



DISTRICT SURVEY REPORT (DSR) 2020

OF

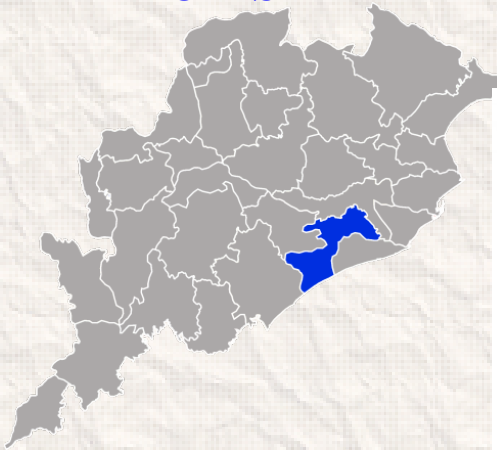
KHORDHA DISTRICT, ODISHA

FOR

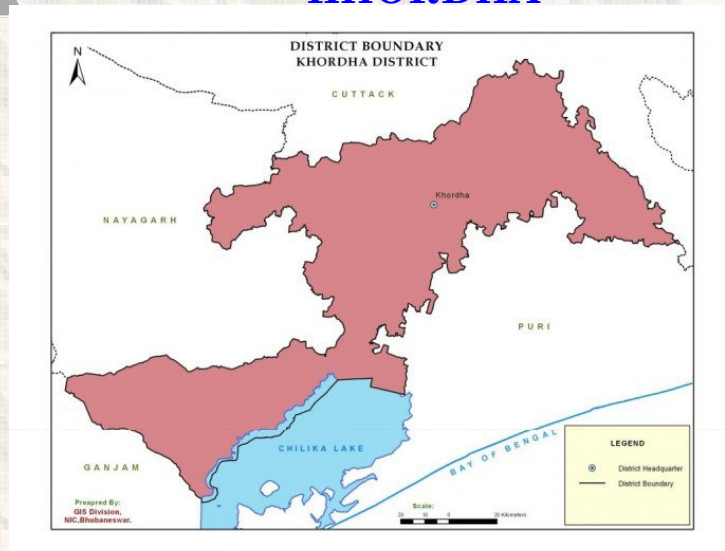
RIVER SAND

**(FOR PLANNING & EXPLOITING OF MINOR
MINERAL RESOURCES)**

ODISHA



KHORDHA



**As per Notification No. S.O. 3611(E) New Delhi,
25th July, 2018**

**MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE
(MoEF & CC)**

COLLECTORATE, KHORDHA

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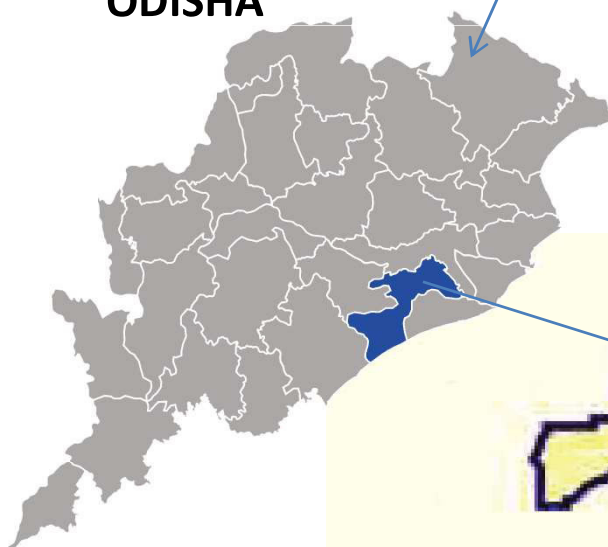
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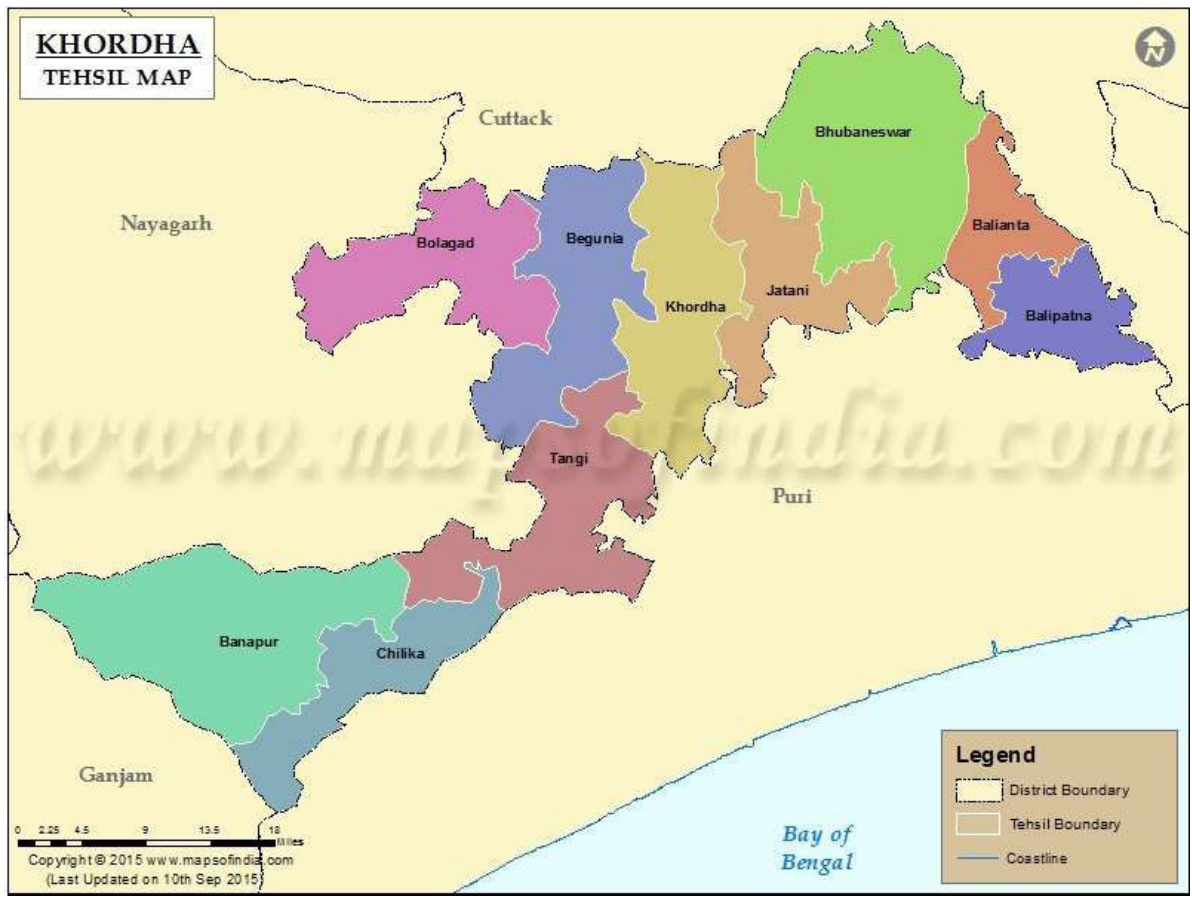
INDEX MAP



