



DISTRICT SURVEY REPORT (DSR)

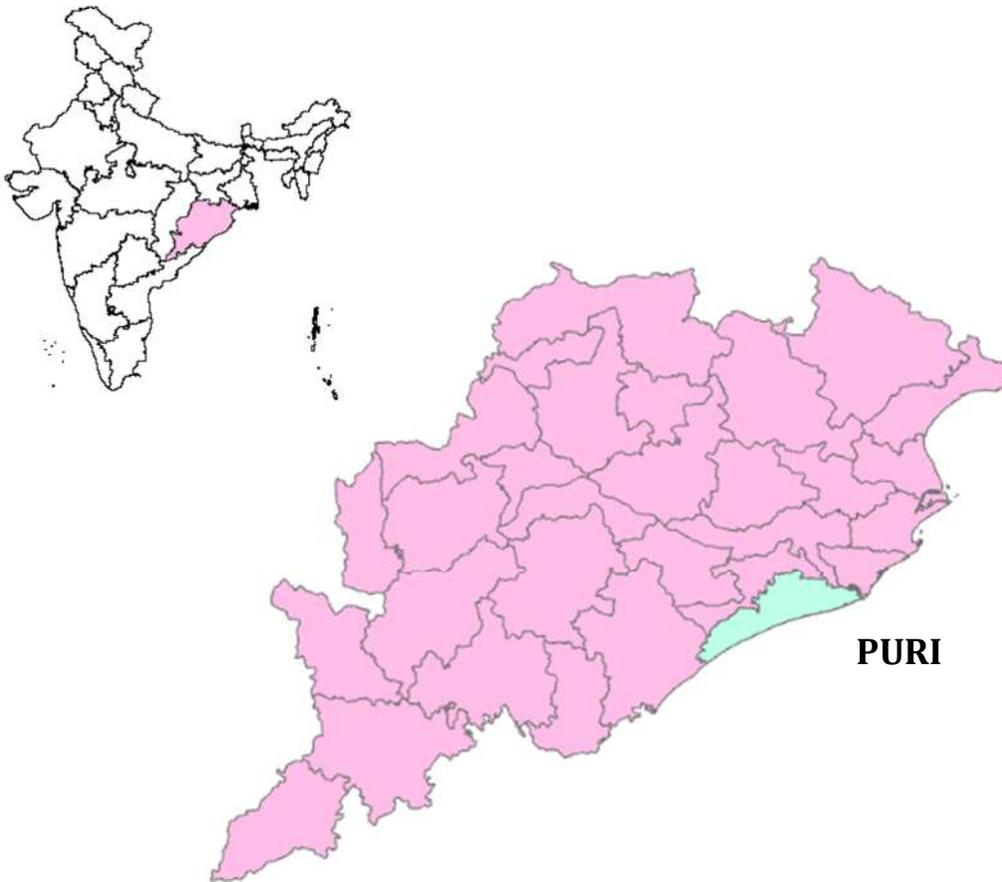
OF

PURI DISTRICT, ODISHA.

FOR

RIVER SAND

(FOR PLANNING & EXPLOITATION OF MINOR MINERAL RESOURCES)



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

New Delhi dated 25th July 2018 of

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

COLLECTORATE PURI.

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PREFACE

Odisha is one of the Major Mineral rich State in India. Puri is a unique District in Odisha lies on the Eastern part of the State with rich and varied mineral resource. It is a paradise for Geoscientists of India and abroad. The landmass constituting the Puri 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 15th 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 14th 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 27th 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 13th 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 14th 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 27th 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

Puri District at a Glance:

1.1 History

The District of Puri has been named after its head quarters, Puri. According to Cunningham, the ancient name of this town was Charitra, mentioned by the Chinese pilgrim Hiuen Tsang as Che-li-ta-lo. But the restoration of the word Che-li-ta-lo as Charitra and its identification with the town of Puri are open to doubt. The importance of the town as a seat of Vaisnavism increased when Chodaganga Deva constructed the temple of Purusottama Jagannath and installed the images of the deities. Thereafter, it became famous as the abode of Purusottama and was popularly called Purusottama Kshetra.

Purusottama name was applied to this town from the drama Anargharaghava Natakam attributed to cir. 9th century A.D. In the Nagari Plate of Anangabhima III of the Saka year 1151-52, i.e., 1229-30 A.D., the place is called Purusottama Kshetra. This name in the form of Purusottama Chhatar or only in the form Chhatar was used by the Mughals, the Marathas as well as the early British rulers in their official records. Even in Yoginitantra and Kalikapurana, the city is referred to as Purusottam. Puri region was also known as Utkal.

The name Purusottama Kshetra was also for sometime known as Purusottama Puri and as the word Purusottama Kshetra was contracted into Kshetra or Chhatra, so also Purusottama Puri was expressed in the contracted form, Puri. In fact, in many early British records this town is known by the name "Pooree". In modern times, Puri has become the most popular name amongst all other names of this town.

Under Mughal Rule (1592-1751), Odisha for the purpose of revenue administration was divided into three circars, namely Jaleswar, Bhadrak and Kataka, each of which under the Mughals was subdivided into Bishis. Puri formed a part of Kataka circar. After their occupation of Odisha in 1751, the Marathas brought about some changes in the revenue divisions of the province. They divided Odisha, which then extended from the river Suvarnarekha in the North to the lake Chilika in the South, into four Chakalas viz. Pipli, Kataka, Soro and Balasore. The Chakala of Pipli comprised major portions of the modern District of Puri.

The Chakalas were divided into Parganas and again into Mahals or Taluqs. The conquest of Odisha by the British in 1803 set fourth great changes in revenue divisions and political relations.

In June 1804, the province was divided into two divisions, namely the Northern and Southern Divisions, with the river Mahanadi forming the boundary. Robert Ker and Charles Groeme were appointed as Judge, Magistrate and Collector in Northern and Southern Divisions respectively. By 1805 both divisions were amalgamated and G. Webb succeeded Groene as Collector and Robert Ker became the Judge and Magistrate of the whole province.

As the Raja of Khurdha revolted the 1804, he was arrested and was placed in confinement in the Fort of Barabati at Cuttack. His territory was confiscated and the Raja was subsequently released. In 1807 he was permitted to live at Balisahi in the town of Puri and functioned as superintendent of the temple of Jagannath. Puri was the capital of the province of Odisha and the headquarters of the Collector till 1816. In 1806 there was a proposal to move the head quarters to Jajpur, but it didn't get Governments' sanction. In August 1814, a part of the Collector's establishment was removed to Cuttack, which was again brought back to Puri in December.

By 1916 the head quarter was permanently shifted to Cuttack, which was the head quarter during the Mughals and Marathas. By 1818, the office of the Commissioner was established and Robert Ker became the first Commissioner.

From 1813 to 1819, there was a joint Magistrate at Puri with the jurisdiction over the thanas of Pipli, Gop, Hariharpur and Kiran. By 1819 this office was abolished and the joint magistrate of Khurdha was given the charge of the above thanas. On 11th February 1822, the office of the joint magistrate of Khurdha was abolished and Odisha was again divided into two divisions with the river Baitarani as the dividing line. Willkinson, the collector of Cuttack, was placed in charge of Cuttack and Khurdha and Ricketts with powers of a collector was given the charge of Balasore and Bhadrak.

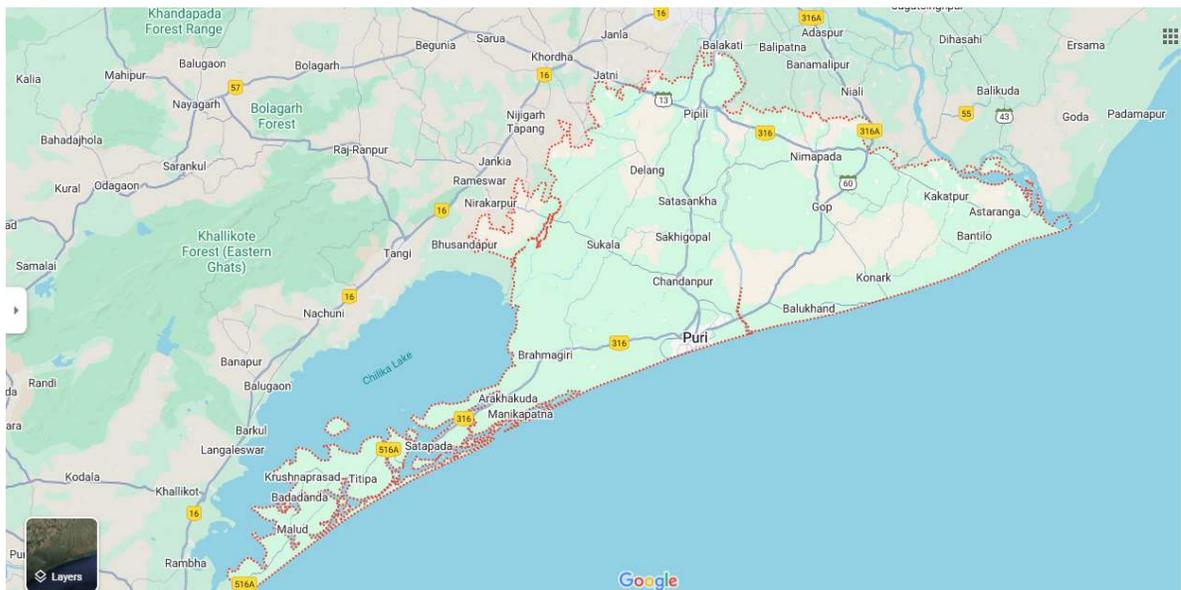
Finally on 23rd October 1828, the province was divided into three Districts, namely Balasore, Cuttack and Jagannath, which was later known as Puri. Regulation IV of 1821 had provided that the power of a magistrate and collector might be vested in one and the same person and accordingly one magistrate and collector was appointed in each of the above three Districts. H. Ricketts, R. Hunter and W. Willkinson were the first magistrate and collectors of Balasore, Cuttack and Puri Districts respectively.

In 1912, the new province of Bihar and Odisha was formed and subsequently Odisha became a separate province in 1936. After integration with Odisha on 1st January 1948, of the feudatory states of Nayagarh, Daspalla, Khandapara and Ranapur with a total area of 3941 sq. km., a separate sub-division comprising these ex-states was added to Puri District with its headquarters at Nayagarh. The fourth sub-division of Bhubaneswar was established on 26th January 1959. The old Puri District consisted of four sub-divisions i.e. Puri Sadar, Khurdha, Bhubaneswar and Nayagarh. Puri Sadar sub-division consisted of four Tahasils i.e. 1) Krushna Prasad 2) Sadar 3) Pipili and 4) Nimapara. Again by the year 1995, Puri District was divided into 3 Districts i.e.

1. Nayagarh District comprising of Nayagarh sub-division.
2. Khurda District comprising of Khurda and Bhubaneswar sub-divisions.
3. Puri District comprising of Puri Sadar sub-division only.

1.2 Location and Geographical Area:

Puri is one of the Districts of Odisha. Puri is the District Head Quarter, spreading over an area of 3479 sq.km. The District is surrounded by Jagatsingpur & Cuttack District in its northern side, Khordha District in its West, Ganjam District in its South and Bay of Bengal lies in the Eastern side. Puri is in the coastal delta of the Mahanadi River on the shores of the Bay of Bengal. In the ancient days it was near to Sisupalgarh (also known as "Ashokan Tosali"). Then the land was drained by a tributary of the Bhargavi River, a branch of the Mahanadi River. This branch underwent a meandering course creating many arteries altering the estuary, and formed many sand hills. These sand hills could be cut through by the streams. Because of the sand hills, the Bhargavi River, flowing to the south of Puri, moved away towards the Chilika Lake. This shift also resulted in the creation of two lagoons, known as Sar and Samang, on the eastern and northern parts of Puri respectively. Sar lagoon has a length of 5 miles (8.0 km) in an east–west direction and a width of 2 miles (3.2 km) in north–south direction. The estuary of the Bhargavi River has a shallow depth of just 5 feet (1.5 m) and the process of siltation continues. According to a 15th-century Odia writer Saraladasa, the bed of the unnamed stream that flowed at the base of the Blue Mountain or Neelachal was filled up. Katakarakjavamsa, a 16th-century chronicle (c.1600), attributes filling up of the bed of the river which flowed through the present Grand Road, as done during the reign of King Narasimha II (1278–1308) of Eastern Ganga dynasty.



