b>		<b>203191</b>	<b>157020</b>	<b>181966</b>	<b>542177</b>

**11.0 DETAILS OF RIVER OR STREAM AND OTHER SAND SOURCES****11.1 DRAINAGE SYSTEM WITH DESCRIPTION OF MAIN RIVERS:**

Rayagada district in Odisha features a well-defined drainage system, primarily characterized by the Nagavali, Vamsadhara rivers & their tributaries. The Nagavali River, originating from the Eastern Ghats, is a vital water source for irrigation and local communities, flowing southeast before joining the Bay of Bengal. The Vamsadhara River, also originating in the district, is known for its scenic beauty and supports agriculture in the region. The district's hilly terrain influences the rivers' steep gradients, leading to significant seasonal variability in water levels, particularly during the monsoon, which can result in flooding or reduced flow in dry seasons. Collectively, these rivers sustain diverse ecosystems and play a crucial role in the livelihoods of local residents, making their sustainable management essential for both economic and ecological health.

Rayagada District is being drained by two important rivers & their tributaries such as Nagavali River, Vamsadhara River.

Sl. No.	Name of the river	Area Drained (in Sq. Km.)	% area drained in the district
01	Nagavali River	4462	46%
02	Vamsadhara River	8015	56%

**11.2 Salient Features of Important Rivers and Streams:**

Rayagada district in Odisha is characterized by a prominent river system primarily consisting of two major rivers:

- 1. The Nagavali River**
- 2. The Vamsadhara River**

**Nagavali River:** This river flows eastward through the district, serving as a significant watercourse in the region. It originates in the Eastern Ghats and traverses several districts before emptying into the Bay of Bengal.

**Vansadhara River:** It originates from the flanks of the Durgakangar hills (Lingaraj hills) of the Eastern Ghats in Kalahandi district. The Vansadhara River flows through Rayagada and then continues towards the east, ultimately reaching the Bay of Bengal. It is an important river for the local agriculture and economy.

These rivers, along with their tributaries and streams, form a vital part of the district's hydrological network, influencing agriculture, local economies, and the overall landscape.

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Sl. No.	Name of the River or Stream	Total Length in the district (in Km.)	Place of Origin	Altitude at Origin
1	Nagavali River	100	Bijipur hills of the Eastern Ghats near village Lakhabahal in Kalahandi district	915m
2	Vansadhara River	140	flanks of the Durgakangar hills (Lingaraj hills) of the Eastern Ghats in Kalahandi district	600m

**12.0 Availability of sand or gravel or aggregate resources**

**12.1 Mineral Potential**

<b>Mineral Potential</b>				
Name of the River or Stream	Boulder (MT)	Bajri (MT)	Sand (MT)	Total Mineable Mineral Potential (MT)
Nagavali River	Nil	Nil	NA	NA
Vansadhara River	Nil	Nil	NA	NA

**12.2 Annual Deposition**

<b>Annual Deposition</b>				
Name of the River or Stream	Boulder (MT)	Bajri (MT)	Sand (MT)	Total Mineable Mineral Potential (MT)
Nagavali River	Nil	Nil	NA	NA
Vansadhara River	Nil	Nil	NA	NA

**13.0 PROCESS OF DEPOSITION OF SAND OR BAJRI OR MINOR MINERAL IN LAST THREE YEARS:**

Sl. No.	Name of the River	Financial Year	Process of Deposition of Sediments
1	Nagavali River	2020-21	moderate
		2021-22	---do---
		2022-23	---do---
2	Vansadhara River	2020-21	moderate
		2021-22	---do---
		2022-23	---do---

#### **14.0 CONCLUSION:**

To meet the requirement of minerals in the present scenario, it is proposed to identify such potential areas at certain interval and get the data bank of DSR to be updated. The insitu mining activity in any area is on one hand bring revenue and employment (Direct and indirect) and on other hand if not done properly potential pollution and ecological imbalance increases, the ability of the ecosystem can also be reduced. Particulate matter transported by the wind as a result of excavations, blasting, transportation of materials, heavy equipments used raise these particulate levels; and Gas emissions from the combustion of fuels in stationary and mobile sources, explosions, and mineral processing. All these activities indirectly affected the biodiversity of area. Larger potential and smaller areas have been identified in Rayagada district on the basis of geological study carried out during field observation, which can be considered for mining concession after all the parameters for statutory clearances are verified by consulting with concerned authorities.