ODISHA



MAP SHOWING THE TAHASILS OF KHORDHA DISTRICT



MAP SHOWING THE MAJOR ROADS OF KHORDHA DISTRICT

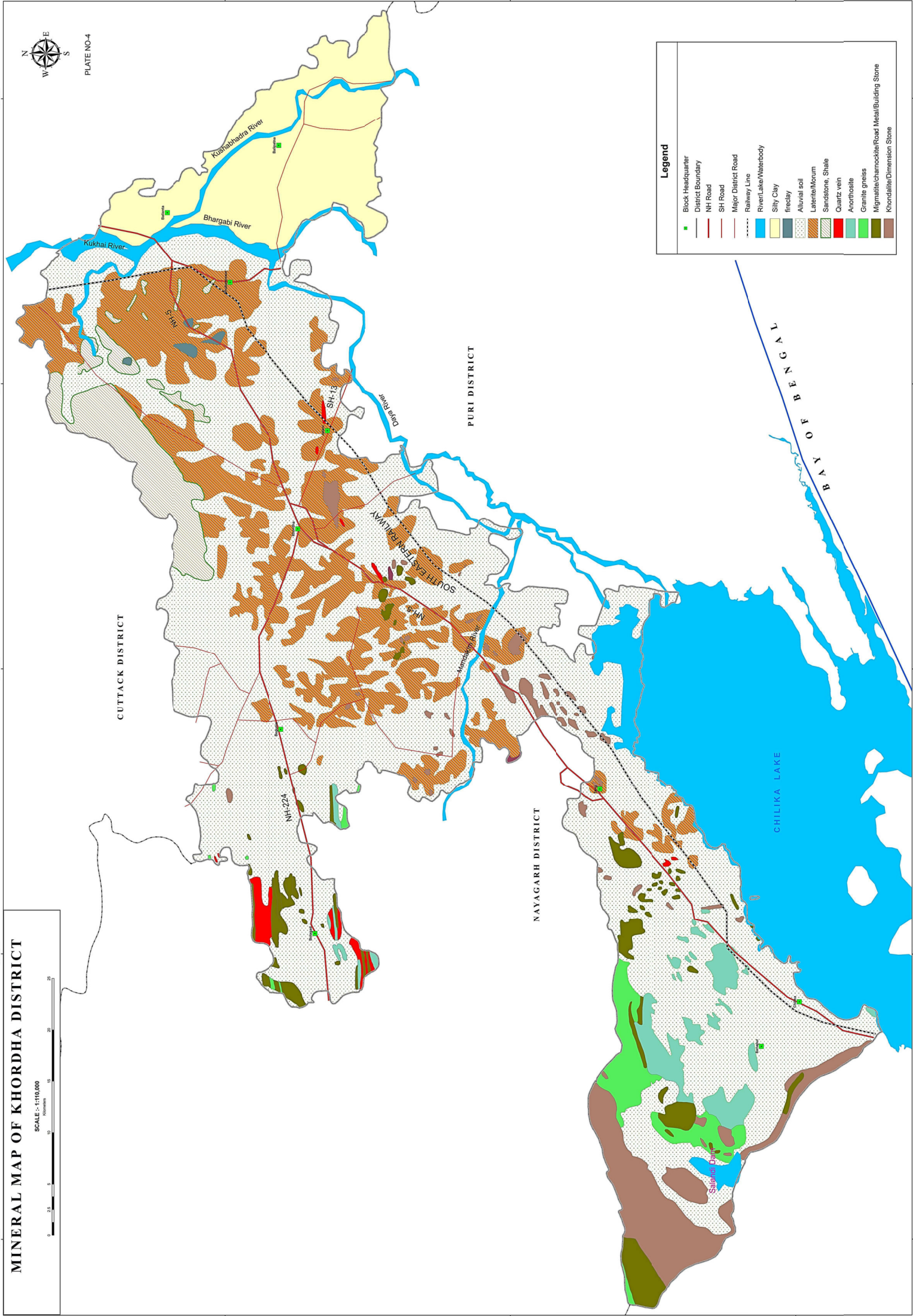


MINERAL MAP OF KHORDHA DISTRICT

SCALE: 1:110,000



PLATE NO-4



Legend

- Block Headquarter
- District Boundary
- NH Road
- SH Road
- Major District Road
- Railway Line
- River/Lake/Waterbody
- Silty Clay
- fireclay
- Alluvial soil
- Laterite/Morum
- Sandstone, Shale
- Quartz vein
- Auriferous
- Granite gneiss
- Migmatite/Charnockite/Road Metal/Building Stone
- Khondalite/Dimension Stone