1.3 Administrative Units:-

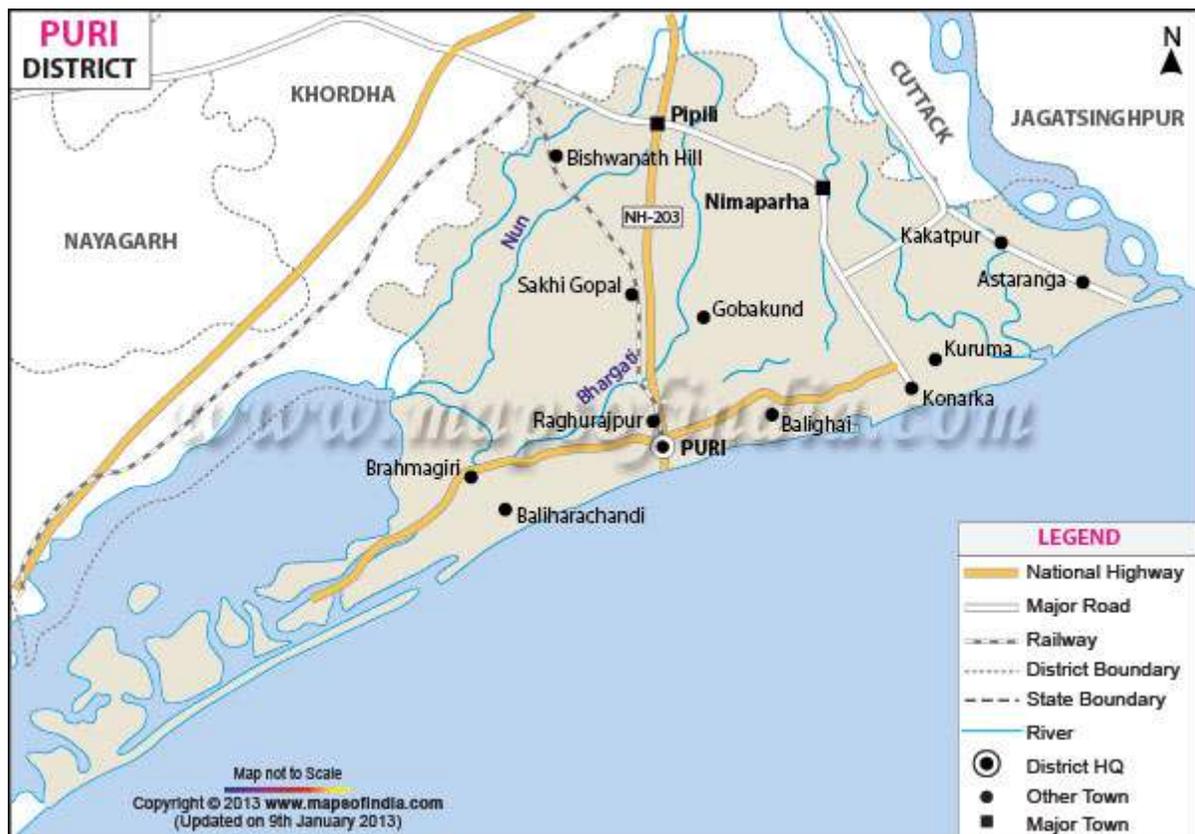
Puri is the Administrative Headquarter of Puri District. It is located at a distance of 50 km from Bhubaneswar, State Capital of Odisha. It has 1722 villages covering 11 Blocks, 11 Tahasils and 1 sub-division. The district Tahasils namely 1) Astaranga 2) Brahmagiri 3) Delanga 4) Gop 5) Kakatapur 6) Kanas 7) Krushnaprasad 8) Nimapara 9) Pipili 10) Puri sadar 11) Satyabadi. The population of the District is 1698730 according to the 2011 Census. The District accounts for 2.23% of the State's territory and about 4.04% of State's population. The density of population of the District is 488 per square km as against 610 per square km of the State. As per 2011 census, the population of Scheduled Caste is 325133 (19.14%), and Scheduled Tribe is 6129 (0.36%). The literacy percentage of the District covers 76.05 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 Puri town are NH-203 pass through the District. Puri Town is about 60 Kms from the state capital Bhubaneswar, 80 Kms from Cuttack, 170 Kms from Berhampur, 380 Kms from Rourkela. It is also connected with other cities such as Jagatsingpur, Kendrapara and Jajpur.

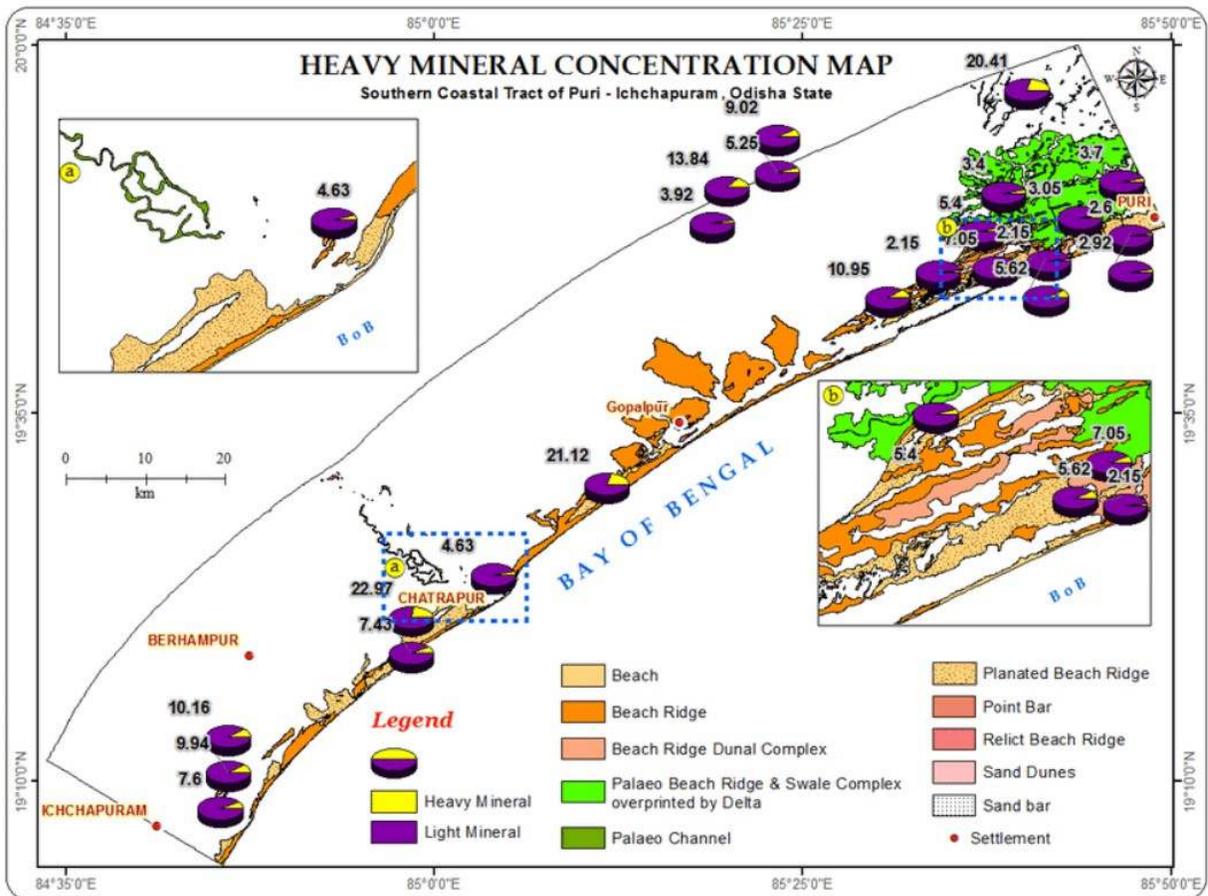
Rail Connectivity: Puri District is well connected to the Railway network. It connect to the Khordha Road Railway stations through which it goes to Bhubaneswar, Cuttack, Jajpur, Bhadrak, Balesore, Kolkota in the northern side of the district & Berhampur, Visakhapatanam, Chennai to the southern side of the district.



2. OVERVIEW OF MINING ACTIVITY IN THE DISTRICT:

Heavy minerals: The beach and sand dune deposit contains heavy minerals like monazite, rutile, illmenite, zircon etc. Such deposits are seen around Paikirapur, Nandala, Brahmandeo, Bajrakot and Udegiri over a length 91.23km. The total reserve of heavy minerals in these areas has been estimated as 147 million tonnes and the average grade of the heavies in beach sand is 11.8%.

River Sand deposits: River sand deposits occur around Bayakuda, Gop, Ganeswarpur, Begunia, Sovanpur, Balanga, Haripur, Dhirapur and Chhenua villages of the district and used as construction material for buildings and roads.



3. The List of Mining Leases in the District with location, area and period of validity

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)	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									
1	Delanga	DAYA RIVER SAND BASUMANDAL (01/2020-2021)	Sri- Subala Dhal, S/O-Golakh Dhal, At-Nijjadakurukhi, Po-Harirajpur, Ps- Pipili, Dist-Puri	Lr No- 3216 Dtd- 28-08-2020	1.821 Ha. Khat No. 8 Plot No. 85	NA	NA	NA	NA	Non-Operational	Non- Captive	NA	Lat- 20°07'55.18"N Long- 85°44'55.04"E	Open Cast	LOI Issued	Existing
2	Delanga	DAYA RIVER SAND TIGIRIA (02/2020-2021)	Sri- Kulamani Mantri, S/O- Nidhi Mantri, At-Bidyadharpur(Satyanarayan Sahi), Po- Godisahi, Ps- Baranga, Dist-Cuttack	Lr No- 3217 Dtd- 28-08-2020	3.844 Ha. Khat No. 54 Plot No. 3	NA	NA	NA	NA	Non-Operational	Non- Captive	NA	Lat- 20°07'57.31"N Long- 85°44'59.80"E	Open Cast	LOI Issued	Existing
3	Delanga	DAYA RIVER SAND BHANSAR (02/2020-2021)	NA	Lr No. 4096	9.15 Ha. Khata No. 594 Plot No. 2932	NA	NA	NA	NA	Non-Operational	Non- Captive	NA	Lat- 20°07'45.79"N Long- 85°44'31.96"E	Open Cast	LOI Issued	Existing
4	Delanga	DAYA RIVER SAND GADA BEGUNIPADA (04/2020-2021)	Sri- Tapan Ku Ray, S/O- Swadhin Ray, At-Gada Beguniapada, Po-Ghorodia, Ps- Delanga, Dist- Puri	Lr No- 3425 Dtd- 16-09-2020	5.058 Ha. Khat No. 319 Plot No. 1	NA	NA	NA	NA	Non-Operational	Non- Captive	Lr No- EC23001OR176367 Dtd- 17-05-2023	Lat- 20°04'45.65"N Long- 85°40'25.46"E	Open Cast	LOI Issued	Existing
5	Delanga	DAYA RIVER SAND MAJHIBADA A (05/2020-2021)	Sri- Sukanta Ku Dash, S/O- Anam Charan Dash, AT/PO- Nuasasan, Ps- Pipili, Dist- Puri	Lr No- 3220 Dtd- 28-08-2020	2.49 Ha. Khat No. 142 Plot No. 538	NA	NA	NA	NA	Non-Operational	Non- Captive	NA	Lat- 20°06'56.88"N Long- 85°43'57.65"E	Open Cast	LOI Issued	Existing
6	Delanga	DAYA RIVER SAND MAJHIBADA B (06/2020-2021)	Sri- Prsanna Ku Dhal, S/O- Subal Dhal, At-Nijjadakuruki, Po-Harirajpur, P.S- Pipili, Dist- Puri	Lr No- 3525 Dtd- 30-09-2020	2.49 Ha. Khat No. 142 Plot No. 538 / 540	04.03.2022	03.03.2027	NA	04.03.2022	Operatioanal (In-active)	Non- Captive	Lr No- 2785/SEIAA Dtd- 22-09-2021	Lat- 20°06'47.79"N Long- 85°43'31.39"E	Open Cast	LOI Issued	Existing
7	Delanga	MANITRI SAND BED	NA	NA	3.237 Ha. Khata No. 103 Plot No. 319	NA	NA	NA	NA	Non-Working	Non- Captive	NA	Lat- 20°05'28.74"N Long- 85°41'54.69"E	Open Cast	NO	Proposed
8	Gop	THORAB SAND BED	NA	NA	2.023 Ha. Khata No. 166/1 Plot No. 10	NA	NA	NA	NA	Non-Working	Non- Captive	NA	Lat- 20°35'26.76"N Long- 85°53'50.17"E	Open Cast	NO	Proposed
9	Kakatapur	BAURIKANA SAND QUARRY (14/2018-19)	Smt- Sakuntala Kabu, W/O- Ullash Kabu, AT/PO- Alipingal, Ps/Dist- Jagatsinghpur	Lr No- 4667 Dtd- 19-11-2018	9.550 Ha. Khat No.1605 Plot No. 1780 & 1690(P)	20.06.2024	19.06.2029	NA	20.06.2024	Operatioanal	Non- Captive	Lr No- EC23B001OR145775 Dtd- 07-11-2023	Lat- 20°02'12.4"N Long- 86°14'27.0"E	Open Cast	LOI Issued	Existing
10	Nimapada	SAMAREI SASAN SAND BED	NA	NA	3.237 Ha. Khata No. 264 Plot No. 1151	NA	NA	NA	NA	Non-Working	Non- Captive	NA	Lat- 20°05'35.61"N Long- 85°51'41.33"E	Open Cast	NO	Proposed
11	Nimapada	SAISA SASAN SAND BED	NA	NA	4.046 Ha. Khata No. 872 Plot No. 1	NA	NA	NA	NA	Non-Working	Non- Captive	NA	Lat- 20°04'33.41"N Long- 85°52'36.17"E	Open Cast	NO	Proposed
12	Nimapada	UGRESWAR DEULI SAND BED	NA	NA	4.046 Ha. Khat No. 109 Plot No. 52 & 55	NA	NA	NA	NA	Non-Working	Non- Captive	NA	Lat- 20°04'45.27"N Long- 85°52'34.37"E	Open Cast	NO	Proposed
13	Nimapada	HARIPUR- 1 SAND BED	NA	NA	1.214 Ha. Khata No. 915 Plot No. 1513	NA	NA	NA	NA	Non-Working	Non- Captive	NA	Lat- 20°06'42.63"N Long- 85°51'31.65"E	Open Cast	NO	Proposed