The District Survey Report for River Sand Mining (Minor Mineral) in respect of Rayagada District in accordance with Appendix-X, Para-7 (iii) (a) of S.O. 3611(E) dt. 25.07.2018 of Ministry of Environment, Forest and Climate Change, New Delhi, Enforcement & Monitoring Guideline for Sand Mining-2020 and in compliance with the orders of Hon'ble Supreme Court dt. 10.11.2021 in connection with C.A Nos. 3661-3662 of 2020. Before preparation of this report, a survey has been conducted by District Environment Impact Assessment Authority (DEIAA) with the assistance of Irrigation Department, Forest Department, Public Works Department, Mining Department, Ground Water Boards, Remote Sensing Department, Mining Departments. The DSR is being submitted to SEIAA, Odisha, Bhubaneswar for necessary evaluation and approval.

**Details of Sand/M-Sand Sources****a) Rivers:**

River Name/M-Sand Plant	Total Stretch of River (in KM)	Type of River (Perennial or Non-Perennial )
Bansadhara	254 KM	Perennial
Nagavali	256 KM	Perennial

**b) De-Siltation Location: (Lakes/Ponds/Dams etc.)**

Name of Reservoir/Dams	Maintain/Controlled by State Govt./PSU etc.	Location	District	Tehsil	Village	Size(Ha)
Not applicable for Rayagada District						

**c) Patta Lands/Khatedari Land:**

Owner	Sy. No	Area (Ha)	District	Tehsil	Village	Agricultural Land (Yes/No)
Not applicable for Rayagada District						

**d) M-Sand Plants:**

Plant Name	Owner	District	Tehsil	Village	Geolocation	Quantity Tonnes/Annum
Not applicable for Rayagada District						

## MINERAL CONCESSION DETAILS IN RESPECT OF SAND EXISTING OPERATIONAL SOURCES UNDER RAYAGADA DISTRICT, ODISHA.

SL NO.	Tahasil	Name of the mineral	Name of the Lessee & Address	Mining Lease grant order no.	Area of mining Lease in Ha.	Period of mining lease (Initial)		Period of Mining lease (1st/2nd renewal)	Date of commencement of Mining Operation	Status (Operational / Non-Operational for dispatch etc.)	Captive/ Non Captive	Obtained Environmental Clearance (Yes/No), If Yes Letter No with date of grant of EC.	Location of the Mining lease (Latitude & Longitude)	Method of Mining (Opencast/ Underground)	LOI Issued	Existing / Proposed
						From	To									
<b>Gunupur Sub-Division</b>																
1	Chandrapur	Dangasorada Sand Bed	Sri Ram Chandra Bredeka S/o- late Mathura Bredeka, At/Po- Dangasorada PS- Muniguda, Pin-765020 Dist: Rayagada	492/2020 30.03.2020	5.00 Ha. Khata No.51 Plot No.:22	17.02.2021	16.02.2021	NA	17.02.2021	Operatioanal	Non- Captive	Letter No. 10022/SEIAA Dated-14.12.2020	Lat- 19°36'4.58"N Long- 83°39'6.6"E	Opencast	LOI Issued	Existing
2	Gudari	Gudari SB-I	Sri Lalit Kumar Mohanty S/o- Dhaneswar Mohanty, At- Rice Mill Compound, Cuttack, Po – Kalyani NagarDist: Cuttack, Pin-753013, Odisha	2569/2022 13.10.2022	4.856 Ha. Plot No.:87 & 60/101 Khata No. 75 & 29	06.05.2023	05.05.2028	NA	06.05.2023	Operatioanal	Non- Captive	EC identification no. EC23B000OR140460 Dated -07.02.2023	Lat- 19°20'44.32"N Long- 83°46'47.06"E	Opencast	LOI Issued	Existing
3	Gudari	Gudari SB-II	Sri Manoj Kumar Panigrahi S/o- Binod Bihari Panigrahi, At- Bank Street, Po- Gudari, Dist: Rayagada, Pin-765026, Odisha	1290 16.07.2020	4.710 Ha. Plot No.:237 Khata No.:75	27.01.2021	26.01.2026	NA	27.01.2021	Operatioanal	Non- Captive	Letter No. 58/SEIAA Dated-18.01.2021	Lat- 19°21'28.19"N Long- 83°47'20.21"E	Opencast	LOI Issued	Existing
4	Gudari	Khairaguda SB	Sri Dillip Kumar Sahu S/o- Late Raghunath Sahu,At- Co-operative colony, Kamapalli, Lane- 1 Extension Po/Ps- Berhampur, Dist: Ganjam, Pin- 760002, Odisha	1669/2020 22.09.2020	4.856 Ha. Plot No.:187 Khata No.:42	04.04.2022	03.04.2027	NA	04.04.2022	Operatioanal	Non- Captive	Letter No. 10339/SEIAA Dated-17.12.2020	Lat- 19°21'11.87"N Long- 83°53'0.77"E	Opencast	LOI Issued	Existing
5	Gunupur	Gunupur SB-I	Sri Jani Venkata Rao Bauri S/o- Jani Minna Rao, At/Po – Ukkamba, PS - Gunupur, Dist: Rayagada, Pin- 765024, Odisha	3814/2019 19.10.2019	6.070 Ha. Plot No.:522 Khata No.:330	27.07.2022	26.07.2027	NA	27.07.2022	Operatioanal	Non- Captive	File No. 58503/610-MINB1/04-2022 Dated- 22.07.2022	Lat- 19°05'0.32"N Long- 83°48'15.63"E	Opencast	LOI Issued	Existing
6	Gunupur	Gunupur SB-II	Sri Sibashis Sahu S/o-Purna Chandra Sahu, At-Big Street, Po - Padmapur,Dist: Rayagada, Pin-765025, Odisha	1848 19.06.2020	5.261 Ha. Plot No- 710/1624, 692, 702/1623 & 79 Khata No- 330 & 12	18.04.2022	17.04.2027	NA	18.04.2022	Operatioanal	Non- Captive	File No. 58313/177-MINB1/12-2021 Dated- 22.07.2022	Lat- 19°06'8.58"N Long- 83°48'43.57"E	Opencast	LOI Issued	Existing
7	Gunupur	Penguda SB	Sri Jani Venkata Rao Bauri S/o- Jani Minna Rao,At/Po – Ukkamba, PS - Gunupur, Dist: Rayagada, Pin-765024, Odisha	1622/2018 06.04.2018	5.00 ha. Plot No.:249 Khata No.:61	04.02.2021	03.02.2026	NA	04.02.2021	Operatioanal	Non- Captive	File No. 301480/2023/SIA/OR/MIN Dated- 09.08.2023	Lat- 19°03'14.29"N Long- 83°47'4.83"E	Opencast	LOI Issued	Existing

