सत्यमेव जयते

File No.: 546068/418-MINB2/07-2025
Government of India
Ministry of Environment, Forest and Climate Change
(Issued by the State Environment Impact Assessment Authority(SEIAA), ODISHA)
****

Dated **19/11/2025**

To,

The Mining Officer, Malkangiri
Opposite Deepti Convent School, Main Road, Sambayaguda, Malkangiri, ODISHA, 764045
mo.malkangiri@gov.in

Subject: Approval of District Survey Report (DSR) of Sand in respect of Malkangiri District located in District-Malkangiri, State-Odisha for the period 2025 to 2030 under the provisions of EIA Notification 2006-regarding

Sir/Madam,

This is in reference to your application submitted to SEIAA, Odisha by the Mining Officer, Malkangiri vide proposal number SIA/OR/MIN/546068/2025 dated 26/07/2025 for approval of District Survey Report (DSR) of Sand in Malkangiri District for the period 2025-2030 located in District-Malkangiri, State-Odisha in terms of the provision of the Environment Impact Assessment (EIA) Notification, 2006 under the Environment (Protection) Act, 1986 and subsequent amendment thereto, i.e. Enforcement and Monitoring Guidelines for Sand Mining (EMGSM)-2020 and in pursuance of MoEF & CC, Govt. of India Notification dated 15.01.2016 & 25.07.2018 and as per order of Hon'ble Supreme Court dated 10.11.2021 in Civil Appeal No. 36613662 of 2020 (State of Bihar Vrs. Pawan Kumar and Others)-reg.

2. The particulars of the proposal are as below :

(i) EC Identification No.	EC25C0107OR5745751N
(ii) File No.	546068/418-MINB2/07-2025
(iii) Clearance Type	Mining EC Under 5 Ha
(iv) Category	B2 & B1
(v) Project/Activity Included Schedule No.	1(a) Mining of minerals
(vii) Name of Project	Proposal for Approval of DSR Malkangiri (Sand)
(viii) Location of Project (District, State)	MALKANGIRI, ODISHA
(ix) Issuing Authority	SEIAA, Odisha
(x) Applicability of General Conditions	No

3. In view of the particulars given in the Para 1 above, the project proposal (PP) interalia including Form-2, forwarding letter, proceeding copy, copy of 30 days public notice period, copy of paper clipping and advertisement for Public notice

both in Odia and in English and final revised District Survey Report (DSR) of Sand in Malkangiri District copy were submitted to the SEIAA, Odisha for an appraisal by the State Level Expert Appraisal Committee (SEAC) under the provision of EIA notification 2006 and its subsequent amendments.

4. The above-mentioned proposal has been considered by the SEAC in the meeting held on 13.09.2025. The minutes of the meeting and all the documents are available in the PARIVESH portal which can be accessed from the PARIVESH portal by scanning the QR Code above.
Details of the DSR of Sand in Malkangiri District and the brief on the salient features as submitted by the project proponent in Form-2 and as presented during the SEAC meeting are annexed as Annexure-2.