14	Nimapada	HARIPUR- 2 SAND BED	NA	NA	3.237 Ha. Khata No. 915 Plot No. 2 & 413	NA	NA	NA	NA	Non-Working	Non- Captive	NA	Lat- 20°07'09.97"N Long- 85°52'10.87"E	Open Cast	NO	Proposed
15	Nimapada	TERAHALA SAND BED	NA	NA	1.618 Ha. Khata No.191 Plot No. 59 & 62	NA	NA	NA	NA	Non-Working	Non- Captive	NA	Lat- 20°03'14.4"N Long- 85°52'19.9"E	Open Cast	NO	Proposed
16	Nimapada	GADAPADANPUR SAND BED	NA	NA	1.618 Ha. Khata No. 707 Plot No. 1081	NA	NA	NA	NA	Non-Working	Non- Captive	NA	Lat- 20°05'09.64"N Long- 85°52'14.71"E	Open Cast	NO	Proposed
17	Pipili	GANGAPADA SAND BED (05/2019-2020)	Sri- Kartika Behera, S/O- Brajabandhu Behera, At/Po- Pubasasan, P.S- Pipili, Dist- Puri	Lr No- 3046 Dtd- 10-07- 2020	1.416 Ha. Khat No. 83 Plot No. 280 & 281	21.12.2020	20.12.2025	NA	21.12.2020	Operatioanal (In-active)	Non- Captive	Lr No- 9821/SEIAA Dtd- 01-12-2020	Lat- 20°07'51.6"N Long- 85°53'06.0"E	Open Cast	LOI Issued	Existing
18	Pipili	DAYA RIVER SAND PATELIKUDA (06/2019-2020)	Smt- Santilata Jena, W/O- Jayaram Jena, At- Madhupur, Po- Laxminarayanpur, P.S- Pipili, Dist- Puri	Lr No- 3047 Dtd- 10-07- 2020	1.618 Ha. Khat No. 136 Plot No. 29	21.12.2020	20.12.2025	NA	21.12.2020	Operatioanal (In-active)	Non- Captive	Lr No- 9817/SEIAA Dtd- 01-12-2020	Lat- 20°11'28.3"N Long- 85°52'19.9"E	Open Cast	LOI Issued	Existing
19	Pipili	DAYA RIVER SAND KANTI KOTHABADA NIJIGADAKURUKI (01/2019-2020)	Smt- Rupashree Pattanaik, W/O- Dwitikrushna Pattanaik, AT/PO- Karana Sahi (Dandamukundapur), Ps- Pipili, Dist- Puri	Lr No- 3042 Dtd- 10-07- 2020	1.416 Ha. Khat No. 502 Plot No. 01	21.12.2020	20.12.2025	NA	21.12.2020	Operatioanal (In-active)	Non- Captive	Lr No- 3042 Dtd- 10-07-2020	Lat- 20°08'21.5"N Long- 85°46'11.7"E	Open Cast	LOI Issued	Existing
20	Pipili	DAYA RIVER SAND KAKUDIA (02/2019-2020)	Sri- Prsanna Ku Dhal, S/O- Subal Dhal, At- Nijagadakeruki, Po- Harirajpur, P.S- Pipili, Dist- Puri	Lr No- 3043 Dtd- 10-07- 2020	1.618 Ha. Khat No. 351 Plot No. 773	21.12.2020	20.12.2025	NA	21.12.2020	Operatioanal (In-active)	Non- Captive	Lr No- 9815/SEIAA Dtd- 01-12-2020	Lat- 20°08'18.7"N Long- 85°45'44.9"E	Open Cast	LOI Issued	Existing
21	Pipili	DAYA RIVER SAND TOTAPADA (03/2019-2020)	Sri- Kartika Behera, S/O- Brajabandhu Behera, At/Po- Pubasasan, P.S- Pipili, Dist- Puri	Lr No- 3044 Dtd- 10-07- 2020	1.618 Ha. Khat No. 245 Plot No. 59	21.12.2020	20.12.2025	NA	21.12.2020	Operatioanal (In-active)	Non- Captive	Lr No- 9819/SEIAA Dtd- 01-12-2020	Lat- 20°07'41.1"N Long- 85°47'48.6"E	Open Cast	LOI Issued	Existing
22	Pipili	DAYA RIVER SAND GOBARDHANPUR SULTAN NAGAR (04/2019-2020)	Smt- Sujata Nayak, W/O- Ajaya Ku Lenka, At/Po- Laxminarayanpur, P.S- Pipili, Dist- Puri	Lr No- 3045 Dtd- 10-07- 2020	1.821 Ha. Khat No. 183 Plot No. 1	21.12.2020	20.12.2025	NA	21.12.2020	Operatioanal (In-active)	Non- Captive	Lr No- 9815/SEIAA Dtd- 01-12-2020	Lat- 20°08'48.431"N Long- 85°49'21.853"E	Open Cast	LOI Issued	Existing
23	Pipili	MADHUPUR SAND BED	NA	NA	2.023 Ha. Khat No. 156 Plot No. 1	NA	NA	NA	NA	Non-Working	Non- Captive	NA	Lat- 20° 9'32.41"N Long- 85°49'30.89"E	Open Cast	NO	Proposed
24	Pipili	DAKHINNUA NUAGAON SAND BED	NA	NA	2.023 Ha. Khat No. 370 Plot No. 400	NA	NA	NA	NA	Non-Working	Non- Captive	NA	Lat- 20° 7'44.75"N Long- 85°48'10.65"E	Open Cast	NO	Proposed
25	Pipili	SUABAREI SAND BED	NA	NA	3.237 Ha. Khat No. 494 Plot No. 894	NA	NA	NA	NA	Non-Working	Non- Captive	NA	Lat- 20° 9'30.69"N Long- 85°49'31.05"E	Open Cast	NO	Proposed
26	Pipili	ATHARBHAG SAND BED	NA	NA	4.046 Ha. Khat No. 176 Plot No. 132	NA	NA	NA	NA	Non-Working	Non- Captive	NA	Lat- 20° 7'46.23"N Long- 85°48'46.54"E	Open Cast	NO	Proposed
27	Pipili	PARIJNAR SAND BED	NA	NA	2.023 Ha. Khat No. 100 Plot No. 406 & 257	NA	NA	NA	NA	Non-Working	Non- Captive	NA	Lat- 20° 8'37.71"N Long- 85°53'51.68"E	Open Cast	NO	Proposed
28	Pipili	PAMASARA SAND BED	NA	NA	3.237 Ha. Khat No. 330 Plot No. 72	NA	NA	NA	NA	Non-Working	Non- Captive	NA	Lat- 20° 9'43.88"N Long- 85°49'38.53"E	Open Cast	NO	Proposed

29	Pipili	RAJTEI SAND BED	NA	NA	2.023 Ha. Khat No. 442 Plot No. 3089 & 3003	NA	NA	NA	NA	Non-Working	Non- Captive	NA	Lat- 20° 3'38"N Long- 85°52'12"E	Open Cast	NO	Proposed
30	Pipili	UJANIPADA SAND BED	NA	NA	4.856 Ha. Khata No. 116 Plot No. 01 & 02	NA	NA	NA	NA	Non-Working	Non- Captive	NA	Lat- 20°08'08.19"N Long- 85°49'03.59"E	Open Cast	NO	Proposed
31	Pipili	ALARPUR SAND BED	NA	NA	4.856 Ha. Khata No. 609 Plot No. 833	NA	NA	NA	NA	Non-Working	Non- Captive	NA	Lat- 20°01'20"N Long- 85°52'48"E	Open Cast	NO	Proposed
32	Pipili	MAGALPUR SAND BED	NA	NA	4.856 Ha. Khata No. 224 Plot No. 90	NA	NA	NA	NA	Non-Working	Non- Captive	NA	Lat- 20°01'28.70"N Long- 85°53'37.69"E	Open Cast	NO	Proposed

4.0 DETAIL OF ROYALTY OR REVENUE RECEIVED IN LAST FOUR YEARS:

SL. NO.	Name of the Tahasil	Amount of revenue received from minor mineral sources (Amount in Rs.)			
		2020-21	2021-22	2022-23	2023-24
1	Astaranga	--	--	--	--
2	Brahmagiri	--	--	--	--
3	Delanga	--	--	516908	208880
4	Gop	15275320	11868011	13545164	12037962
5	Kakatapur	21027122	13444053	18185591	9335502
6	Kanas	--	--	--	--
7	Krushnaprasad	--	--	--	--
8	Nimapada	25771443	31714183	42644137	64032063
9	Pipili	18304520	16119039	8096361	5333929
10	Puri Sadar	--	--	--	--
11	Satyabadi	--	--	--	--
Total		80378405	73145286	92988161	90948336

5.0 DETAILS OF PRODUCTION SAND OR BAJRI OR MINOR MINERAL IN LAST THREE YEARS:

Details of Production in Cum:

Sl. No.	Name of the Tahasil	2021-22	2022-23	2023-24	Total in Cum.
1	Astaranga	--	--	--	--
2	Brahmagiri	--	--	--	--
3	Delanga	--	--	666	666
4	Gop	--	--	--	--
5	Kakatapur	--	--	--	--
6	Kanas	--	--	--	--
7	Krushnaprasad	--	--	--	--
8	Nimapada	--	--	--	--
9	Pipili	5436	6065.5	584	12085.5
10	Puri Sadar	--	--	--	--
11	Satyabadi	--	--	--	--
Grand Total		5436	6065.5	1250	12751.5

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

Sl. No.	Name of theRiver	Financial Year	Process of Deposition ofSediments
1	Kusabhadra River	2020-21	moderate
		2021-22	---do---
		2022-23	---do---
2	Daya River	2020-21	moderate
		2021-22	---do---
		2022-23	---do---
3	Bhargabi River	2020-21	slow
		2021-22	---do---
		2022-23	---do---
4	Kadua River	2020-21	Slow
		2021-22	---do---
		2022-23	---do---
5	Prachi River	2020-21	Slow
		2021-22	---do---
		2022-23	---do---
6	Devi River	2020-21	moderate
		2021-22	---do---
		2022-23	---do---
7	Nuanai River	2020-21	Slow
		2021-22	---do---
		2022-23	---do---

7.0 GENERAL PROFILE OF THE DISTRICT:

7.1 Demography:

Descriptions	Area / Numbers
Area	3479.00 sq.km.
No. of Subdivision	01
No. of Blocks	11
No. of Tahasils	11
No. of Municipality	01
No. of NAC	03
No. of Grampanchayat	268
No. of Villages	1722

Category	Population	Percentage
Total Population	1698730	
Male	865380	50.94
Female	833350	49.06
Rural	1433800	84.40
Urban	264930	15.60
Scheduled cast	325133	19.14
Scheduled cast Male	164366	50.55
Scheduled cast Female	160767	49.45
Scheduled Tribe	6129	0.36
Scheduled Tribe male	3240	52.86
Scheduled Tribe Female	2889	47.14

POPULATION DENSITY 488 per sq. Km.

LITERACY TOTAL LITERACY =76.05

LITERACY MALE =54.56

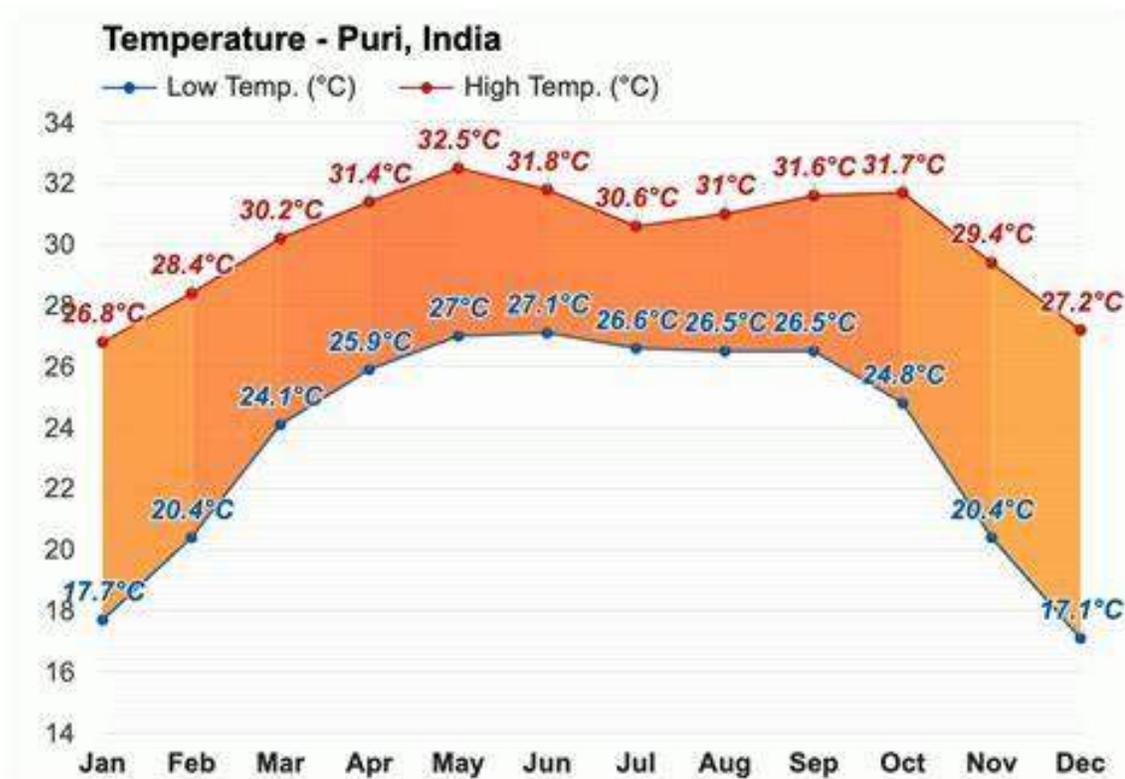
LITERACY FEMALE =45.44

7.2 Climate:

The area experienced the sub-tropical to tropical, temperate monsoon climate and characterized by a hot summer and general dryness throughout the year except during the south-west monsoon season, i.e., June to September. December is the coldest month with a mean daily maximum temperature at 26.90C and the mean daily minimum temperature at 13.40C. Both day and night temperature increases rapidly from March, and by May, the mean daily maximum temperature reaches to 420C, while the mean minimum temperature is 26.80C.