8	Gunupur	Turkaniguda SB	Sri Sibashis Sahu S/o-Purna Chandra Sahu, At-Big Street, Po - Padmapur,Dist: Rayagada, Pin-765025, Odisha	3375/2020 25.09.2020	5.058 Ha. Khat No. 68 Plot no. 131/339,	12.04.2024	13.04.2029	NA	12.04.2024	Operatioanal	Non- Captive	EC identification no. EC23B001OR129 325 Dated -14.12.2023	Lat- 19°03'34.94"N Long- 83°47'16.42"E	Opencast	LOI Issued	Existing
9	Muniguda	Dhobagudi SB	Sri Akhaya Kumar Rana S/o- Late Purna Chandra Rana, At/Po-Karan Sahi,Bissamcuttack Dist- Rayagada, Pin -765019	1444/2017 01.05.2017	2.942 Ha. Plot No.-53, Khata No.:22	16.06.2020	15.06.2025	NA	16.06.2020	Operatioanal	Non- Captive	File No. SEIAA- 34/01-2020 Dated- 30.05.2020	Lat- 19°37'24.34"N Long- 83°33'5.2"E	Opencast	LOI Issued	Existing
10	Padmapur	Bichikote SB	Smt. Namita Kumari Biswal W/o- Santosh Kumar Biswal, At/Po – Kalasandhapur, Via- Aska, Dist: Ganjam, Pin-761111, Odisha	2413/2020 07.12.2020	4.856 Ha. Plot No.:01 Khata No. 53/AAA	01.09.2021	31.08.2026	NA	01.09.2021	Operatioanal	Non- Captive	Letter No. 2010/ SEIAA Dated- 05.08.2021	Lat- 19°14'45.74"N Long- 83°46'12.28"E	Opencast	LOI Issued	Existing
11	Ramnaguda	Bhamini SB	Smt. Malati Jena Plot No-3452, Door No- 5, At- New Dhirukuti Basti, VSS nagar, Ps- Mancheswar, Bhubaneswar Dist: Khordha, Pin-751017, Odisha	957/2022 05.04.2022	1.214 Ha. Plot No.:5 Khata No.28	01.10.2022	30.09.2027	NA	01.10.2022	Operatioanal	Non- Captive	EC ID No. EC22B001OR110 314 Dated- 17.08.2022	Lat- 19°11'7.67"N Long- 83°47'48.58"E	Opencast	LOI Issued	Existing