5. The SEAC, in its meeting held on 13.09.2025, based on information & clarifications provided by the project proponent and after detailed deliberations on all technical aspects and compliance thereto furnished by the Project Proponent, the SEAC, Odisha recommended that the SEIAA, Odisha may consider for approval of the DSR of Stone in Malkangiri District for implementation, subject to insertion/correction of the below mentioned observed by the SEAC on the following points as mentioned below.
(i) In Item no. 6, process of deposition is described as moderate and slow in various rivers. What does this convey and how it has been arrived at.
(ii) In table 7 in most of the cases replenishment data of the source is not furnished.
(iii) In Item 7 general profile of the district is described very briefly.
(iv) Under Item 12.2
a) Origin of river Shabari is shown from Western Ghats which needs to be recheck.
b) River Garia is mentioned as tributary of River Baitarni which also need recheck.
c) For many other rivers neither place of origin nor altitude is given.
(v) For table 13.1 and 13.2 how mineral potential & annual deposition are worked out may be described in detail with supporting studies. The mineral potential & annual deposition should not be same.
(vi) For part 16 guidelines have been reproduced instead of methodology.
(vii) Process and details of identification of new sources has not been included in the report.
(viii) As per the procedure laid out for preparation of DSR, in the notification dated 25.07.2018 of MoEF & CC, the main objective of preparation of DSR is to ensure the following -"Identification of areas of aggradations or depositions, where mining can be allowed and identification of areas of erosion and proximity to infrastructural structures and installations where mining should be prohibited and calculation of annual rate of replenishment and allowing time for replenishment after mining in that area." Details as per above objective are not given.
(ix) Further, there are provisions mentioned for DSR preparation in "Enforcement & Monitoring Guidelines for Sand Mining" issued by MoEF & CC in 2020 (to be supplemented with "Sustainable Sand Mining Management Guidelines, 2016") which need to be followed and details of information is to be furnished in the DSR. Detailed information as per guidelines should be provided in the document.

The PP has submitted the revised DSR of Sand in Malkangiri District after complying with the quarries raised by SEAC & SEIAA .

6. The SEIAA, Odisha has examined the DSR proposal in 241st Meeting on 23.09.2025, 246th Meeting on 23.10.2025 and finally in 251st Meeting of SEIAA held on 12.11.2025 in accordance with the provisions contained in the Environment Impact Assessment (EIA) Notification, 2006 under the Environment (Protection) Act, 1986 and subsequent amendment thereto, Sustainable Sand Mining Management Guideline (SSMMG)-2016,Enforcement and Monitoring Guidelines for Sand Mining (EMGSM)-2020 and in pursuance of MoEF & CC, GoI Notification dated 15.01.2016 & 25.07.2018 and as per order of Hon'ble Supreme Court dated 10.11.2021 in Civil Appeal No. 36613662 of 2020 (State of Bihar Vrs. Pawan Kumar and Others) and based on the recommendations of the SEAC, clarification submitted by Project Proponent (PP) to the query raised by SEAC & SEIAA. Accordingly, the PP/competent Authority have submitted their reply and modified revised DSR. After detailed deliberation in the matter, **the Authority hereby approved the DSR for Sand in respect of Malkangiri District** and the details of revised DSR copy is attached in annexure-2 and also the copy of the same can be downloaded from the attached file of respective application number.

7. The SEIAA, Odisha reserves the right to stipulate additional conditions, if found necessary.

8. The Validity of DSR is upto 5 years i,e. from 2025 to 2030 from the date of issue of this approval letter.

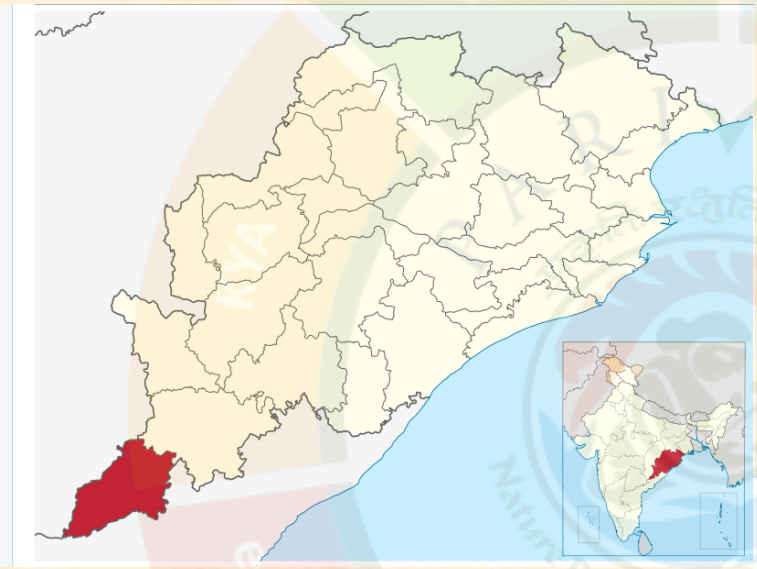
9. This issue with an approval of the Competent Authority.