85°00'E

85°15'E

85°30'E

85°45'E

86°00'E

N.051.02

N.052.02

N.053.61

85°00'E

85°15'E

85°30'E

85°45'E

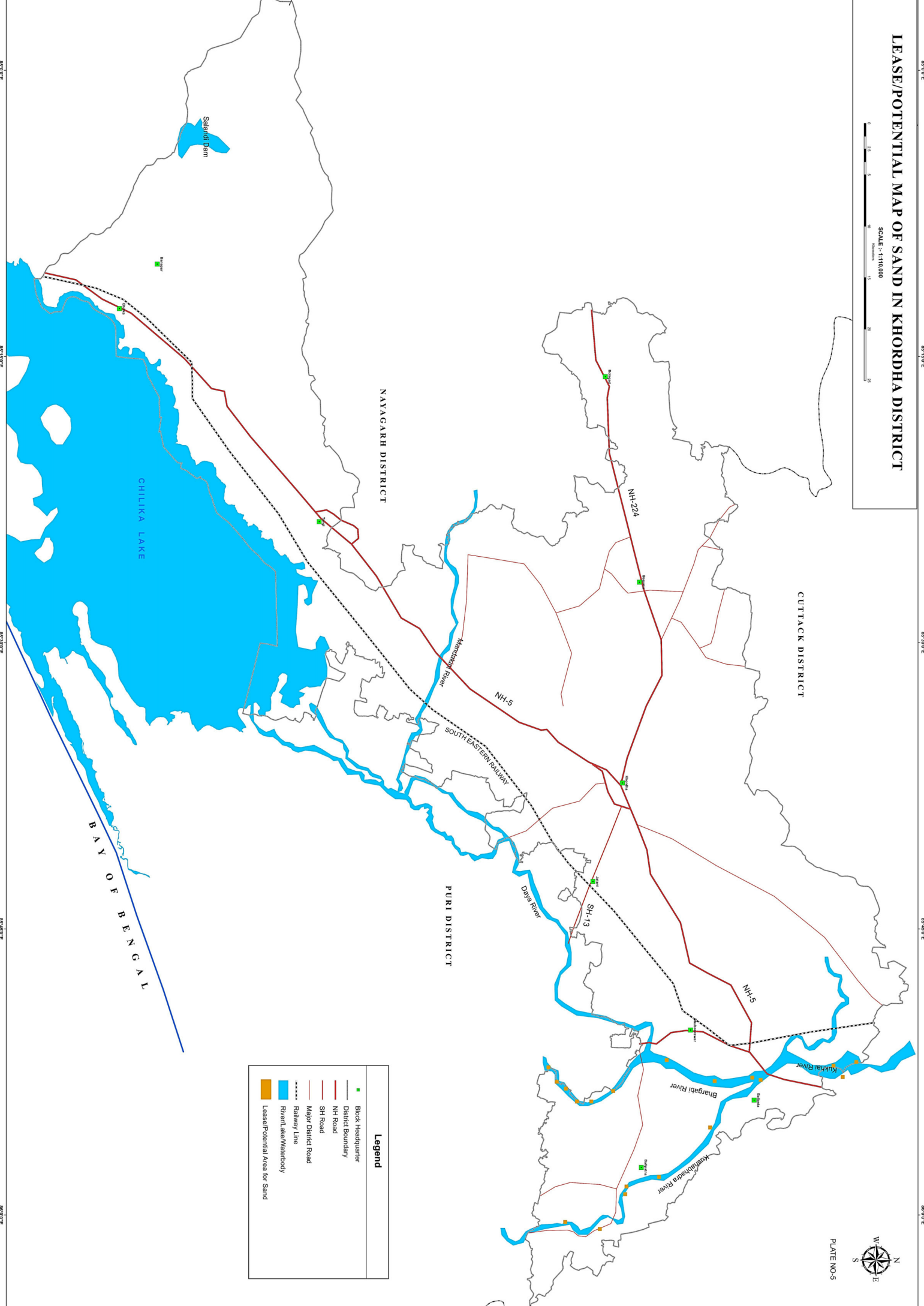
86°00'E

LEASE/POTENTIAL MAP OF SAND IN KHORDHA DISTRICT

SCALE:-1:10,000



PLATE NO-5



Legend

- Block Headquarter
- District Boundary
- NH Road
- SH Road
- Major District Road
- Railway Line
- River/Lake/Waterbody
- Lease/Potential Area for Sand

PREFACE

In compliance to the notification issued by the Ministry of Environment and Forest and Climate Change Notification no. S.O.3611 (E) NEW DELHI dated 25-07-2018 the preparation of district survey report of river sand mining has been prepared in accordance with Clause II of Appendix X of the notification. Every effort has been made to cover river sand mining locations, future potential areas and overview of sand mining activities in the district with all its relevant features pertaining to geology and mineral wealth. This report will act as a compendium of available mineral resources, geological set up, environmental and ecological set up of the district and based on data of various departments like Revenue, Water Resources, Forest, Geology and Mining in the district as well as statistical data uploaded by various state Government departments for preparation for district survey report. The main purpose of preparation of the present District Survey Report is to update the possible mineral resources and developing the mining activities along with other relevant data of the district keeping equilibrium with the involved environmental issues.

1. INTRODUCTION

Khordha district has a unique place in history as the last kingdom to be conquered by the British in 1803. Khordha is famous for the Paik revolution of 1817 led by Jai Rajguru and Bakshi Jagabandhu Bidyadhar. The district came into being with effect from 2nd October 1992.

Khordha district is located in the south-eastern part of Odisha, adjoining the coastal area. It occupies an area of about 2887.5 sq km. The district is bounded by latitudes 19° 40' to 20° 25' and longitudes is 84° 56' to 86°05' and occupies parts of degree sheets 73 H, L, P & 74 I,A,E. It is surrounded by Cuttack district to the north, Ganjam and part of Puri district to the south, Puri district to the east and Nayagarh district to the west. Bhubaneswar – Vizayanagaram segment of the East-coast railway runs through the district along NE –SW direction. National Highway No. 16 running almost sub-parallel to the East coast railway line, passes through Khordha, the district headquarters and Bhubaneswar the state capital. Khordha is about 30 km from Bhubaneswar and 12 km from Jatani, the nearest railway station of East coast railway. It has an average elevation of 75 m (246ft).