### Rayagada Sub-Division

12	K.Singipur	Belkona SB	Sri Gopalchetty Dilli Rao S/o-Gopalchetty Ravanaya, At- Kasturi nagar, 1st lane PO- Rayagada Dist:Rayagada,Pin- 765001, Odisha	529/2020 07.02.2020	2.023 Ha. Plot No.:329 Khata No.:30	27.01.2021	26.01.2026	NA	27.01.2021	Operatioanal	Non- Captive	File No. SEIAA- 336/07-2020 Dated- 01.12.2020	Lat- 19°23'52.89"N Long- 83°21'50.67"E	Opencast	LOI Issued	Existing
13	K.Singipur	Krushnapatraguda SB	Miss Kiran Kumari Ganta D/o-Chitaranjan Ganta, At/PO- Sikarpai, PO- K.Singhpur Dist:Rayagada,Pin- 765016, Odisha	626/2020 17.02.2020	0.404 Ha. Khat No. 19 Plot No. 251	27.01.2021	26.01.2026	NA	27.01.2021	Operatioanal	Non- Captive	File No. SEIAA- 333/07-2020 Dated- 25.11.2020	Lat- 19°26'59.57"N Long- 83°18'45.01"E	Opencast	LOI Issued	Existing
14	K.Singipur	Lekaguda SB	Smt. Doli Beruko W/o-Chakradhar Beruko, C/o-SantoshKumar Lambata, At- Tripathy Street, PO- K.Singhpur Dist:Rayagada,Pin-	625/2020 17.02.2020	4.095 Ha. Plot No.-205, 205/207 Khata No.:13	27.01.2021	26.01.2026	NA	27.01.2021	Operatioanal	Non- Captive	File No. SEIAA- 332/07-2020 Dated- 01.12.2020	Lat- 19°29'30.31"N Long- 83°18'29.69"E	Opencast	LOI Issued	Existing
15	Kashipur	Boriguma Stream SB	Sri Jogliban Naik S/o: Suresh Chandra Naik At-Harijan sahi Po/Ps- Kasipur, Dist: Rayagada Pin-765015, Odisha	NA	3.237 Ha. Plot No.:987 Khata No.62	29.07.2021	28.07.2026	NA	29.07.2021	Operatioanal	Non- Captive	Letter No. 2113/SEIAA Dated-09.08.2021	Lat- 19°07'51.06"N Long- 83°09'47.19"E	Opencast	LOI Issued	Existing

16	Kashipur	Ekadelli Stream SB	Sri Amit Kumar Nayak, S/o. Bhignaraj Naik At- Brahmin Street, Kashipur Po/PS- Kashipur, Dist.- Rayagada	NA	1.699 Ha. Plot No.:304 Khata No.25	29.09.2021	28.09.2026	NA	29.09.2021	Operatioanal	Non- Captive	Letter No. 2119/SEIAA Dated-09.08.2021	Lat- 19°08'47.56"N Long- 83°10'52.13"E	Opencast	LOI Issued	Existing
17	Rayagada	Badahansa SB	Sri Bomminayani Raghuram S/o- Bomminayani Jagannadham, At- Kereda PS- Seshkhela, Dist- Rayagada, Odisha	3175/2019 16.08.2019	4.856 Ha. Plot No.:130 Khata No.:31	19.11.2020	18.11.2025	NA	19.11.2020	Operatioanal	Non- Captive	Letter No. 9537/SEIAA Dated- 04.11.2020	Lat- 19°4'23.18"N Long- 83°25'26.88"E	Opencast	LOI Issued	Existing
18	Rayagada	Beheraguda SB	Sri Basanta Ulaka S/o- Anumajhi Ulaka At- Ramachandrapur, Rayagada	1466 06.04.2022	4.046 Ha. Plot No.:92/1 Khata No.:3	04.08.2022	03.08.2027	NA	04.08.2022	Operatioanal	Non- Captive	Letter No. 4996/SEIAA Dated- 29.07.2022	Lat- 19°7'37.01"N Long- 83°25'38.89"E	Opencast	LOI Issued	Existing
19	Rayagada	Kadambariguda SB	Sri Monaj Kumar Sahu S/o- Sunaram Sahu At- Main Road, Kotapeta Dist- Rayagada	332 29.01.2018	5.888 Ha. Plot No.:71 Khata No.10	04.09.2024	03.09.2029	NA	04.09.2024	Operatioanal	Non- Captive	File No. 459290/12 MIN/01-2024 Dated -03.05.2024	Lat- 19°13'12.75"N Long- 83°25'21.29"E	Opencast	LOI Issued	Existing
20	Rayagada	Khilimisiguda SB	Sri Sina Appudu Puala S/o- Late Sitaram Puala, At- Khilimisguda PO/PS- Hatseskhal, Dist- Rayagada, Odisha	3176/2019 16.08.2019	4.856 Ha. Plot No.:57 Khata No.:41	18.11.2020	17.11.2025	NA	18.11.2020	Operatioanal	Non- Captive	Letter No. 9448/ SEIAA Dated- 03.11.2020	Lat- 19°0'55.61"N Long- 83°26'57.38"E	Opencast	LOI Issued	Existing
21	Rayagada	Komtalpeta SB	Sri Akhaya Kumar Mohanty S/o- Late Johan Mohanty At- Plot no. 648/2978, Nayapalli, Behera Sahi, Dist- Khordha, Pin-751012	1565/2022 13.04.2022	4.980 Ha. Plot No.:730 Khata No.61	28.08.2022	27.08.2027	NA	28.08.2022	Operatioanal	Non- Captive	EC identification no. EC22B001OR110 217 Dated -27.07.2022	Lat- 19°14'2.1"N Long- 83°25'43.25"E	Opencast	LOI Issued	Existing
22	Rayagada	Pratap SB	Akhaya Kumar Mohanty S/o- Late Johan Mohanty At- Plot no.648/2978, BeheraSahi, Nayapalli, Dist - Khurdha, Pin- 751012	5092/2021 14.12.2021	4.856 Ha. Plot No.:153 Khata No.18	12.06.2022	11.06.2027	NA	12.06.2022	Operatioanal	Non- Captive	Letter No. 4418/ SEIAA Dated- 27.04.2022	Lat- 19°5'7.78"N Long- 83°25'4.82"E	Opencast	LOI Issued	Existing