As per the IMD observation in the district, the air is generally dry except during the monsoon period. In the summer months, the relative humidity is low in the range of 30%. During monsoon, the humidity goes up to 82% or more. Wind velocity, in general, is low to moderate with some increase in summer and monsoon season. Winds are mostly blown from southwest and northeast direction during the monsoon period. In the cold season, winds are mainly from west or north. In the summer months, the wind flows from variable directions. The mean annual wind speed is 6.8 km./hr. The mean monthly potential evapotranspiration value range from 40 mm in December to 326 mm in May.

Source: Indian Meteorological Department.



7.3 Education

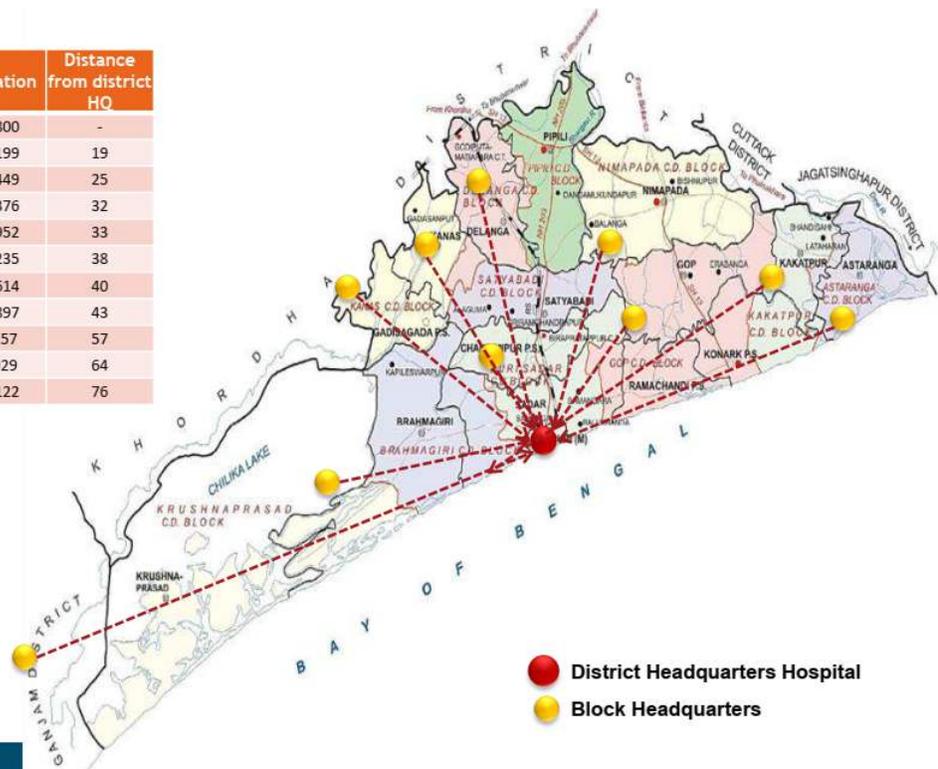
Primary School (2017-18)	No. of Schools	1294
	Enrolment (No)	120142
	Pupil Teacher Ratio	16.34
Upper Primary School 2017-18	No. of Schools	871
	Enrolment (No)	75134
	Pupil Teacher Ratio	17.02
General College 2017-18	Junior	62
	Degree	45
Secondary School	No. of Schools	378
	Enrolment (No)	49227
	Pupil Teacher Ratio	23.99
Literacy Rate, 2011	Male	90.8
	Female	78.3
	Total	84.7

7.4 Health

The medical facilities are provided by different agencies like Govt., Private individuals and voluntary organizations in the district.

Sub divisional hospitals including mobile	6 No
Beds facilities	698 No
Homoeopathic dispensaries	24 No
Ayurvedic dispensaries	16 No

Catchment Type	Name of the block	Population	Distance from district HQ
Primary	Puri	150,800	-
	Satyabadi	113,199	19
	Brahmagiri	139,449	25
	Delanga	123,376	32
Secondary	Gop	165,952	33
	Pipili	140,235	38
	Kanas	142,614	40
	Nimapada	189,897	43
	Kakatpur	192157	57
	Astaranga	166929	64
	Krushnaprasad	174,122	76



DETAILS OF OCCUPATIONAL HEALTH ISSUES IN THE DISTRICT

As per the guidelines of the Mine Rules 1995, occupational health safety has been stipulated by the ILO/WHO. The proponent's will take necessary precautions to fulfill the stipulations. Normal sanitary facilities have to be provided within the lease area. The management will carry out periodic health checkup of workers. Occupational hazards involved in mines are related to dust pollution, noise pollution, blasting and injuries from moving machineries & equipment and fall from high places. DGMS has given necessary guidelines for safety against these occupational hazards. The management has to strictly follow these guidelines. All necessary first aid and medical facilities are to be provided to the workers. The mine shall be well equipped with personal protective equipment (PPE). Further, all the necessary ported equipment such as helmet, safety goggles, earplugs, earmuffs etc are to be provided to mine workers as per Mines Rules. All operators and mechanics are to be trained to handle firefighting equipment. There is no case of Silicosis found in the district within the time frame mentioned above.

DETAILS OF TUBERCULOSIS DATA RNTPC, PURI**TUBERCULOSIS DATA RNTCP, PURI**

YEAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	TOTAL
15-16	94	89	91	84	82	81	89	92	90	92	93	93	1036
16-17	86	84	90	88	84	91	74	76	76	84	86	86	1005
17-18	94	89	99	94	91	97	73	75	73	94	96	97	1072
18-19	102	103	103	86	88	85	91	89	89	104	102	108	1150
TOTAL	376	365	383	352	345	354	327	332	328	374	377	384	4297
AVG	94	91	96	88	86	89	82	83	82	94	94	96	1074

Source : ADPHO (TB) Puri.

7.5 Culture & Heritage

Puri is one of the fascinating littoral districts of Odisha. The cultural heritage of Puri with its long recorded history beginning from the third century B.C., The monuments and religious sanctity, way of life of the people with their rich tradition possess emphatically to be the cultural heart of Odisha. Puri is considered to be a cultural capital of Odisha.

The district has a conglomeration of different religions, sects and faiths in course of its history. Majority of the people are Hindus. The other important communities are Muslims, Sikhs, Jains, Christians and indigenous groups are found in the district. The Hindu monuments of various sectors like Shaivism, Vaishnavism, Sakti cult, Ganapatya, Mahabir etc. are found. Similarly Muslim Mosques, Christian Churches are also noticed here.

7.6 Festivals, Art, Weaving and Paintings

Puri District, renowned for its cultural heritage, is rich in festivals, art, weaving, and traditional paintings that reflect the region's vibrant traditions.

Festivals

Puri is famous for its grand festivals, the most notable being the **Rath Yatra** (Chariot Festival), held in June or July. This event attracts thousands of devotees who come to witness the procession of the deities Jagannath, Balabhadra, and Subhadra on massive chariots. Other important festivals include **Maha Shivaratri**, **Anla Nabami**, and **Durga Puja**, each celebrated with great enthusiasm, showcasing elaborate rituals and community participation.

Art

The district is home to unique artistic traditions, including **Pattachitra**, a traditional cloth-based scroll painting characterized by intricate details and mythological narratives. These paintings often depict stories from Hindu scriptures and are recognized for their vivid colors and fine craftsmanship. Local artisans also create beautiful **stone carvings** and woodwork, which reflect the religious and cultural themes of the region.

Weaving

Puri is famous for its **handwoven textiles**, particularly **ikat** fabrics. The intricate tie-dye technique used in weaving produces stunning patterns and designs, making these textiles highly sought after. Local artisans create sarees, stoles, and other garments that are not only beautiful but also reflect the rich cultural heritage of Odisha.

Paintings

In addition to Pattachitra, the region is known for other painting styles, such as **Saura paintings**, which are tribal art forms depicting folklore and daily life using natural pigments. These artworks often incorporate themes from nature and are created on walls or canvas, celebrating the local culture and traditions.

Overall, the festivals, art, weaving, and paintings of Puri District form a vibrant tapestry that showcases the area's rich cultural identity and continues to thrive through generations of artisans and community participation.

7.7 Tourist Places

There are 20 nos. of tourist centers such as Astaranga, Balighai, Baliharchandi, Barala (Balunkeswarpitha), Biswanath Hill, Beleswar, Brahmagiri, Chaurasi, Chilika, Jhaniapira, Kakatpur, Konark, Kuruma, Manikpatna, Pipli, Puri, Raghurajpur, Ramachandi, Satyabadi and Baligoan and identified by department of Tourism and Culture, Odisha. During the year 2011, the numbers of Domestic tourists were 15833106 and foreign tourists were 69539 who visited the tourist spots of the district.

River Sand Mining

Jagannath Temple



Ramachandi Temple



Manikpatna



Jahaniapira



Chilika



DSR of Puri District

Konark Temple



Pipili



Kakatapur



Chourasi



Astaranga



8.0 LAND UTILIZATION PATTERN IN THE DISTRICT

8.1 Forest and non forest land

The forest of Puri District is full of varieties of medicinal plant. Kendu leaves, Bamboo, Sal, Teak, Mango other timber species and a wide range of carnivorous & herbivorous wild animals live in the forest. The District has one Wildlife Sanctuary known as Chlika Wildlife Sanctuary & Balukhand- Konark Wild Life Sanctuary. This sanctuary is home to many wildlife species like Birds, Crocodiles, mouse deer, a wide variety of birds like green munia, Great Eared-nightjar and various reptiles. The sanctuary is home to a herd of Blackbuck and Spotted Deer. Other animals found in the sanctuary include monkey, squirrel, jungle cat, hyena, jackal, mongoose and variety of birds and reptiles. Olive ridley sea turtles nest on the beaches.

District-wise Forest Cover Area in Odisha (Area in Km²)

2017 Assessment								
District	Geographical Area Km ²	Very Dense Forest	Moderate. Dense Forest	Open Forest	Total	Percent of 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

River Sand Mining**DSR of Puri District**

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
Grand Total	155707	6967	21730	23008	51345	32.98	885	4306

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

The total geographical area of the district is 3,48,102 ha, out of which total net sown area is 1,88,229 ha, and the gross cropped area is 2,84,633 ha. Area sown more than once is 117381 ha. The cropping intensity is highest (194%) in Pipili, followed by Kakatpur block (193%). In other blocks, the cropping intensities are 166% in Astaranga, 141% in Brahmagiri, 180% in Delanga, 150% in Gop, 154% in Kanasa, 113% in Krushna Prasad, 169% in Nimapara, 160% in Puri Sadar and 174 % in Satyabadi block. The irrigated area of the district is 1,89,972 ha, and the rainfed area is 1,16,093 ha, out of which Kharif irrigated area is 1,11,900 ha, and Rabi irrigated area is 78,072 ha. Agriculture occupies an important place in the economy of the Puri district. The total land use pattern is shown.

LAND USE PATTERN OF PURI DISTRICT

Block	Forest Area	Misc. tree	Barren & Uncultivab	Land put to non-	Cultiva ble	Permane nt	Curre nt	Other fallow	Net area
Astaranga	620	480	43	4126	1062	1258	152	326	7827
Bramhagiri	845	5159	1008	5376	1002	2076	2027	1269	13029
Delanga	0	346	647	4408	61	976	138	323	13661
Gop	1053	2702	110	5228	732	1496	1661	1074	20292
Kakatapur	490	493	0	3057	729	745	318	361	10151
Kanas	0	341	0	4426	238	594	2392	314	13998
Krushnaprasad	235	2139	1362	15666	839	3112	605	3519	10533
Nimapara	131	1277	4	5000	476	1761	450	670	18748
Pipili	17	1301	0	3750	479	431	226	1521	12218
Purisadar	40	2207	0	4106	247	344	4550	682	13523
Satyabadi	0	2164	0	2647	141	270	2164	482	9307
URBAN	828	614	69	2701	196	1063	447	447	1182
Total	4259	19223	3243	60491	6202	14126	15130	10988	144469

8.2 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, Sugarcanes & 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 Puri 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 Puri District, Odisha (2023-24)

SI No.	Block	Geographical Area in Ha.	Cultivated Area in Ha.				Paddy Area	Non-Paddy Area
			High	Medium	Low	Total		
1	Puri Sadar	31112	595	4058	11855	16508	12500	595
2	Brahmagiri	33178	490	5190	11770	17450	9400	490
3	Lrushnaparasad	78743	895	6739	7147	14781	11100	895
4	Satyabadi	20295	1778	5710	5924	13412	10100	1778
5	Pipili	25127	3248	6774	9357	19379	15800	3248
6	Delanga	24301	1195	5833	11037	18065	16700	1195
7	Kanas	25611	673	3800	12604	17077	11300	673
8	Nimapada	31824	4903	8500	12830	26233	19500	4903
9	Gop	40718	2944	5653	16779	25376	19700	2944
10	Kakatapur	18788	1305	3173	4991	9469	7800	1305
11	Astaranga	18405	1074	2224	4697	7995	8100	1074
		348102	19100	57654	108991	185745	142000	19100

Land Use Pattern

SI No.	Land Use	Area In '000 Ha.
1	Forest Area	14.225
2	Misc. Tree & Groves	8.881
3	Permanent Pasture	8.374
4	Culturable Waste	3.299
5	Land put to Non-Agril. use	115.01
6	Barren & Uncultivated land	9.568
7	Current Fallow	0.046
8	Other Fallow	0.516
9	Net Area Shown	188.183
10	Mining	130.581
	Geographical Area	348.102