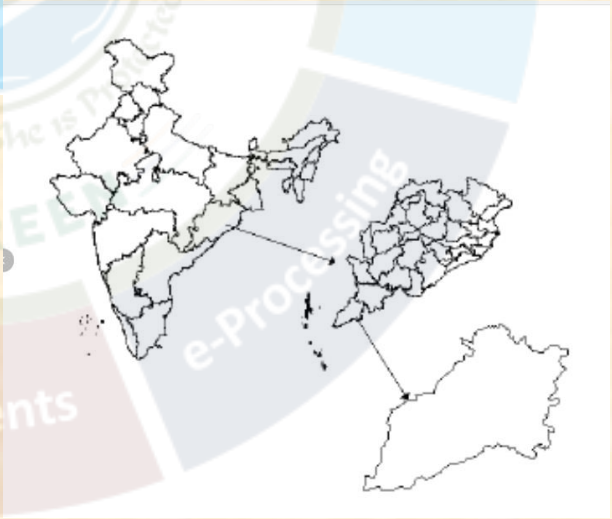
Copy To

1. Additional Chief Secretary, Forest, Environment & Climate Change Dept., Government of Odisha for information.
2. Member Secretary, State Pollution Control Board, Odisha, Paribesh Bhawan, A/118, Nilakantha Nagar, Unit-8, Bhubaneswar for information.
3. The Director of Mines, Steel & Mines Dept, Govt. of Odisha Bhubaneswar for information.
4. Additional Principal Conservator of Forests, Integrated Regional Office (IRO), Ministry of Environment & Forests, A/3, Chandrasekharpur, Bhubaneswar for information.
5. Additional Chief Secretary, Revenue and DM Department, Govt. of Odisha Bhubaneswar for information.
6. Chairman, Central Pollution Control Board, CBD-cum-Office Complex, East Arjun Nagar, New Delhi-110032 for information.
7. Chairman/Member/Member Secretary, SEIAA for information.
8. Member Secretary, SEAC, Paribesh Bhawan, A/118, Nilakantha Nagar, Unit-VIII, Bhubaneswar for information.
9. Collector & DM, Malkangiri, Sub-Collector, Malkangiri, Deputy Director of Mines, Koraput, DFO, Koraput, RO, SPCB, Koraput, All Tahasildar of Malkangiri/Mining Officer, Malkangiri for Information and necessary action.
10. The Director, Minor Mineral, Steel & Mines Dept, Govt. of Odisha Bhubaneswar for information.
11. Guard file for record/Website/Parivesh Portal

DISTRICT SURVEY REPORT(DSR)
OF
MALKANGIRI DISTRICT, ODISHA
FOR
MINOR MINERAL (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 MALKANGIRI

CONTENT

PREAMBLE

Odisha is one of the Major Mineral reach State in India. Malkangiri, historically known as Malikamardhangiri, is a town and municipality in Malkangiri district in the Indian state of Odisha. It is the headquarter of the Malkangiri district. Malkangiri has been the new home of the East Bengali refugees from erstwhile East Pakistan (present day Bangladesh), who have been rehabilitated since 1965 under the Dandakaranya Project. Some Sri Lankan Tamil refugees were also rehabilitated in the town, following the armed struggle of the Liberation Tigers of Tamil Eelam (LTTE) in the early 1990s, although most of them have now returned to their country. Currently, it is one of the most naxalite-affected areas of the state, and is a part of the Red Corridor.

In pursuance of MoEF & CC Notification S.O. 141(E) dated 15th Jan. 2016, 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, Road metal, & 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.

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 under taken 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 by 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, preparatio of reports and appraisal of projects. District Survey Reports are to be reviewed once in every fiv years as per statue.

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, Bhubaneswar issued a Letter on 27th December, 2022 to Collector & District Magistrate, Malkangiri 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,2023

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.