## MINERAL CONCESSION DETAILS IN RESPECT OF SAND EXISTING NON-OPERATIONAL SOURCES UNDER RAYAGADA DISTRICT, ODISHA.

SL NO.	Tahasil	Name of the mineral	Name of the Lessee & Address	Mining Lease grant order no.	Area of mining Lease in Ha.	Period of mining lease (Initial)		Period of Mining lease (1st/2nd renewal)	Date of commencement of Mining Operation	Status (Operational / Non-Operational for dispatch etc.)	Captive/ Non Captive	Obtained Environmental Clearance (Yes/No), If Yes Letter No with date of grant of EC.	Location of the Mining lease (Latitude & Longitude)	Method of Mining (Opencast/ Underground)	LOI Issued	Existing / Proposed
						From	To									
<b>Gunupur Sub-Division</b>																
1	Muniguda	Kanrabali SB	NA	NA	4.856 Ha. Plot No.-611, Khata No.:114	NA	NA	NA	NA	Non-Operational	Non- Captive	NA	Lat-19°38' 59.23" N Long- 83°32'46.57"E	Opencast	NO	Existing
2	Padmapur	Radu Sand Bed	Promod Kumar Mohanty Managing Partner M/s Medi Era Life Science At- Plot No. E-99, Sector-7, CDA, Cuttack	1752/2022 03.09.2022	4.046 Ha. Plot No.:159 Khata No.:45	NA	NA	NA	NA	Non-Operational	Non- Captive	NA	Lat- 19°15'41.76"N Long- 83°46'17.98"E	Opencast	LOI Issued	Existing

## Rayagada Sub-Division

3	Kalnara	Gunakhal SB	Sri Jgannatha Parichha S/o- Bhagbana Parichha At/Po- JK Pur, Aurobinda Nagara, Rayagada	1199 11.05.2021	11.05 Ha. Khat No. 46 Plot No. 1, 2, 234, 52, 53	NA	NA	NA	NA	Non-Operational	Non- Captive	NA	Lat- 19°17'58.21"N Long- 83°25'59.69"E	Opencast	LOI Issued	Existing
4	Kalnara	Sanapadia SB	P.V.P. Ramu At- Gruhalaxmi Nagar, Rayagada, Dist- Rayagada-765001	1042 29.06.2021	5.00 Ha. Khata No. 27, 32, 44 Plot No. 13, 117/163, 1/2, 1	NA	NA	NA	NA	Non-Operational	Non- Captive	EC identification no. EC23B001OR136 879 Dated -25.07.2023	Lat- 19°15'34.9"N Long- 83°23'15.75"E	Opencast	LOI Issued	Existing
5	Rayagada	Bahinipati Kereda SB	Maa Velankanni Civil Supply & Construction Sri Kola Ashok (Proprietor) At- Saipriya Nagar, 11th Lane Rayagada, 765001	313/mines 27.03.2024	7.608 Ha. Plot No.:192/2 Khata No.35	NA	NA	NA	NA	Non-Operational	Non- Captive	NA	Lat-19°58' 34.85" N Long- 83°27'14.91"E	Opencast	LOI Issued	Existing