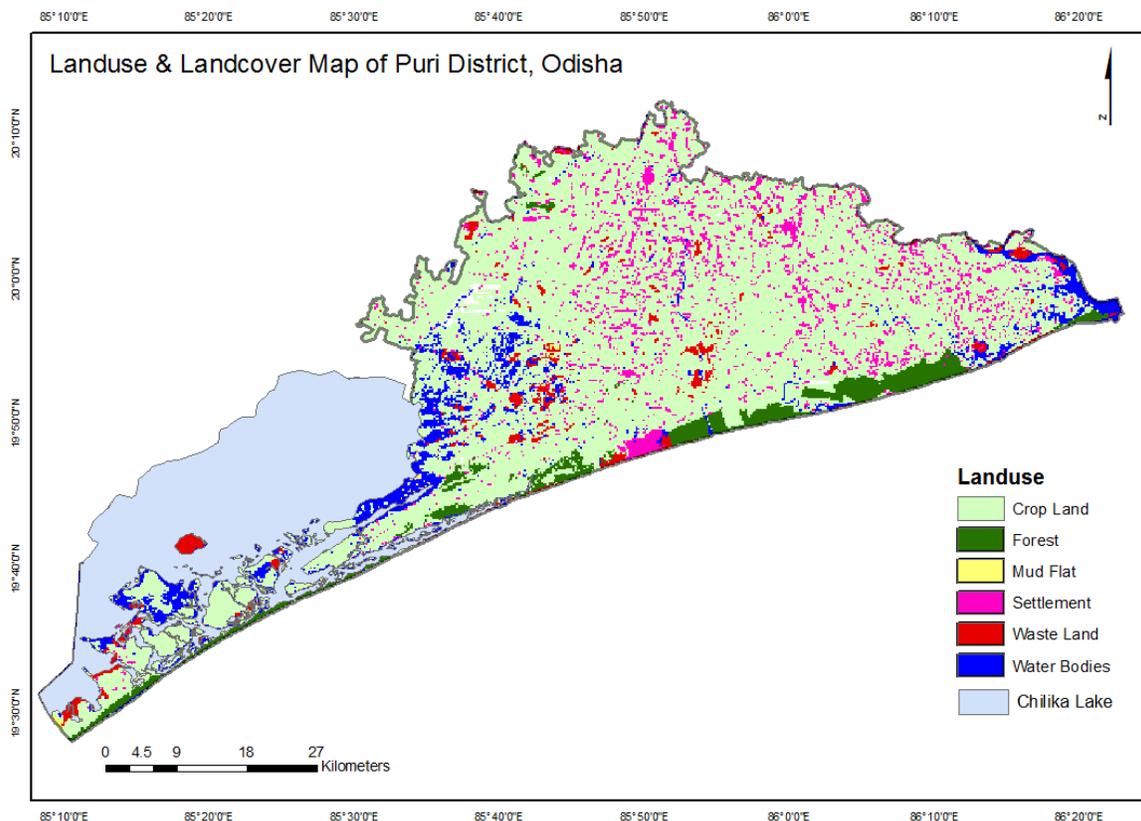
Source: Deputy Director of Agriculture, Puri.

8.3 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:

Block Name	Gross Cropped Area	Net Sown Area	Area Sown more than Once (1-2)	Cropping Intensity (%)
Astaranga	17033	10915	7163	166
Bramhagiri	21825	17448	7212	141
Delanga	34188	18014	14442	180
Gop	38652	25325	12757	150
Kakatpur	17022	9406	8749	193
Kanas	28291	17023	9129	154
Krushna Prasad	18833	14708	1877	113
Nimapara	45394	26205	18090	169
Pipili	19480	19305	18081	194
Puri sadar	25025	16482	9903	160
Satyabadi	18890	13398	9978	174
Total	284633	188229	117381	1794

Source: Deputy Director of Horticulture, Puri.



9.0 PHYSIOGRAPHY OF THE DISTRICT:

Physiographically the district can be broadly divided into three natural divisions.

1. The Saline marshy tract along the coast.
2. The very gently sloping plain.
3. Undulating hard rock areas with lateritic capping and isolated hillocks.

1. The Saline marshy tract along the coast.

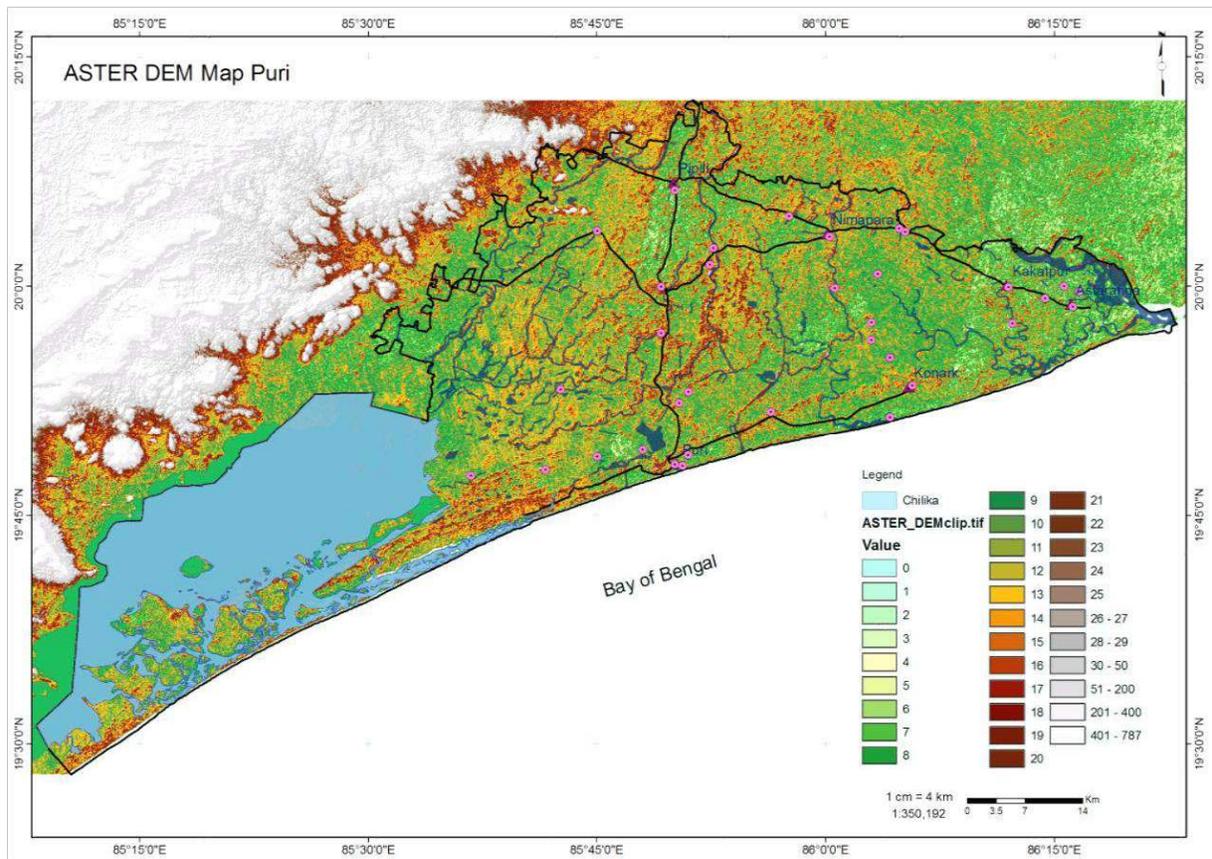
The coastal sand dunes occur as a linear strip, running parallel to the shoreline, which maintain a higher altitude than the immediate interior part. The width of this tract varies from a few hundred meters to 7km. Swamps and tidal flats are also common in this tract. The deltaic plains may be divided into three parts: lower, middle, and upper. The lower deltaic plains occur adjacent to the coastal sand dunes, having a width of 5 to 10km. Extensive flood plains, meandering stream curves, swamps, minor ridges etc. characterize this geomorphic unit. The Sar and Samang lake near Puri were important features in this terrain which have been silted up at present. The middle deltaic plains have characteristic parallel to sub-parallel drainage pattern and splitting distributaries. The upper deltaic plains occur along the course of the Daya river with a width of 2 to 3 km. This alluvial plain is characteristically flat. The altitude of the deltaic plain varies from 1 to 10m above mean sea level (CGWB District report, 2004).

2. The very gently sloping plain.

The coastal plain is a gently sloping plain occurring parallel to the coast and mainly formed by fluvio-marine action and is intersected by a network of creeks, which are mainly saline due to tidal action. The area is marshy with shrubby vegetation. The width of this coastal plain varies from 5 to 25 km. The coastal plain encompasses a series of beach ridges characterized by sand dunes of various relief and extends for kilometers, almost parallel to the coast. The Deltaic alluvial plain spreads over a large area, and it represents a major part of the district. This has developed due to depositional activities of the major river systems in a fluvial environment. Human and agricultural activities are intense in this area. It also encompasses geomorphic units like paleochannel, meander scars, ox-bow lakes of smaller dimensions. The area is well drained by Rivers.

3. Undulating hard rock areas with lateritic capping and isolated hillocks.

The undulating hard rock terrain occurring over a limited area in the western parts covering Delang and Kanas blocks maintain a general slope towards the south. The country rocks are often covered by laterites, and the general elevation varies from 8 to 15m above mean sea level. The geomorphological map is given in fig. The fine sediments carried by the rivers get deposited along the coast because of tidal action, as tidal flat/mud flat. The width of this tidal flat varies from 2 to 5 km. Tidal flats and mudflats support the growth of varieties of mangroves.



10.0 RAINFALL OF THE DISTRICT AND CLIMATE CONDITION

The area experienced the sub-tropical to tropical, temperate monsoon climate and characterized by a hot summer and general dryness throughout the year except during the south-west monsoon season, i.e., June to September. December is the coldest month with a mean daily maximum temperature at 26.90C and the mean daily minimum temperature at 13.40C. Both day and night temperature increases rapidly from March, and by May, the mean daily maximum temperature reaches to 420C, while the mean minimum temperature is 26.80C.

As per the IMD observation in the district, the air is generally dry except during the monsoon period. In the summer months, the relative humidity is low in the range of 30%. During monsoon, the humidity goes up to 82% or more. Wind velocity, in general, is low to moderate with some increase in summer and monsoon season. Winds are mostly blown from southwest and northeast direction during the monsoon period. In the cold season, winds are mainly from west or north. In the summer months, the wind flows from variable directions. The mean annual wind speed is 6.8 km./hr. The mean monthly potential evapotranspiration value range from 40 mm in December to 326 mm in May.

The South-west monsoon is the principal source of rainfall in the area. The normal rainfall of the district is 1401.9 mm. The rainfall pattern is erratic, and drought is a common feature of the district. The long term analysis of rainfall data recorded at block headquarters for the period 1995-2014 has been carried out, and the salient features of rainfall analysis are presented.

10.1 Month wise rainfall:

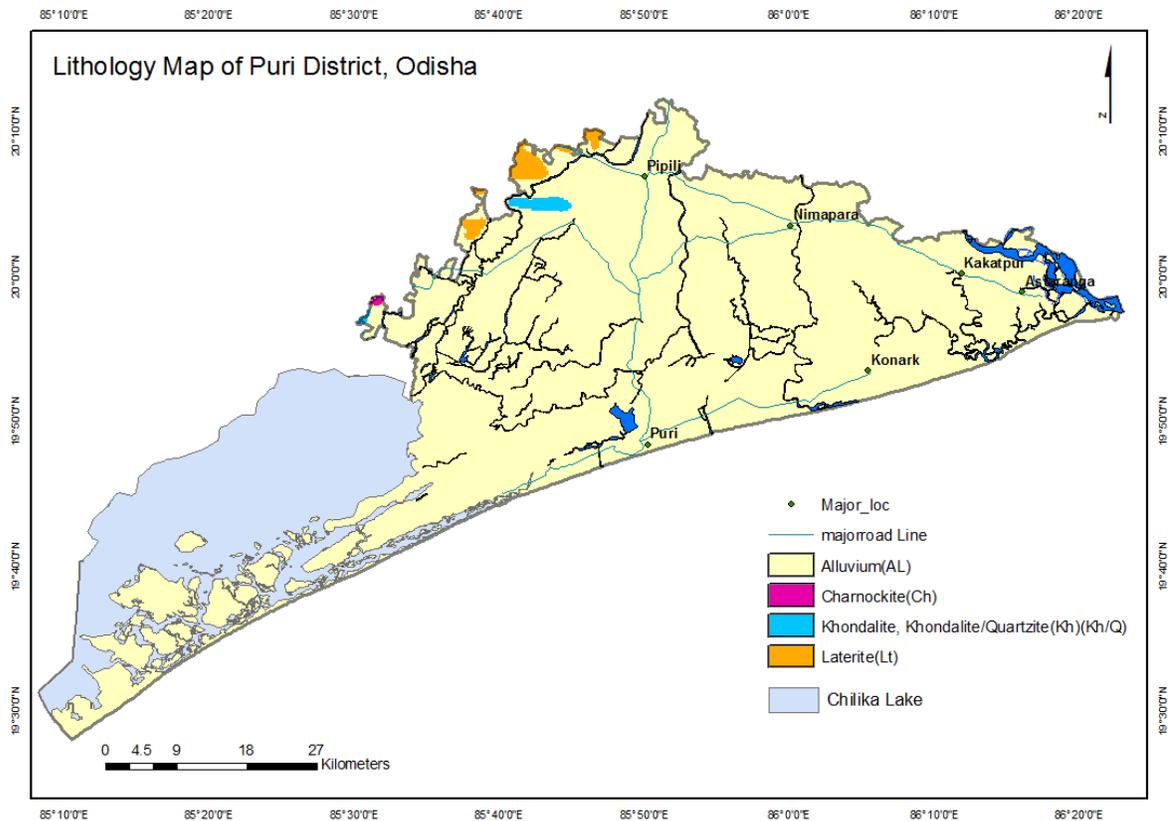
	2021	2022	2023
Month	(mm)	(mm)	(mm)
Jan	0.00	10.93	7.3
Feb	0.00	2.00	15.00
Mar	0.09	0.00	20.96
Apr	7.38	0.00	8.57
May	165.96	57.09	99.4
Jun	205.86	14.77	108.24
Jul	232.67	343.69	175.16
Aug	168.12	326.74	245.77
Sep	556.32	233.15	291.00
Oct	56.58	210.83	118.71
Nov	69.39	56.20	11.62
Dec	114.03	7.7	3.6
Total	1576.4	1263.1	1105.33

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.