2. OVERVIEW OF MINING ACTIVITIES IN THE DISTRICT.

(a) In khordha district, presently there is one specified minor mineral lease i.e. for decorative stone in Village Tutumberpalli in favour of Sri Maa Granites. The lease area is 3.399 hec. The lease has been commenced from 22.06.2015 and the lease period is for 20 years. The mining operation of the said lease is currently stopped due to want of Consent to Operate from OSPCB.

There are two other potential sources; one is located at Naranagarh village and the other at Kurumpada village of Khordha Tahasil and both are within the area of ownership of Shree Jagannath Temple Administration, Puri. Both these areas have been reserved by Govt of Odisha for ML to M/s OMC Ltd which would be supplied to Shree Jagannath Temple Administration, Puri for beautification of Puri town.

Another one located at Santasinghpur village over an area of 3.996 hec has been under PL in favour of Sri Maa Granites which has commenced from dt. 14.02.2017 for 2 years. The final prospecting report along with ML application over the said PL area has been sent to Director of Mines, Odisha, Bhubaneswar for further examination at their end.

(b) Other than specified minor minerals such as river sand, laterite slabs, building stone/black stone/road metals etc. are also available in the district. Most of the building stone/black stone/road metals potentials are located in Khordha, Begunia and Tangi tahasils of the district. Others like laterite, morrum and earth are distributed in almost all tahasils.

3. LIST OF LEASES WITH LOCATION, AREA AND PERIOD OF VALIDITY

Enclosed as Annexure I

4. DETAILS OF ROYALTY COLLECTED

Sl.No	Name Of Tahasil	2015-16	2016-17	2017-18	2018-19	2019-20
1	Khordha	0	0	0	0	0
2	Bolagarh	0	0	0	0	0
3	Tangi	0	0	0	0	0
4	Chilika	0	0	0	0	2315
5	Begunia	0	0	0	0	0
6	Jatni	0	0	0	0	0
7	Balianta	0	1899330	1922898	6675588	9577714
8	Balipatana	1929579	2794427	2086711	0	0
9	Bhubaneswar	18229073	19564962	10169000	26354524	21162275
10	Banpur	0	0	0	0	0
TOTAL		2,01,58,652	2,42,58,719	1,41,78,609	3,30,30,112	3,07,42,304