1.0 INTRODUCTION

Malkangiri at a Glance:

1.1 Location and Geographical Area:

Malkangiri is the southern-most district of Orissa. It was awarded the status of the district in October 1992, when the erstwhile Koraput district was divided into four new districts. The district is bordered in the North and West by Bastar district of Chhattisgarh and in the south by Khammam and East Godavari districts of Andhra Pradesh & in the east by Koraput district, Orissa. The district lies between north latitudes 17º47'58" and 18º44'18" and East longitudes 81º23'23" and 82º27'05" falling in Survey of India Degree sheet Nos. 65 F,G,J. The district covers an area of 5791 Sq.Km and is divided into 7 Community Development Blocks - Kalimela, Khairput, Korukonda, Kudumulguma, Malkangiri, Mathili and Podia. The Malkangiri town, the district headquarter is approachable from adjacent districts through State Highways. The important towns of the district are well connected by road. It is one of the most economically backward tribal districts of Orissa.

The general drainage pattern in the district is dendritic to sub-parallel. The Kolab river along with its tributaries, the Potteru and Sileru rivers are the most prominent rivers of the region. The Kolab river issues from the Sinkaram hills and follows a south westerly course after passing over Malkangiri district. The river joins the Godavari River in Khammam district of Telangana.

The hills and forests cover almost seventy six percent of the total geographical area of the district as per the classification of the forest area by legal status in Malkangiri district as on 2005, which include reserve forests, demarcated-protected forests, un-demarcated forests, unclassified forests and other forests. Only limited areas are utilized for agricultural purposes. The net area under cultivation is only twenty six percent of the total geographical area.

Agriculture is the main occupations of the vast majority of the population. However, because of forest cover and rugged terrain conditions of the district agriculture is by and large confined to Kharif Season. Rabi cultivation is practiced at places, where irrigation facilities are available. No uniform cropping pattern seems to be followed in the district. Shifting or 'Podu' cultivation is practiced on high hill slopes. Paddy is the main crop sown during the Kharif seasons. Apart from

paddy, other important Kharif crops are Maize, Ragi, millet and different type of pulses. In higher altitudes above 600 m potato is cultivated during Kharif season. During Rabi oil seeds are the main crops. Pulses and wheat are also grown substantially.