11.0 GEOLOGY AND MINERAL WEALTH OF THE DISTRICT:

11.1 Regional Geology:

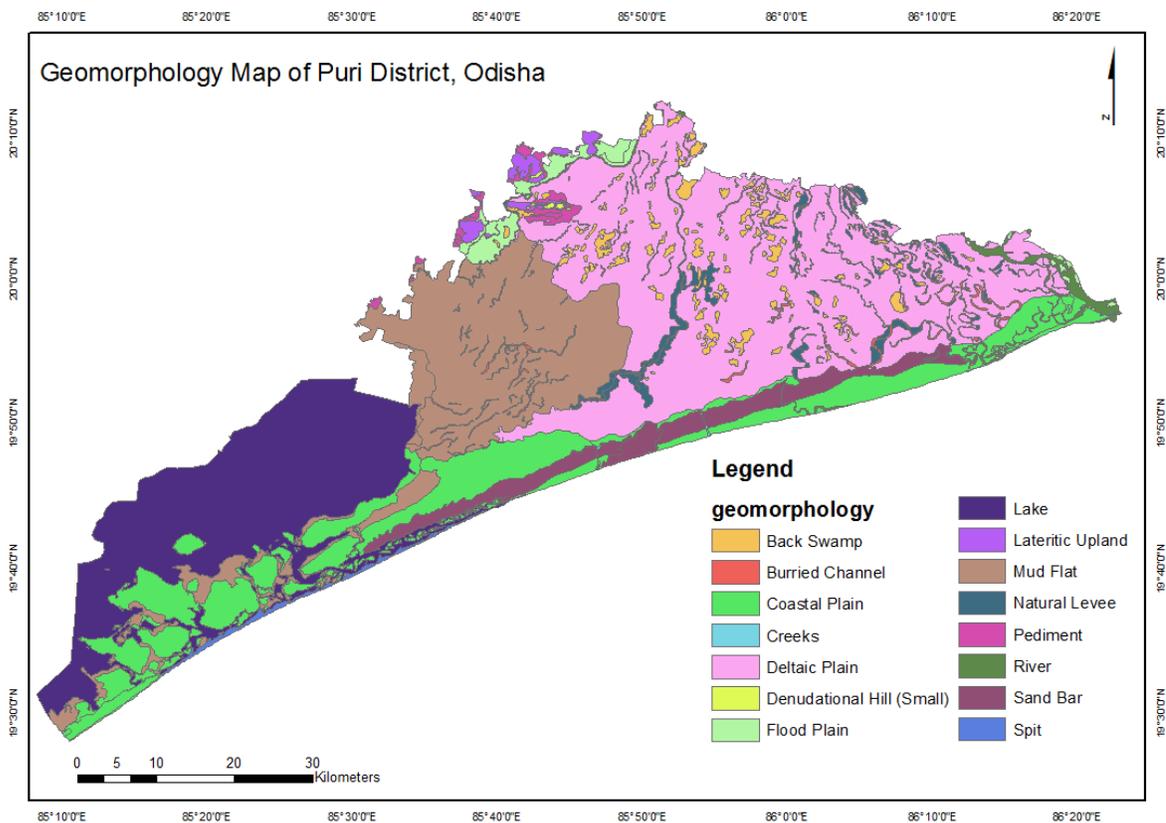
Puri District, located in eastern India in Odisha, features a diverse geological framework that includes both sedimentary and metamorphic rocks. The coastal areas primarily consist of recent sediments, such as sandy beaches and alluvial deposits, shaped by the rivers flowing into the Bay of Bengal. In contrast, the western parts of the district are dominated by ancient crystalline rocks, mainly granite and gneiss, dating back to the Precambrian era. Additionally, laterite soils formed through weathering processes are prevalent in the region. The area is influenced by tectonic activities, although major fault lines are not prominent, and it lies in a seismically active zone, with occasional seismic events recorded. While Puri is not rich in minerals compared to other districts in Odisha, it does have some mineral occurrences associated with its crystalline rocks. The coastline features sandy beaches and dunes shaped by wave and current action, and coastal erosion alongside sediment deposition are significant environmental concerns influenced by both natural processes and human activities. Overall, the geological diversity of Puri contributes to its rich natural beauty and ecological significance, making it an intriguing area for study in geology and environmental science.



11.2 Geomorphology:

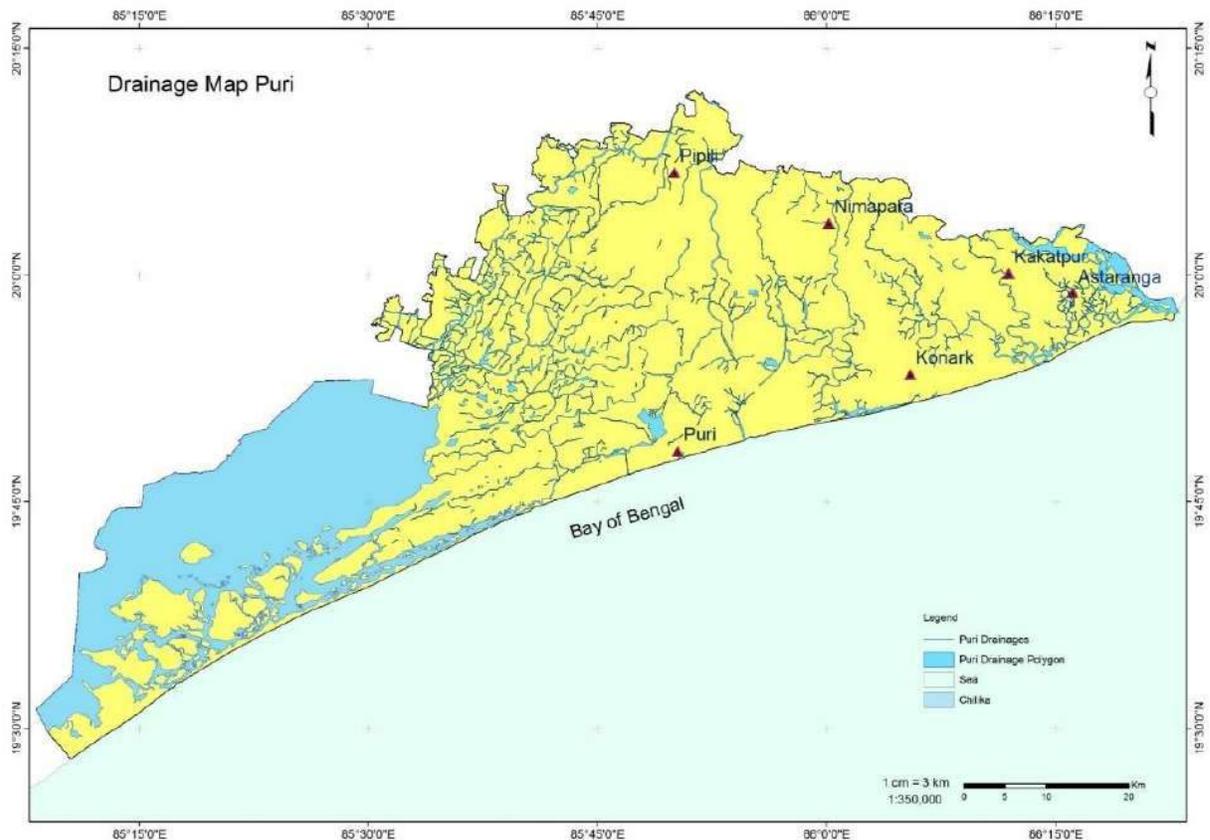
The analysis of geomorphological data and thematic maps collected from ORSAC(Odisha Remote Sensing Application Centre), Bhubaneswar, reveals that The undulating hard rock terrain occurring over a limited area in the western parts covering Delang and Kanas blocks, maintain a general slope toward south. The country rocks are often covered by laterites, and the general elevation varies from 8 to 15 m above mean sea level.

The geomorphology of the area is shown. Major portions of the study area are covered by deltaic plain with a 2-3 degree slope towards the coast. Sanddunes or sand bar are the important geomorphic features as they are the repository of ground water. They are spread all along the coast. Mudflats are located in the southwestern part in Kanas, Delang, and Brahmagiri block. These features are mainly the area where major rivers debouch to the lake chilika. The siltation, carried by the rivers are deposited at the mouth where the rivers meet the lake.



1. Rivers and Drainage:

Puri district falls in the Mahanadi river basin, and the main drainage is formed by the rivers Daya, Devi, Kushabhadra, Bhargavi, and Prachi, which have southerly, south-easterly and south-westerly courses. The river Bhargavi changes its course from north-south to southwest near Sakhigopal, and further downstream, it bifurcates into numerous channels. All the rivers have reached their old stage and are meandering in nature, branching into several distributaries draining into the sea or the Chilika Lake. Other important rivers flowing in the area are Kadua, Ratnachira, Dhanua, and Kandal. The tidal effects are observed upstream, even up to 10kms from the confluence point. All the rivers maintain sluggish flow during the summer months but swell menacingly during the rainy season. The other important surface water bodies in the district are Sar and Samang lakes. Another important water body in Chilika, which is a lagoon separated long back from the Bay of Bengal by a linear extending spit.



All the rivers of the Puri district have common characteristics. In the hot weather, they are beds of sand with tiny streams or none at all, while in the rains, they receive more water than they can carry. Generally, all rivers are distributaries of Mahanadi rivers.

- a. Kushabhadra River-** A branch of the Kuakhai river originates from Baliana and meets the sea of Bay of Bengal at the shrine of Ramachandi, located 15 miles east of Puri. Its tributary Mugei joins with Kushabhadra.
- b. Daya River-** A branch of Kuakhai river drains into the Chilika lake. Two small rivers join with Daya river, i.e., the Gangua and the Managuni below Kanas. Daya river has been attributed with the problem of causing silt build-up in Chilika Lake.
- c. Bhargavi River-** A branch of Kuakhai meets the sea of Bay of Bengal after breaking up into numerous distributaries in the last two and a half miles of its course. There are four main branches all branching off from the left bank viz. Kanchi, the East Kania, the Naya Nadi and the South Kanchi (which drains into Sar Lake); and by various channel the first three are interconnected and finally join the Suna Munhi river which falls into Bali Harchandi and ultimately drains to the Bay of Bengal sea via the mouth of Chilika. The South Kania gets lost in the marshes on the western shore of Chilika.
- d. Kadua River-** It is a monsoon fed river that drains into the Prachi river.
- e. Prachi River-** It is a branch commencing from Puri and Jagatsinghpur district. It has its origin near Kantapara on Cuttack-Gop road and passes through the village of Kakatpur before draining into the sea of Bay of Bengal.
- f. Devi River-** It is a branch of Kathajori. It runs into Puri district near the extreme east forming numerous branches.

There are also a few small rivers worth a mention, chiefly Ratnachira and Nuna, which drain into the Bhargabi River and Daya River, respectively.

2. Soil Types

There are mainly five types of soil found in the study area, i.e., Alfisols, Ardisols Coastal sandy soil, Entisols, Ultisols.

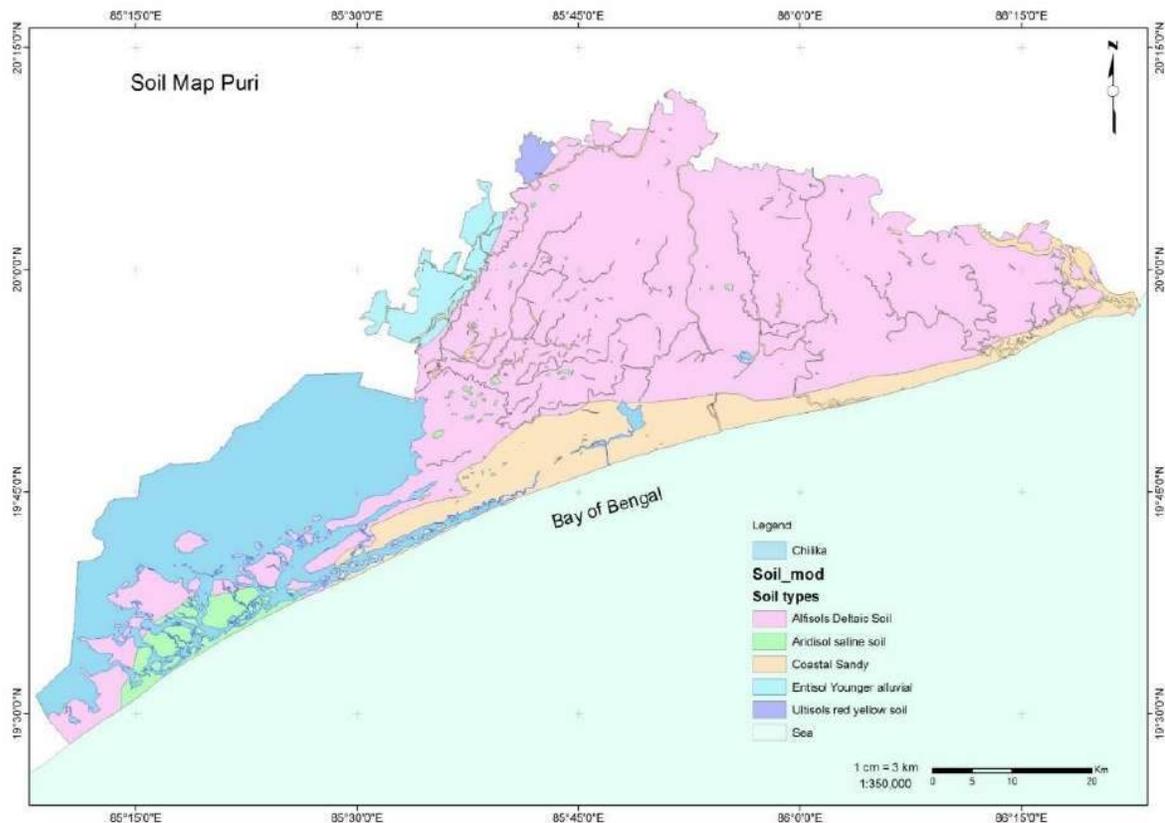
Alfisols: Alfisols form in semiarid to humid areas. They have a clay-enriched subsoil and relatively high fertility. They are rich in aluminum (Al) and iron (Fe). Because of their productivity and abundance, the Alfisols represent one of the most important soil orders for food and fiber production. Calcium, magnesium, and potassium are relatively abundant in these types of soil. This contrasts with Ultisols described later. The deltaic alluvial soils belong to this group and occupy major parts of the area. These deltaic soils are generally deficient in P₂O₅ and N₂. The K₂O is adequate, and pH varies between 6.5 and 7.3. These types of soil support paddy crops.