Penalty collected in Rs

Sl.No	Name Of Tahasil	2019-20
1	Chilika	314055

5. DETAILS OF PRODUCTION OF SAND

Sl.No	Name Of Tahasil	2015-16	2016-17	2017-18	2018-19	2019-20
1	Khordha	0	0	0	0	0
2	Bolagarh	0	0	0	0	0
3	Tangi	0	0	0	0	0
4	Chilika	0	0	0	0	66
5	Begunia	0	0	0	0	0
6	Jatni	0	0	0	0	0
7	Balianta	0	53654.5	54097.5	241360	0
8	Balipatana	31633	32511	31952	0	0
9	Bhubaneswar	114998	114998	114998	114998	201395
10	Banpur	0	0	0	0	0
TOTAL		146631	201163.5	201047.5	356358	201461

6. PROCESS OF DEPOSIT OF SEDIMENTS IN THE RIVERS

The drainage of the district is mainly controlled by rivers like Kuakhai, Kusabhadra, Bhargavi & Daya.

S L NO	NAME OF RIVER	PROCESS OF DEPOSITION OF SEDIMENTS	Year	VOIUME OF SAND DEPOSITED IN LAST 4 YEARS (YEAR WISE)
1	Kushabhadra	Slow	15-16	4380
			16-17	2470

			17-18	4350
			18-19	4380
2	Bhargavi	Slow	15-16	7000
			16-17	6000
			17-18	7000
			18-19	5000
3	Kuakhi	Moderate	15-16	15100
			16-17	15900
			17-18	16100
			18-19	14800
4	Daya	slow	15-16	210
			16-17	180
			17-18	150
			18-19	190
5	Malaguni	slow	15-16	400
			16-17	400
			17-18	450
			18-19	375
6	Hada	No deposition		
7	Kusumidhar	No deposition		

7. GENERAL PROFILE

Geographical position	Longitude -84° 55' to 86° 5' Latitude- 19° 40' to 20° 25'
Area & Population	The district has an area of 2813 sq. km and 22.52 lakhs of population as per 2011 census. The district accounts for 1.81 percent of the states territory and shares 5.36 percent of the state's population. The density of population of the district is 800 per sq. Km as against 270 person per sq.km of the state. It has 1534 villages (including 178 un-inhabited villages) covering 10 blocks. 10 Tahasils and 2 sub-divisions. As per 2011 census the schedule caste population is 297472 (13.2%) and schedule tribe population 115051 (5.1 %). The literacy percentage of the district covers 86.9 against 72.9 of the state.
Climate	The climate condition of the district is generally hot with high humidity during April and May and cold during December and January The monsoon generally breaks during the month of July
Industry & Mining	Khordha is an important centre of handloom industry. The lungi, napkin and saree produced here have an all Odisha market. Besides during the year 2014-15, 2187 nos.

	<p>of small scale industries have been established with total capital investment of about Rs.10870.89 lakhs with 2176 nos. of Employment generated in the district.</p> <p>The district is also important for mining of minerals like decorative stone (Khondalite), building stone, laterite blocks, morrum & earth.</p>
Power	Consumption of electricity in Khordha district during the year covers 1437.75 million units and revenue villages so far electrified as on 2013-14 is 1343 which constitutes 98.9 % to the total villages of the district.
Tourist Places	There are 19 nos. of tourist center such as Bhubaneswar, Dhauli, Khandgiri & Udayagiri, Nadankanan, Atri, Banapur, Barunei, Bhusandapur, Chilika (Barakul), Hirapur, Jayadev Kenduli, Gadamanitri, Rameswar, Madangiri (Mundiapada), Salia Dam-Barbara Hills, Kosalasuni, Thakuranipitha, Balipatna (Sisu Ananta Pitha), Shree Ananta Purusottam Dev (Jagulaipatna) and Sankat Mochan Mahavir Temple identified by department of Tourism and Culture, Odisha.
Transport & Communication	<p>NH- 162.98 km</p> <p>SH- 25.97km</p> <p>Major district Road- 2555.08 km</p> <p>Other district road- 775.74 km</p> <p>Rural road- 1188.89 km</p> <p>Inter village road- 2424.00 km</p> <p>Intra village road- 1471.24 km</p> <p>Besides, 117.39 Kms. Of Railway lines with 23 nos. of railway stations and passenger halts are there in the district.</p>
Health	The medical facilities are provided by different agencies like Govt., Private individuals and voluntary organizations in the district. There were 282 nos. of the govt. Allopathic medical institutions with 965 beds facilities, 23 nos. of Homoeopathic dispensaries and 27 nos. of Ayurvedic dispensaries in the district during the year 2013-14.