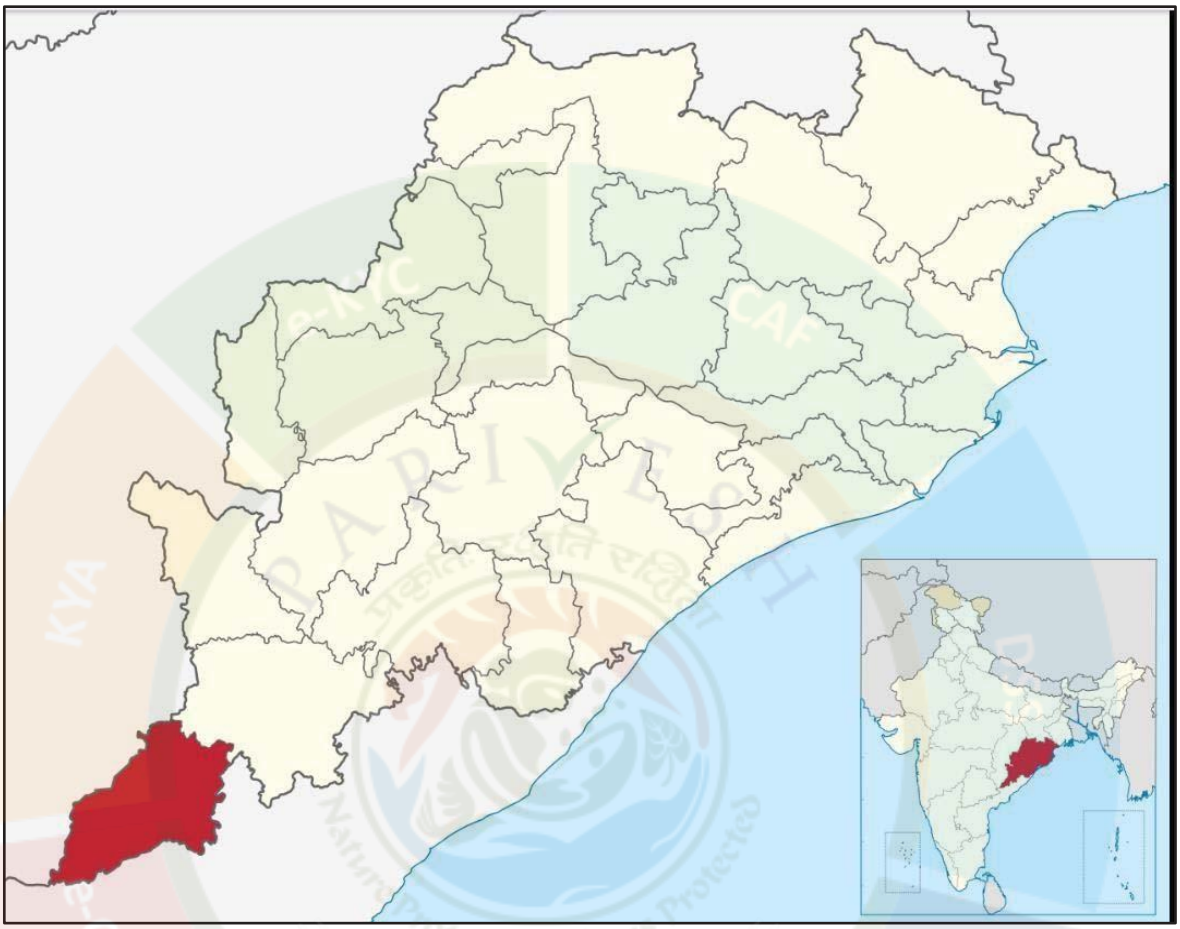
Based on the soil characteristic, cropping pattern, climatological and topographical features the district has been subdivided into two agro-climatic zones, namely South Eastern Ghat and Eastern Ghat highland. The South Eastern Ghat occupies almost the entire Malkangiri district. It is characterized by warm climate with maximum temperature of 34ºC and minimum temperature of 13ºC. The principal crop is rice. The Eastern Ghat Highland have only a very small portion in the eastern corner of the district is characterized by Eastern Ghat Highland. The climate is warm and humid. Maximum temperature is 44ºC and minimum temperature is 8ºC. The principal crops are paddy, wheat and vegetables.

The major surface water bodies are reservoirs, rivers, streams and ponds etc. The river Potteru which is a tributary of Kolab is generally perennial in nature with a sufficient flow during summer months. The Balimela reservoir is the major irrigation project and its canal command is around 61034-Ha There are substantial numbers of tanks, ponds and water harvesting structures exist in the district, which hold considerable quantity of surface water as storage which serve the purpose for irrigation, bathing, drinking and industrial purposes. It covers an area of about 9.62 km^2 (3.71 sq. mi), and has an average elevation of 170 m (560 ft) above the mean sea level. It lies in the area between the hills of Eastern Ghats on eastern and western sides. During monsoons, the town becomes impassably swampy and heavy floods isolate it from the rest of the state

Almost the entire population of Malkangiri is engaged in agriculture and primary sector, because it is relatively isolated from the rest of Odisha, as compared to other towns and cities, and developmental stages related to secondary and tertiary sectors are yet to be developed. The primary sector accounts for 46.35% of the total workforce. Another important industry on which the population is dependent is tourism, because in and around the town, there are many places of tourist attraction. Thus, it has a large potential yet to be tapped.