Aridisols: These are saline and saline-alkali soils found near the coast and are restricted to Krushnaprasad block. Aridisols have a very low concentration of organic matter reflecting the paucity of vegetative production on these dry soils. Accumulation of salts on the surface can result in salinization. Dry climate and low humus content limit their arability without irrigation.

Entisols: These include youngest alluvial soils occurring in the western parts of the district may be called as fluvisols.

Coastal Sandy Soils: These types of soil are found along the coastal tract. Coastal sandy soils are deficient in nitrogen, phosphoric acid, and humus material, but rich in potash and lime. The pH values are on the alkaline side. The texture varies from sandy to loamy sand. These are fertile soils and can produce a wide variety of crops, including paddy, wheat, sugarcane, cotton, banana, and tobacco. These types of soil support the growth of plantations like *Casuarina equisetifolia* and *Eucalyptus tereticornis*.

Ultisols: Ultisols vary in color from purplish-red to a bright reddish-orange tone. They are typically quite acidic, often having a pH of less than 5. The red and yellow colors result from the accumulation of iron oxide (rust), which is highly insoluble in water. Major nutrients, such as calcium and potassium are typically deficient in ultisols. The Ultisols soil includes the laterite and lateritic soils are confined to a small area in the northern part of the district in and around Delang, characterized by compact vesicular mass. The fertility of the soil is low.



3. 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.

4. 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.

5. 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.

11.3 Stratigraphy:

The geological formations in the district span in age from Archean to Recent (Quaternary). The Tertiary and Quaternary formations occur over major parts of the district while the Archeans occupy the hilly areas at higher altitudes in the west. The generalized geological succession of the area and brief description described as follows.

Geological Time	Age	Lithology
Quaternary	Recent to Pleistocene	Dune sand, younger alluvium, older alluvium and laterites
Tertiary	Mio - Pliocene	Brown, yellowish-brown and grey clays, sand and gravel with fossils and calcareous concretions.
Mesozoic	Lower Jurassic to Lower Cretaceous	Sandstone, carbonaceous shale, conglomerate, etc. of Upper Gondwana Group.
Precambrian	Precambrian	Quartz and pegmatitic veins, Khondalites

12.0 DETAILS OF RIVER OR STREAM AND OTHER SAND SOURCES

12.1 DRAINAGE SYSTEM WITH DESCRIPTION OF MAIN RIVERS:

Puri district in Odisha features a well-defined drainage system, primarily characterized by the Kusabhadra River, Daya River, Bhargavi River, Kadua River, Prachi River, Devi River. 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.

Puri District is being drained by important rivers & their tributaries such as Kusabhadra River, Daya River, Bhargavi River, Kadua River, Prachi River and Devi River.

Sl. No.	Name of the river	Area Drained (in Sq. Km.)	% area drained in the district
01	Kusabhadra River	35.00	25%
02	Daya River	30.00	15%
03	Bhargavi River	35.00	15%
04	Kadua River	6.60	5%
05	Prachi River	8.10	5%
06	Devi River	15.00	10%
07	Nuanai River	8.00	6%

12.2 Salient Features of Important Rivers and Streams:

All the rivers of the Puri district have common characteristics. In the hot weather, they are beds of sand with tiny streams or none at all, while in the rains, they receive more water than they can carry. Generally, all rivers are distributaries of Mahanadi rivers.

- a. **Kushabhadra River**- A branch of the Kuakhai river originates from Baliana and meets the sea of Bay of Bengal at the shrine of Ramachandi, located 15 miles east of Puri. Its tributary Mugei joins with Kushabhadra.
- b. **Daya River**- A branch of Kuakhai River drains into the Chilika lake. Two small rivers join with Daya river, i.e., the Gangua and the Managuni below Kanas. Daya river has been attributed with the problem of causing silt build-up in Chilika Lake.

- c. **Bhargavi River-** A branch of Kuakhai meets the sea of Bay of Bengal after breaking up into numerous distributaries in the last two and a half miles of its course. There are four main branches all branching off from the left bank viz. Kanchi, the East Kania, the Naya Nadi and the South Kanchi (which drains into Sar Lake); and by various channel the first three are interconnected and finally join the Suna Munhi river which falls into Bali Harchandi and ultimately drains to the Bay of Bengal sea via the mouth of Chilika. The South Kania gets lost in the marshes on the western shore of Chilika.
- d. **Kadua River-** It is a monsoon fed river that drains into the Prachi river.
- e. **Prachi River-** It is a branch commencing from Puri and Jagatsinghpur district. It has its origin near Kantapara on Cuttack-Gop road and passes through the village of Kakatpur before draining into the sea of Bay of Bengal.
- f. **Devi River-** It is a branch of Kathajori. It runs into Puri district near the extreme east forming numerous branches.

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.

1	2	3	4	5
Sl. No.	Name of the River or Stream	Total Length in the district (in Km.)	Place of Origin	Altitude at Origin
1	Kusabhadra River	80	Branches of from Kuakhai River	39m
2	Daya River	37	Branches of from Kuakhai River	37m
3	Bhargavi River	4.0	Mahanadi-Kuakhai distributary system branching off	37m
4	Kadua River	35.2	formed by the confluence of two streams Prachi and Kushabadra rivers	21m
5	Prachi River	78	Branches of from Kuakhai River	37m
6	Devi River	70	The Devi River is one of the principal distributaries of the Mahanadi River	29m
7	Nuanai River	26	Branches of from Kuakhai River	28m

13.0 Availability of sand or gravel or aggregate resources

13.1 Mineral Potential

Mineral Potential				
Name of the River or Stream	Boulder (MT)	Bajri (MT)	Sand (MT)	Total Mineable Mineral Potential (MT)
Kusabhadra River	Nil	Nil	NA	NA
Daya River	Nil	Nil	NA	NA
Bhargavi River	Nil	Nil	NA	NA
Kadua River	Nil	Nil	NA	NA
Prachi River	Nil	Nil	NA	NA
Devi River	Nil	Nil	NA	NA
Nuanai River	Nil	Nil	NA	NA

13.2 Annual Deposition

Annual Deposition				
Name of the River or Stream	Boulder(MT)	Bajri (MT)	Sand (MT)	Total Mineable Mineral Potential (MT)
Kusabhadra River	Nil	Nil	NA	NA
Daya River	Nil	Nil	NA	NA
Bhargavi River	Nil	Nil	NA	NA
Kadua River	Nil	Nil	NA	NA
Prachi River	Nil	Nil	NA	NA
Devi River	Nil	Nil	NA	NA
Nuanai River	Nil	Nil	NA	NA

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)
Kusabhadra River	80	Perennial
Daya River	37	Perennial
Bhargavi River	4.0	Perennial
Kadua River	35.2	Perennial
Prachi River	78	Perennial
Devi River	70	Perennial
Nuanai River	26	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 Puri District						

c) Patta Lands/ Khatadari Land:

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

d) M-Sand Plants:

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

List of Potential Mining Leases (existing & proposed)

Sl No.	River Detail	Lease Details	Area (in Ha)	Distance (in KM) from PA/BR/WC/	Distance from Forest Area (in KM)	Mining leases within 500 meters (if yes cluster area)	Total excavation in Tonnes /Annum considering digging depth max as 3 meters	Mineral to be mined Sand/ Bajri/RBM etc.)	Existing / Proposed
1	Daya River	DAYA RIVER SAND BASUMANDAL	1.821 Ha.	PA- 28.5 KM, BR- 2.3KM	28.5 KM	Yes, 14.63 Ha.	NA	Sand	Existing
2	Daya River	DAYA RIVER SAND TIGIRIA	3.844 Ha.	PA-28.8KM, BR- 2.0 KM	28.8 KM	Yes, 14.63 Ha.	NA	Sand	Existing
3	Daya River	DAYA RIVER SAND BHANSAR	9.15 Ha.	PA-28.8KM, BR- 2.0 KM	28.8 KM	Yes, 14.63 Ha.	NA	Sand	Existing
4	Daya River	DAYA RIVER SAND GADA BEGUNIAPADA	5.058 Ha.	PA- 19 KM, BR- 0.5KM	19 KM	NA	NA	Sand	Existing
5	Daya River	DAYA RIVER SAND MAJHIBADA A	2.49 Ha.	PA-2KM, BR- 1.0 KM	2 KM	NA	NA	Sand	Existing
6	Daya River	DAYA RIVER SAND MAJHIBADA B	2.49 Ha.	PA- 1.5 KM, BR- 0.3 KM	1.5 KM	NA	NA	Sand	Existing
7	Daya River	MANITRI SAND BED	3.237 Ha.	PA- 3 KM, BR- 2.3 KM	3 KM	NA	NA	Sand	Proposed
8	Bhargavi River	THORAB SAND BED	2.023 Ha.	PA- 3 KM BR-2.8 KM	3 KM	NA	NA	Sand	Proposed
9	Devi River	BAURIAKANA SAND QUARRY	9.550 Ha.	PA-15 KM, BR- 1KM	15 KM	NA	NA	Sand	Existing
10	Bhargavi River	SAMAREI SASAN SAND BED	3.237 Ha.	PA-25 KM, BR- 2.8KM	20 KM	NA	NA	Sand	Proposed
11	Bhargavi River	SAISA SASAN SAND BED	4.046 Ha.	PA- 18 KM, BR- 4.8 KM	18 KM	NA	NA	Sand	Proposed
12	Bhargavi River	UGRESWAR DEULI SAND BED	4.046 Ha.	PA- 18 KM, BR-4.5KM	18 KM	NA	NA	Sand	Proposed
13	Bhargavi River	HARIPUR- 1 SAND BED	1.214 Ha.	PA- 15 KM, BR-0.9 KM	15 KM	NA	NA	Sand	Proposed
14	Bhargavi River	HARIPUR- 2 SAND BED	3.237 Ha.	PA- 15 KM, BR- 0.6 KM	15 KM	NA	NA	Sand	Proposed
15	Bhargavi River	TERAHALA SAND BED	1.618 Ha.	PA- 18 KM, BR- 4.8 KM	18 KM	NA	NA	Sand	Proposed
16	Bhargavi River	GADAPADANPUR SAND BED	1.618 Ha.	PA- 18 KM, BR-4.5KM	18 KM	NA	NA	Sand	Proposed
17	Bhargavi River	GANGAPADA SAND BED	1.416 Ha.	PA- 18 KM, BR- 2.6 KM	18 KM	NA	NA	Sand	Existing
18	Daya River	DAYA RIVER SAND PATELIKUDA	1.618 Ha.	PA- 22 KM, BR- 0.5 KM	22 KM	NA	NA	Sand	Existing
19	Daya River	DAYA RIVER SAND KANTI KOTHABADA NIJIGADAKURUKI	1.416 Ha.	PA- 6.2 KM, BR- 0.2 KM	6.2 KM	NA	NA	Sand	Existing

20	Daya River	DAYA RIVER SAND KAKUDIA	1.618 Ha.	PA- 11.7 KM, BR- 0.6 KM	11.7 KM	NA	NA	Sand	Existing
21	Daya River	DAYA RIVER SAND TOTAPADA	1.618 Ha.	PA- 8.5 KM, BR- 3.1 KM	8.5 KM	NA	NA	Sand	Existing
22	Daya River	DAYA RIVER SAND GOBARDHANPUR SULTAN NAGAR	1.821 Ha.	PA- 12 KM, BR- 0.2 KM	12 KM	NA	NA	Sand	Existing
23	Daya River	MADHUPUR SAND BED	2.023 Ha.	PA- 12.5 KM, BR- 1.2 KM	12.5 KM	NA	NA	Sand	Proposed
24	Daya River	DAKHINNUA NUAGAON SAND BED	2.023 Ha.	PA-9.5 KM, BR- 3.7 KM	9.5 KM	NA	NA	Sand	Proposed
25	Daya River	SUABAREI SAND BED	3.237 Ha.	PA- 12.5 KM, BR- 6.3 KM	12.5 KM	NA	NA	Sand	Proposed
26	Daya River	ATHARBHAG SAND BED	4.046 Ha.	PA- 11 KM, BR-4.7 KM	11 KM	NA	NA	Sand	Proposed
27	Daya River	PARIJNAR SAND BED	2.023 Ha.	PA- 12 KM, BR- 4.5 KM	12 KM	NA	NA	Sand	Proposed
28	Daya River	PAMASARA SAND BED	3.237 Ha.	PA-14 KM, BR- 1.5KM	14 KM	NA	NA	Sand	Proposed
29	Bhargavi River	RAJTEI SAND BED	2.023 Ha.	PA- 18 KM, BR- 2.5 KM	18 KM	NA	NA	Sand	Proposed
30	Daya River	UJANIPADA SAND BED	4.856 Ha.	PA- 11 KM, BR- 1.5 KM	11 KM	NA	NA	Sand	Proposed
31	Daya River	ALARPUR SAND BED	4.856 Ha.	PA- 20 KM, BR- 1.9 KM	20 KM	NA	NA	Sand	Proposed
32	Daya River	MAGALPUR SAND BED	4.856 Ha.	PA-14 KM, BR- 1.5KM	14 KM	NA	NA	Sand	Proposed