8. LAND UTILISATION PATTERN

SI No	Landuse	Area in '000Ha
1	Forest Area	62
2	Misc.Tree & Groves	10
3	Permanent Pasture	5
4	Culturable Waste	8
5	Land Put to Non Agril Use	45
6	Barren & Unculturable Land	15
7	Current Fallow	21
8	Other Fallow	6
9	Net Area Sown	108
10	Mining	1
	Geographical Area	281

9. PHYSIOGRAPHY

Western & south-western part of the district is occupied by the hilly terrain of Eastern Ghats. The hilly area in the west gradually passes on to the low undulating rugged terrain towards the central part of the district. In the northern, eastern and south-eastern sides, the district is surrounded by the flood plain and deltaic deposits of Mahanadi river basin. Parts of Chilika lake and its set of tributaries are the most conspicuous geomorphic features in the south. Daya, Bhargabi, Kuakhai and Kushabhadra rivers, emerging as distributaries from Mahanadi river system, drain southerly through the eastern flank of the district and merge either with the Chilika lake or with the Bay of Bengal. Kaipadar, about 10 km south west of Khurda, marks a water divide with Ran River flowing northerly to Mahanadi and Mandakini river flowing southerly to Chilika. The highest elevation attained in the district is at 568 mts. In its southwestern corner, while Chilika represents the lowest at mean sea level.

10. RAINFALL

The district is generally hot with high humidity during April and May and cold during December and January. The monsoon generally breaks during the

month of July and continues till end of October. The temperature goes as high as up to 45°C in the summer and up to 7^o-8^o C during peak winter.

The rainfall statistics of the district for last four years is given below:

MONTH – WISE RAINFALL (mm) DATA OF KHORDHA DISTRICT (LAST 5 YEARS)													
Year/ Month	April	May	June	July	August	Sept	Oct	Nov	Dec	Jan	Feb	March	Total
15-16	72.2	14.7	135.2	225.1	252.9	198.9	43.3	4.8	3.6	0.6	3.5	9.2	964
16-17	0.7	87.9	138.64	262.83	291.25	299.37	75.9	15.4	0	0.7	0	52.7	1225.39
17-18	10.26	17.58	164.93	402.23	313.31	239.07	249.3	59.96	20.02	0	0	0	1476.66
18-19	51.89	136.37	162.23	577.66	296.79	333.66	234	2	17.02	11	8.6	11.8	1841.02
19-20	23.48	185.59	140.48	370.29	317.46	426.77	328.23	2.12	0	12.2	50.32	28.47	1886.31
Avg.	31.706	88.428	2929.8	367.622	294.342	299.554	186.146	16.856	8.128	4.9	12.484	20.434	4260.4

11. GEOLOGY AND MINERAL WEALTH

The Major geology in the district can be broadly classified into Eastern Ghat Super Group of Archean to Proterozoic age, Proterozoic intrusive, Gondwana Super Group of Mesozoic and Pleistocene to Holocene age of Quaternary period of Cenozoic Era.

The rocks belonging to EGSG are mostly quartzite, khondalite and their variants, charnockite and pyroxene granulite. They are found mostly on the western and south western parts of the district. The Eastern Ghat Super Group of rocks have been intruded by plugs/apophyses of anorthosite, popularly known as Banpur anorthosite/ Chilika lake complex, and are found as cluster of anorthosite bodies around Banpur, Rambha and Balugaon region in the southern & western side of chilika lake and partly within the lake also. This pluton is emplaced in the core of an antiform (Perraju, 1960). Sarkar et al. (1981) deciphered 3 phases of folding (F₁-F₃) in the khondalite host rocks and considered emplacement of anorthositic complex syntectonically with F₃. Xenoliths of metasediments (khondalite and calc-silicate gneisses) and charnockite in anorthosite and locally developed pyroxene hornfels grade skarn zones indicate the intrusive nature of the complex.

The rocks of Eastern Ghat Supergroup show foliation in NE-SW direction. Joint planes, wherever present, follow the same structural alignment. A prominent fault running ENE-WSW is recorded in north-western part of the district. Major lineaments

trend in NE-SW direction. The NE-SW trending lineament passing through Baghamari houses a sulphurous hot spring at Atri and is of immense tectonic significance.

Granite gneiss of Archean to Proterozoic age, exposed in the western part of the district, are well foliated and are often garnetiferous. Quartz veins cut across the granulitic country at random.

The exposures belonging to Athgarh formation of Upper Gondwanas (Lower Cretaceous) mostly occur as a cluster forming upland in the north, NE parts of the district, i.e. west of Bhubaneswar. They are comprising dominantly of sandstones classified as quartz arenite, sub-lithic arenite and lithic wacke (Mishra, 1988; Pal, 1990), characteristically lacking in feldspars in clastic components. This also includes conglomerates, grits, carbonaceous shale, variegated shale and fire clay; most of them as small lenticular bodies breaking the monotonous vastness of sandstones. Deep drilling in the coastal Odisha has indicated the extension of the formation below the alluvial cover of the Mahanadi delta and the coastal Tertiary succession (Pandya et al. 2000).

The earliest Quaternary deposit, the Bolgarh formation (Pleistocene age) occupies central and northern part of the district, overlying the khondalite group of rocks. It comprises hard crust laterite, latosol and also residual soil.

Brahmani formation (Pleistocene to Holocene) consists of residual soil and alluvium and occupies an appreciable part of the district and are particularly conspicuous in the eastern and southern part of the district adjoining Chilika lake.

Bankigarh formation (Middle to Late Holocene) is occupied by north and NE part of the district i.e. east of Bhubaneswar. It mostly comprises brownish silty clay and occur in the flood plain / deltaic plains of Mahanadi River basin.