## MINERAL CONCESSION DETAILS IN RESPECT OF PROPOSED SAND SOURCES UNDER RAYAGADA DISTRICT, ODISHA.

SL NO.	Tahasil	Name of the mineral	Name of the Lessee & Address	Mining Lease grant order no.	Area of mining Lease in Ha.	Period of mining lease (Initial)		Period of Mining lease (1st/2nd renewal)	Date of commencement of Mining Operation	Status (Operational / Non-Operational for dispatch etc.)	Captive/ Non Captive	Obtained Environmental Clearance (Yes/No), If Yes Letter No with date of grant of EC.	Location of the Mining lease (Latitude & Longitude)	Method of Mining (Opencast/ Underground)	LOI Issued	Existing / Proposed
						From	To									
<b>Gunupur Sub-Division</b>																
1	Gudari	Birsa sand Bed	NA	NA	2.023 Ha. Khat No. 39 Plot No. 11	NA	NA	NA	NA	Non-Operational	NA	NA	Lat-19° 19' 45.996" N Long- 83°47'14.486"E	Opencast	NO	Proposed
2	Gudari	Rautaguda sand Bed	NA	NA	4.856 Ha. Khata No.10 Plot No. 53	NA	NA	NA	NA	Non-Operational	NA	NA	Lat-19° 21' 48.843" N Long-83° 45' 56.660"E	Opencast	NO	Proposed
3	Gunupur	Bharsing sand Bed	NA	NA	8.093 Ha. Khata no.78 Plot No. 254	NA	NA	NA	NA	Non-Operational	NA	NA	Lat-19° 7' 48.957" N Long-83° 49' 4.867" E	Opencast	NO	Proposed
4	Gunupur	Chlakamba sand Bed	NA	NA	4.856 Ha. Khat No.27 Plot No.117/248	NA	NA	NA	NA	Non-Operational	NA	NA	19° 8' 11.986" N 83° 48' 56.494" E	Opencast	NO	Proposed
5	Gunupur	Gadiakhala sand Bed	NA	NA	4.856 Ha. Khata No.101 Plot No. 91	NA	NA	NA	NA	Non-Operational	NA	NA	Lat-19 2'2.686" N Long-83°47'22.971"E	Opencast	NO	Proposed

## Rayagada Sub-Division

6	K.Singipur	Budaguda SB	To Be Auction	NA	1.214 Ha. Plot No. 308 Khata No. 17	NA	NA	NA	NA	Non-Operational	Non- Captive	NA	Lat- 19°25'10.71"N Long- 83°18'47.49"E	Opencast	NA	Proposed
7	K.Singipur	Hatimunda SB	To Be Auction	NA	1.011 Ha. Plot No.- 290 Khat No. 35	NA	NA	NA	NA	Non-Operational	Non- Captive	NA	Lat- 19°33'16.35"N Long- 83°17'57.84"E	Opencast	NA	Proposed
8	Rayagada	Odapatiguda sand Bed	NA	NA	3.00 Ha. Plot No.: 200/222 Khata No. 15/AAA	NA	NA	NA	NA	Non-Operational	NA	NA	Lat-19°11' 30.016" N Long-83°25' 48.825" E	Opencast	No	Proposed

**ABSTARCT OF SAND SOURCES, RAYAGADA DISTRICT**

<b>SUB DIVISION</b>	<b>TAHASIL</b>	<b>OPERATIONAL</b>	<b>NON OPERATIONAL</b>	<b>NEW SOURCES</b>	<b>TOTAL</b>
<b>Gunupur</b>	<b>Bissamcuttack</b>	-	-	-	0
	<b>Chandrapur</b>	1	-	-	1
	<b>Gudari</b>	3	-	2	5
	<b>Gunupur</b>	4		3	7
	<b>Muniguda</b>	1	1	-	2
	<b>Padmapur</b>	1	1	-	2
	<b>Ramanaguda</b>	1	-	-	1
<b>Rayagada</b>	<b>K.singipur</b>	3	-	2	5
	<b>Kashipur</b>	2	-	-	2
	<b>Kolnara</b>	-	2	-	2
	<b>Rayagada</b>	6	1	1	8
<b>TOTAL</b>		<b>22</b>	<b>5</b>	<b>8</b>	<b>35</b>