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 Puri 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 Puri District								

M-Sand Plants :(existing & proposed)

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

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)
Daya River	1	Daya River Sand Basumandal	River Bed Khata No.: 61 Plot No.: 249	Basumandal	1.821 Ha.	NA	NA
Daya River	1	Daya River Sand Tigiria	River Bed Khat No. 68 Plot no. 131/339, 128,152,157, 294	Tigiria	3.844 Ha.	NA	NA
Daya River	1	Daya River Sand Bhansar	River Bed Khata No. 594 Plot No. 2932	Bhansar	9.15 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)
Daya River	1	1	3	Riverbed	500 mtr	Basumandal, Tigiria, Bhansar	14.63	Na

Transportation Routes for individual leases and leases in Cluster											
Sl. No.	Tahasil Name	Lease Name	Lease 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)	Recommendation for road (Black Topped/ unpaved)	The road will be Constructed by Govt/ Lease Owner	Route Map & Location
1	Delanga	DAYA RIVER SAND BASUMANDAL	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
2	Delanga	DAYA RIVER SAND TIGIRIA	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
3	Delanga	DAYA RIVER SAND BHANSAR	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
4	Delanga	DAYA RIVER SAND GADA BEGUNIAPADA	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
5	Delanga	DAYA RIVER SAND MAJHIBADA A	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
6	Delanga	DAYA RIVER SAND MAJHIBADA B	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
7	Delanga	MANITRI SAND BED	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
8	Gop	THORAB SAND BED	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
9	Kakatapur	BAURIAKANA SAND QUARRY	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
10	Nimapada	SAMAREI SASAN SAND BED	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
11	Nimapada	SAISA SASAN SAND BED	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
12	Nimapada	UGRESWAR DEULI SAND BED	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
13	Nimapada	HARIPUR- 1 SAND BED	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
14	Nimapada	HARIPUR- 2 SAND BED	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
15	Nimapada	TERAHALA SAND BED	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
16	Nimapada	GADAPADANPUR SAND BED	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
17	Pipili	GANGAPADA SAND BED	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
18	Pipili	DAYA RIVER SAND PATELIKUDA	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
19	Pipili	DAYA RIVER SAND KANTI KOTHABADA NIJGADAKURUKI	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
20	Pipili	DAYA RIVER SAND KAKUDIA	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
21	Pipili	DAYA RIVER SAND TOTAPADA	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
22	Pipili	DAYA RIVER SAND GOBARDHANPUR SULTAN NAGAR	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
23	Pipili	MADHUPUR SAND BED	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
24	Pipili	DAKHINNUA NUAGAON SAND BED	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
25	Pipili	SUABAREI SAND BED	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
26	Pipili	ATHARBHAG SAND BED	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
27	Pipili	PARIJNAR SAND BED	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
28	Pipili	PAMASARA SAND BED	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
29	Pipili	RAJTEI SAND BED	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
30	Pipili	UJANIPADA SAND BED	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
31	Pipili	ALARPUR SAND BED	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
32	Pipili	MAGALPUR SAND BED	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached

Transportation Routes for individual leases and leases in Cluster											
SI No.	Tahasil	Laese Name	Cluster 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
1	Delanga	DAYA RIVER SAND BASUMANDAL	1	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
2	Delanga	DAYA RIVER SAND TIGIRIA	1	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
3	Delanga	DAYA RIVER SAND BHANSAR	1	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached

Final 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)
Kusabhadra River	80	Perennial
Daya River	37	Perennial
Bhargavi River	4.0	Perennial
Kadua River	35.2	Perennial
Prachi River	78	Perennial
Devi River	70	Perennial
Nuanai River	26	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 Puri District						

c) Patta Lands/ Khatadari Land:

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

d) M-Sand Plants:

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

Final List of Potential Mining Leases (existing & proposed)

Sl No.	River Detail	Lease Details	Area (in Ha)	Distance (in KM) from PA/BR/WC/	Distance from Forest Area (in KM)	Mining leases within 500 meters (if yes cluster area)	Total excavation in Tonnes /Annum considering digging depth max as 3 meters	Mineral to be mined Sand/ Bajri/RBM etc.)	Existing / Proposed
1	Daya River	DAYA RIVER SAND BASUMANDAL	1.821 Ha.	PA- 28.5 KM, BR- 2.3KM	28.5 KM	Yes, 14.63 Ha.	NA	Sand	Existing
2	Daya River	DAYA RIVER SAND TIGIRIA	3.844 Ha.	PA-28.8KM, BR- 2.0 KM	28.8 KM	Yes, 14.63 Ha.	NA	Sand	Existing
3	Daya River	DAYA RIVER SAND BHANSAR	9.15 Ha.	PA-28.8KM, BR- 2.0 KM	28.8 KM	Yes, 14.63 Ha.	NA	Sand	Existing
4	Daya River	DAYA RIVER SAND GADA BEGUNIAPADA	5.058 Ha.	PA- 19 KM, BR- 0.5KM	19 KM	NA	NA	Sand	Existing
5	Daya River	DAYA RIVER SAND MAJHIBADA A	2.49 Ha.	PA-2KM, BR- 1.0 KM	2 KM	NA	NA	Sand	Existing
6	Daya River	DAYA RIVER SAND MAJHIBADA B	2.49 Ha.	PA- 1.5 KM, BR- 0.3 KM	1.5 KM	NA	NA	Sand	Existing
7	Daya River	MANITRI SAND BED	3.237 Ha.	PA- 3 KM, BR- 2.3 KM	3 KM	NA	NA	Sand	Proposed
8	Bhargavi River	THORAB SAND BED	2.023 Ha.	PA- 3 KM BR-2.8 KM	3 KM	NA	NA	Sand	Proposed
9	Devi River	BAURIAKANA SAND QUARRY	9.550 Ha.	PA-15 KM, BR- 1KM	15 KM	NA	NA	Sand	Existing
10	Bhargavi River	SAMAREI SASAN SAND BED	3.237 Ha.	PA-25 KM, BR- 2.8KM	20 KM	NA	NA	Sand	Proposed
11	Bhargavi River	SAISA SASAN SAND BED	4.046 Ha.	PA- 18 KM, BR- 4.8 KM	18 KM	NA	NA	Sand	Proposed
12	Bhargavi River	UGRESWAR DEULI SAND BED	4.046 Ha.	PA- 18 KM, BR-4.5KM	18 KM	NA	NA	Sand	Proposed
13	Bhargavi River	HARIPUR- 1 SAND BED	1.214 Ha.	PA- 15 KM, BR-0.9 KM	15 KM	NA	NA	Sand	Proposed
14	Bhargavi River	HARIPUR- 2 SAND BED	3.237 Ha.	PA- 15 KM, BR- 0.6 KM	15 KM	NA	NA	Sand	Proposed
15	Bhargavi River	TERAHALA SAND BED	1.618 Ha.	PA- 18 KM, BR- 4.8 KM	18 KM	NA	NA	Sand	Proposed
16	Bhargavi River	GADAPADANPUR SAND BED	1.618 Ha.	PA- 18 KM, BR-4.5KM	18 KM	NA	NA	Sand	Proposed
17	Bhargavi River	GANGAPADA SAND BED	1.416 Ha.	PA- 18 KM, BR- 2.6 KM	18 KM	NA	NA	Sand	Existing
18	Daya River	DAYA RIVER SAND PATELIKUDA	1.618 Ha.	PA- 22 KM, BR- 0.5 KM	22 KM	NA	NA	Sand	Existing
19	Daya River	DAYA RIVER SAND KANTI KOTHABADA NIJIGADAKURUKI	1.416 Ha.	PA- 6.2 KM, BR- 0.2 KM	6.2 KM	NA	NA	Sand	Existing

20	Daya River	DAYA RIVER SAND KAKUDIA	1.618 Ha.	PA- 11.7 KM, BR- 0.6 KM	11.7 KM	NA	NA	Sand	Existing
21	Daya River	DAYA RIVER SAND TOTAPADA	1.618 Ha.	PA- 8.5 KM, BR- 3.1 KM	8.5 KM	NA	NA	Sand	Existing
22	Daya River	DAYA RIVER SAND GOBARDHANPUR SULTAN NAGAR	1.821 Ha.	PA- 12 KM, BR- 0.2 KM	12 KM	NA	NA	Sand	Existing
23	Daya River	MADHUPUR SAND BED	2.023 Ha.	PA- 12.5 KM, BR- 1.2 KM	12.5 KM	NA	NA	Sand	Proposed
24	Daya River	DAKHINNUA NUAGAON SAND BED	2.023 Ha.	PA-9.5 KM, BR- 3.7 KM	9.5 KM	NA	NA	Sand	Proposed
25	Daya River	SUABAREI SAND BED	3.237 Ha.	PA- 12.5 KM, BR- 6.3 KM	12.5 KM	NA	NA	Sand	Proposed
26	Daya River	ATHARBHAG SAND BED	4.046 Ha.	PA- 11 KM, BR-4.7 KM	11 KM	NA	NA	Sand	Proposed
27	Daya River	PARIJNAR SAND BED	2.023 Ha.	PA- 12 KM, BR- 4.5 KM	12 KM	NA	NA	Sand	Proposed
28	Daya River	PAMASARA SAND BED	3.237 Ha.	PA-14 KM, BR- 1.5KM	14 KM	NA	NA	Sand	Proposed
29	Bhargavi River	RAJTEI SAND BED	2.023 Ha.	PA- 18 KM, BR- 2.5 KM	18 KM	NA	NA	Sand	Proposed
30	Daya River	UJANIPADA SAND BED	4.856 Ha.	PA- 11 KM, BR- 1.5 KM	11 KM	NA	NA	Sand	Proposed
31	Daya River	ALARPUR SAND BED	4.856 Ha.	PA- 20 KM, BR- 1.9 KM	20 KM	NA	NA	Sand	Proposed
32	Daya River	MAGALPUR SAND BED	4.856 Ha.	PA-14 KM, BR- 1.5KM	14 KM	NA	NA	Sand	Proposed

ANNEXURE- VI**Final List of 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 Puri District								

Final 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 Puri District								

Final M-Sand Plants :(existing & proposed)

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

Final List of 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)
Daya River	1	Daya River Sand Basumandal	River Bed Khata No.: 61 Plot No.: 249	Basumandal	1.821 Ha.	NA	NA
Daya River	1	Daya River Sand Tigiria	River Bed Khat No. 68 Plot no. 131/339, 128,152,157, 294	Tigiria	3.844 Ha.	NA	NA
Daya River	1	Daya River Sand Bhansar	River Bed Khata No. 594 Plot No. 2932	Bhansar	9.15 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)
Daya River	1	1	3	Riverbed	500 mtr	Basumandal, Tigiria, Bhansar	14.63	Na

Final Transportation Routes for individual leases and leases in Cluster

Sl. No.	Tahasil Name	Lease Name	Lease 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)	Recommendation for road (Black Topped/ unpaved)	The road will be Constructed by Govt/ Lease Owner	Route Map & Location
1	Delanga	DAYA RIVER SAND BASUMANDAL	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
2	Delanga	DAYA RIVER SAND TIGIRIA	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
3	Delanga	DAYA RIVER SAND BHANSAR	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
4	Delanga	DAYA RIVER SAND GADA BEGUNIAPADA	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
5	Delanga	DAYA RIVER SAND MAJHIBADA A	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
6	Delanga	DAYA RIVER SAND MAJHIBADA B	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
7	Delanga	MANITRI SAND BED	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
8	Gop	THORAB SAND BED	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
9	Kakatapur	BAURIAKANA SAND QUARRY	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
10	Nimapada	SAMAREI SASAN SAND BED	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
11	Nimapada	SAISA SASAN SAND BED	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
12	Nimapada	UGRESWAR DEULI SAND BED	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
13	Nimapada	HARIPUR- 1 SAND BED	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
14	Nimapada	HARIPUR- 2 SAND BED	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
15	Nimapada	TERAHALA SAND BED	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
16	Nimapada	GADAPADANPUR SAND BED	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
17	Pipili	GANGAPADA SAND BED	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
18	Pipili	DAYA RIVER SAND PATELIKUDA	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
19	Pipili	DAYA RIVER SAND KANTI KOTHABADA NIJGADAKURUKI	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
20	Pipili	DAYA RIVER SAND KAKUDIA	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
21	Pipili	DAYA RIVER SAND TOTAPADA	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
22	Pipili	DAYA RIVER SAND GOBARDHANPUR SULTAN NAGAR	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
23	Pipili	MADHUPUR SAND BED	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
24	Pipili	DAKHINNUA NUAGAON SAND BED	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
25	Pipili	SUABAREI SAND BED	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
26	Pipili	ATHARBHAG SAND BED	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
27	Pipili	PARIJNAR SAND BED	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
28	Pipili	PAMASARA SAND BED	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
29	Pipili	RAJTEI SAND BED	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
30	Pipili	UJANIPADA SAND BED	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
31	Pipili	ALARPUR SAND BED	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
32	Pipili	MAGALPUR SAND BED	NA	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached

Final 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)	Recommendation for road (Black Topped/ unpaved)	The road will be Constructed by Govt/ Lease Owner	Route Map & Location
1	Delanga	DAYA RIVER SAND BASUMANDAL	1	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
2	Delanga	DAYA RIVER SAND TIGIRIA	1	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached
3	Delanga	DAYA RIVER SAND BHANSAR	1	Village Road	NA	NA	NA	Unpaved	Unpaved	Lease Owner	Attached

POTENTIAL SAND QUARRIES PRESENT IN PURI DISTRICT