The district lacks any major mineral deposit of economic significance. Few fire clay deposits located in the north-eastern part of the district are the only deposits of minor minerals that are being mined presently by Tata Refractories Ltd. The other deposits that are being profusely exploited as Dimension and decorative stone for construction material/polished slabs and artisan grade of khondalite around Tapanga and Kurumpada area.

Ground water occurs in the porous sedimentary formations and in the fractured igneous and metamorphic rocks in unconfined to confined conditions. The nala and gully erosion in the tributaries and distributaries of Mahanadi river basin and in Chilika lake are quite common.

Stratigraphy:

Phanerozoic	Quarternary	Mid to Late Holocene	Bankigarh Fm	Brownish silty clay
		Pleistocene to Holocene	Brahmani/ Mahanadi Fm	Residual soil and alluvium
		Pleistocene	Bolagarh Fm	Laterite/Latosol
	Gondwana Sup Gp	Lr Cretaceous	Athagarh Fm	Sandstone, Shale
Precambrian	Archean to Proterozoic	Eastern Ghat Sup Gp		Quart vein Granite gneiss Anorthosite Chanockite gp of rocks Khondalite gp of rocks Quartzite

The district particularly the Khordha tahasil has good deposits of road metal and cater to the need of the capital city of Bhubaneswar and to a periphery of 50km. Also, minor minerals like sand, laterite, morrum, earth and specified mineral like khondalite (dimension stone), granite are available in the district for excavation.

- a. Detail of river/stream/other sand source- Sand mining in the district is confined to three rivers namely Kusabhadra, Kuakhai & Bhargavi.
- b. Availability of sand or gravel or aggregate resources- sand- 29,64,703 cum (Annexure), Gravel- Nil, Aggregate- Nil
- c. Detail of existing mining leases of sand and aggregates- For sand pl refer Annexure. Aggregate- Nil

12. DETAILS OF AREAS WHERE THERE IS A CLUSTER OF MINING LEASES

One cluster have been designated in Bhubaneswar Tahasil namely Cluster(Kalyanpur). Details of the clusters are as below:

BHUBANESWAR TAHASIL				
SL NO	CLUSTER NAME	QUARRY NAME	AREA(IN HA)	AREA(IN AC)
1	CLUSTER (KALYANPUR)	KALYANPUR SAND QUARRY A	14.261	35.24
2		KALYANPUR SAND QUARRY B	20.214	49.948

DRAINAGE SYSTEM AND DESCRIPTION OF SALIENT FEATURES OF MAIN RIVERS AND STREAMS

S L N O	NAME OF RIVER	PLECE OF ORIGIN	ALTITUDE OF ORIGIN	TOTAL LENGTH IN THE DISTRICT (IN Km)	AREA DRAINED (sq.km)	%GE AREAS DRAINED IN THE DISTRICT	Portion recommended for quarry lease	Length of area of QL (km)	Avg Width of QL (m)	Area of QL (m ²)	Mineable Potential (m ³)
1	Kushabhadra	Bhubaneswar (khordha dist)	11.8m	30.0km	212.32	48.86%	Khata No-549, plot No- 1000	1.320km	130	171600	265998.6
							13acre 20 13'05.2" to 20 13'.7"N 85 58'0.6" TO 85 58'7.8"E	438mtrs	120.1	52605	118872
							14acre 20 15'45.64" to 20 16'3.29"N 85 55'24.85" TO 85 55'49.29"E	800mtrs	70.8	56652	42662
							12.750acre 20 11'13.00" to 20 11'18.5"N 85 58'41.8" TO 85 58'54.8"E	637mtrs	81	51594	22370
							55acre 20 17'58.21" to 20 18'24.23"N 85 52'48.29" TO 85 53'24.94"E	927mtrs	240	222562	158071
2	Bhargavi	Balakati (khordha dist)	7.80 m	14.0 km	Nil	Nil	45acre 20 11'41.22" to 20 12'0.57"N 85 51'52.84"	560mtrs	325.17mtrs	182096	79401

							TO 85 52'7.92"E				
							15acre 20 9'31.97" to 20 9'45.77"N 85 54'2.97" TO 85 54'13.78"E	375mtrs	161.86mt rs	60698	52853
3	Kuakhi	Mukamesw ra	25.92 m	26.500	21.85	45.60	120.610acre 20 13'28.91" to 20 14'50.43"N 85 51'52.84" TO 85 52'52.16"E	2283mt rs	213.77mt rs	48805 8	431374
							Khata No- 1352, plot No- 2414	0.92km	0.2km	18400 0	111695. 4
4	Daya	Nathapur	18.180 m.	10.100	10.10	51.80%					
5	Malaguni	Baunshaga rh (nayagarh dist)	21.20m	35	8.40	62.50%					
6	Hada	Hatibari (Nayagarh dist)	19.80m	14	0.92	60.87%					
7	Kusumidhar	Randa (khordha dist)	60m	33	1.32	100.00 %					

Detail of the potential of river sand of the district is submitted as Annexure.