**ANNEXURE- II****Patta Lands/ Khatedari Land: (existing & proposed)**

Owner	Sy. No	Area	District	Tehsil	Village	Total Reserve (MT)	Total Mineral to be mined (MT)	Existing /Proposed
Not applicable for Rayagada District								

**De-Siltation Location: (Lakes/Ponds/Dams etc.) (Existing & proposed)**

Name of Reservoir/Dams	Maintain/Controlled by State Govt./PSU etc.	Location	District	Tehsil	Village	Size(Ha)	Quantity MT / Year	Existing /Proposed
Not applicable for Rayagada District								

**M-Sand Plants :( existing & proposed)**

Plant Name	Owner	District	Tehsil	Village	Geolocation	Quantity Tonnes/Annum	Existing /Proposed
Not applicable for Rayagada District							

**ANNEXURE-III**

**Cluster & Contiguous Cluster details**

**Clusters:**

River Name	Cluster No	Lease Name	Location (Riverbed / Patta Land)	Village	Area (in Ha)	Total Excavation (Ton)	Total Mineral Excavation (Ton)
Bansadhara	1	Penguda Sand Bed	River Bed Khata No.: 61 Plot No.: 249	Penguda	5.00 Ha.	NA	NA
Bansadhara	1	Turkaniguda Sand Bed	River Bed Khat No. 68 Plot no. 131/339, 128,152,157, 294	Turkaniguda	5.058 Ha.	NA	NA
Bansadhara	2	Chalakhamba sand bed	River Bed Khat No.27 Plot No. 117/248	Chalakhamba	4.856 Ha.	NA	NA
Bansadhara	2	Bharsingi Sand bed	River Bed	Bharsingi	8.093 Ha.	NA	NA

**Contiguous Clusters:**

River Name	Contiguous Cluster No	Cluster No	Number of leases in the cluster	Location (Riverbed / Patta Land)	Distance between clusters	Village	Area of Cluster ( Ha)	Total Mineral Excavation (Ton)
NA								

## ANNEXURE-IV(A)

## Transportation Routes for individual leases and leases in Cluster

Sl. No.	Tahasil Name	Lease Name	Lease No	Transportation Route No	Number of tippers /day of lease	Number of tippers /day of all the lease on route	Length of Route in KM	Type of Road (Black Topped/unpaved)	Recommendation for road (Black Topped/unpaved)	The road will be Constructed by Govt/ Lease Owner	Route Map & Location
<b>Gunupur Sub-Division</b>											
1	Chandrapur	Dangasorada Sand Bed	NA	Village Road	2	2	2	Unpaved	Unpaved	Lease Owner	Attached
2	Gudari	Gudari SB-I	NA	Village Road	10	10	4	Unpaved	Unpaved	Lease Owner	Attached
3	Gudari	Gudari SB-II	NA	Village Road	5	5	3	Unpaved	Unpaved	Lease Owner	Attached
4	Gudari	Khairaguda SB	NA	Village Road	5	5	2	Unpaved	Unpaved	Lease Owner	Attached
5	Gudari	Birsa sand Bed	NA	Village Road	NA	NA	5	Unpaved	Unpaved	Lease Owner	Attached
6	Gudari	Rautaguda sand Bed	NA	Village Road	NA	NA	2	Unpaved	Unpaved	Lease Owner	Attached
7	Gunupur	Gunupur SB-I	NA	Village Road	12	12	3	Unpaved	Unpaved	Lease Owner	Attached
8	Gunupur	Gunupur SB-II	NA	Village Road	20	20	6	Unpaved	Unpaved	Lease Owner	Attached
9	Gunupur	Penguda SB	NA	Village Road	49	49	5	Unpaved	Unpaved	Lease Owner	Attached
10	Gunupur	Turkaniguda SB	NA	Village Road	20	20	4	Unpaved	Unpaved	Lease Owner	Attached
11	Gunupur	Bharsing sand Bed	NA	Village Road	NA	NA	2	Unpaved	Unpaved	Lease Owner	Attached
12	Gunupur	Gadiakhala sand Bed	NA	Village Road	NA	NA	5	Unpaved	Unpaved	Lease Owner	Attached
13	Gunupur	Chlakamba sand Bed	NA	Village Road	NA	NA	4	Unpaved	Unpaved	Lease Owner	Attached
14	Muniguda	Dhobagudi SB	NA	Village Road	3	3	5	Unpaved	Unpaved	Lease Owner	Attached
15	Muniguda	Kantrabali SB	NA	Village Road	NA	NA	5	Unpaved	Unpaved	Lease Owner	Attached
16	Padmapur	Bichikote SB	NA	Village Road	10	10	4	Unpaved	Unpaved	Lease Owner	Attached
17	Padmapur	Radu SB	NA	Village Road	13	13	4	Unpaved	Unpaved	Lease Owner	Attached
<b>Rayagada Sub-Division</b>											
18	Ramnaguda	Bhamini SB	NA	Village Road	3	3	3	Unpaved	Unpaved	Lease Owner	Attached
19	K.singipur	Belkona SB	NA	Village Road	10	10	4	Unpaved	Unpaved	Lease Owner	Attached
20	K.singipur	Krushnapatraguda SB	NA	Village Road	2	2	6	Unpaved	Unpaved	Lease Owner	Attached
21	K.singipur	Lekaguda SB	NA	Village Road	7	7	3	Unpaved	Unpaved	Lease Owner	Attached
22	K.singipur	Hatimunda SB	NA	Village Road	NA	NA	2	Unpaved	Unpaved	Lease Owner	Attached
23	K.singipur	Budaguda SB	NA	Village Road	NA	NA	2	Unpaved	Unpaved	Lease Owner	Attached
24	Kashipur	Boriguma Stream SB	NA	Village Road	2	2	3	Unpaved	Unpaved	Lease Owner	Attached