List of co-ordinates of the sources is attached as Annexure.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15			16			17
SL NO	NAME OF TAHASIL	NAME OF SOURCE	STATUS	KHA TA NO	PLOT NO	AREA IN AC	NAME OF MINOR MINERAL	NAME OF LESSEE	ADDRESS & CONTACT NO OF LESSEE	DATE OF REGISTRATION OF LEASE DEED	NO & DATE OF GRANT OF ENVIRONMENTAL CLEARANCE	NAME OF SUCCESSFUL BIDDER	ADDRESS & CONTACT NO OF SUCCESSFUL BIDDER	LONGITUDE			LATITUDE			RESERVE IN CUM AS PER MINING PLAN
														DEGREE	MINUTE	SECOND	DEGREE	MINUTE	SECOND	
1	Bali patna	Kushabhadrathantar - Giringo	New	330537	67998141338	AC4.260 AC6.940 AC29.800 AC0.550	SAND							85	58	30	20	11	22	61600
2	Bali patna	Kushabhadrathabhayamukhi	New	1649	45414936	AC5.410 AC6.140	SAND							86	03	43	20	26	44	6000
3	Bali patna	Kushabhadrathanragarh	New	620	326181/1685	AC5.600 AC6.290	SAND							86	04	43	20	98	57	24000
4	Bali patna	Kushabhadrathamrthapur	New	301	692	AC11.540	SAND							86	02	22	20	88	10	15000

																	9			3			
5	Bali patn a	Bharg avi Achy utpur	New	221	1	AC12 .000	SAND										8 5	5 4	3 .0 8	2 0	8	4 6 .5 5	42315
6	Bali patn a	Bharg avi Maku ndad aspur	New	771	19 9	AC56 .580	SAND										8 5	5 3	2 2 .7 4	2 0	8	1 .9 8	175000
7	Bali patn a	Bharg avi Soma nasas an	New	550	1	AC12 .000	SAND										8 5	5 3	0 .9 9 1	2 0	7	4 3 .6	25000
8	Bali patn a	Kusha bhad ra Bhak arasa hi	Runn ing	151 9	15 67, 15 19	12.55	SAND	M/S Preme x Smt. Premal ata Mishra	Plot No- 652, Eka mra Vihar , IRC Villa ge, Nay apall i, Bhub anes war	07.0 4.20 16	146 /12. 01.2 016					8 5	5 8	3 0 .3 8	2 0	1 1	2 6 .9 7	409110	

9	Bali patna	Bhargavi Chitalpur	New	186	20	AC12 .000	SAND								85	52	15	20	7	17	20000
10	Bali anta	Jhintisasan	Running	1613	2613	12.000	SAND	Laxmidhar Jena	At/Pro-Jhintisasan , Ps-Balipatna Dist-Khordha Ph-6370 9480 97	2/2/2016	140/SEI AA Dt.12/01/16				85	54	29	20	9	31	125001
11	Bali anta	Mahukhanda	Old, to be auctioned	529	1219(P)	12.000	SAND								85	58	58	20	11	18	16668
12	Bali anta	Bhingarpur	Old, to be auctioned	1162	918(P), 192(P)	12.000	SAND								85	55	28	20	15	45	41668
13	Bali anta	Bhubanpur	LOI, Subjudice	336	58	55.000	SAND								85	52	48	20	17	58	158071

14	Bali anta	Umad eibra hmap ur, Hataj asua pur, Hirap ur, Alarp ur	Runn ing	148, 35,5 24,3 40	1,1 ,2, 1,9	120.6 10	SAND	Kamal Kumar Patra	At/Po - Gadas riram pur, Ps- Balian ta Dist- Khord ha Ph- 9938 5657 70	19/ 07/ 18	5199 /SEI AA Dt.0 5/07 /18				8 5	5 1	5 2 . 8	2 0	1 3	2 8 . 9	431374
15	Bali anta	Chad eibar a	New, Subj udic e	207	51 9	9.000	SAND								8 5	5 3	3 0 . 2 3	2 0	1 0	4 0 . 6 6	198576
16	Bali anta	Prata prudr apur	New, To be aucti one d	140 3	39 5(P), 37 7, 34 3(P)	12.20 0	SAND								8 5	5 8	0 . 6	2 0	1 3	5 . 2	175000
17	Bhub anes war	Kusha bhadra Sand source Kesura	New	549	10 00	40									8 5	5 2	5 8 . 8	2 0	1 5	5 9 . 7	262134
18	Bhub anes war	Kuakh ai River sand	Runn ing	135 2	24 14	46		Mahesh Chandra Ray	At/PO - Benup ur PS-	18.1. 2016	L.No . 62/ 11.1. 2016				8 5	5 2	5 5 . 2	2 0	1 8	2 4 . 6	114998

20	Bhubaneswar	Kuakha i river sand source, Kalyanpur-B	LOI	221	1061	49.95						Sarat Behera	Vill- Kunlint arapana, PO- Phal, PS- Balianta, Dist - Khordha. Mob- 62902 67842	85	52	45	20	22	42	42.53	427838
21	Bhubaneswar	Gandarpur Sand Source, Gandarpur	New	607	2538	30								85	51	58	20	23	24	474	141665
TOTAL																				29,64,703	