25	Kashipur	Ekadelli Stream SB	NA	Village Road	2	2	6	Unpaved	Unpaved	Lease Owner	Attached
26	Kolnara	Gunakhal SB	NA	Village Road	3	3	4	Unpaved	Unpaved	Lease Owner	Attached
27	Kolnara	Sanapadia SB	NA	Village Road	2	2	4	Unpaved	Unpaved	Lease Owner	Attached
28	Rayagada	Badahansa SB	NA	Village Road	4	4	2	Unpaved	Unpaved	Lease Owner	Attached
29	Rayagada	Beheraguda SB	NA	Village Road	16	16	1	Unpaved	Unpaved	Lease Owner	Attached
30	Rayagada	Kadambariguda SB	NA	Village Road	7	7	2	Unpaved	Unpaved	Lease Owner	Attached
31	Rayagada	Khilimisiguda SB	NA	Village Road	8	8	4	Unpaved	Unpaved	Lease Owner	Attached
32	Rayagada	Komtalpeta SB	NA	Village Road	7	7	5	Unpaved	Unpaved	Lease Owner	Attached
33	Rayagada	Pratapur SB	NA	Village Road	20	20	4	Unpaved	Unpaved	Lease Owner	Attached
34	Rayagada	Bahinipati Kereda SB	NA	Village Road	10	10	3	Unpaved	Unpaved	Lease Owner	Attached
35	Rayagada	Odatapiguda sand Bed	NA	Village Road	NA	NA	2	Unpaved	Unpaved	Lease Owner	Attached

## ANNEXURE-IV(B)

## Transportation Routes for individual leases and leases in Cluster

SI No.	Tahasil	Laese Name	Cluster No	Transportation Route No	Number of tipper s /day of lease	Number of tippers /day of all the lease on route	Length of Route in KM	Type of Road (Black Topped/ unpaved)	Recommen dation for road (Black Topped/ unpaved)	The road will be Constructed by Govt/ Lease Owner	Route Map & Location
1	Gunupur	Penguda SB	1	Village Road	49	49	5	Unpaved	Unpaved	Lease Owner	Attached
2	Gunupur	Turkaniguda SB	1	Village Road	20	20	4	Unpaved	Unpaved	Lease Owner	Attached
3	Gunupur	Chlakamba sand Bed	2	Village Road	NA	NA	4	Unpaved	Unpaved	Lease Owner	Attached
4	Gunupur	Bharsing sand Bed	2	Village Road	NA	NA	2	Unpaved	Unpaved	Lease Owner	Attached

  
Superintending Engineer,  
Minor Irrigation, Division,  
Rayagada

  
Deputy Director Mines,  
Koraput.

  
Asst. Conservator of Forest,  
Rayagada.

  
Deputy Director Mines,  
Jeypore.

  
Regional Officer,  
SPCB, Rayagada.

  
Mining Officer, Rayagada.

  
Geologist, Koraput.

  
Asst. Executive Engineer,  
Minor Irrigation, Sub-Division,  
Gunupur/Muniguda

  
Sub-Collector-Cum  
Sub-Divisional Magistrate,  
Rayagada

  
Sub-Collector-Cum  
Sub-Divisional Magistrate,  
Gunupur.