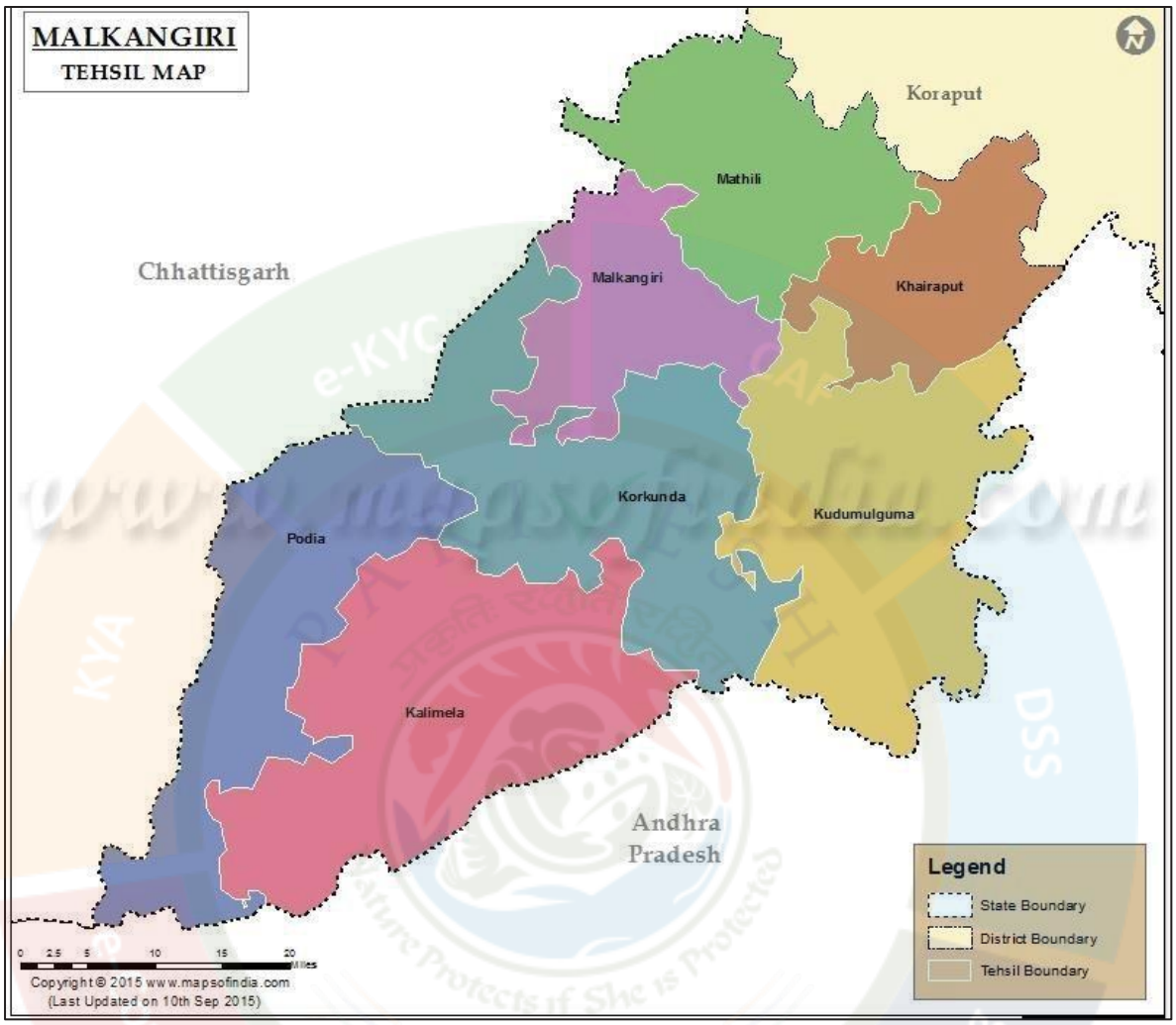
In 1962, it was upgraded to a sub-division of Koraput district. The present Malkangiri got its identity as an independent district due to reorganization of districts of Odisha on 1 October 1992, with effect from 2 October 1992. Since 1967, the town along with its district has been one of the worst affected regions due to the Naxalite-Maoist insurgency, although in recent

years, the effect has been considerably reduced.



1.2 Administrative Units: -

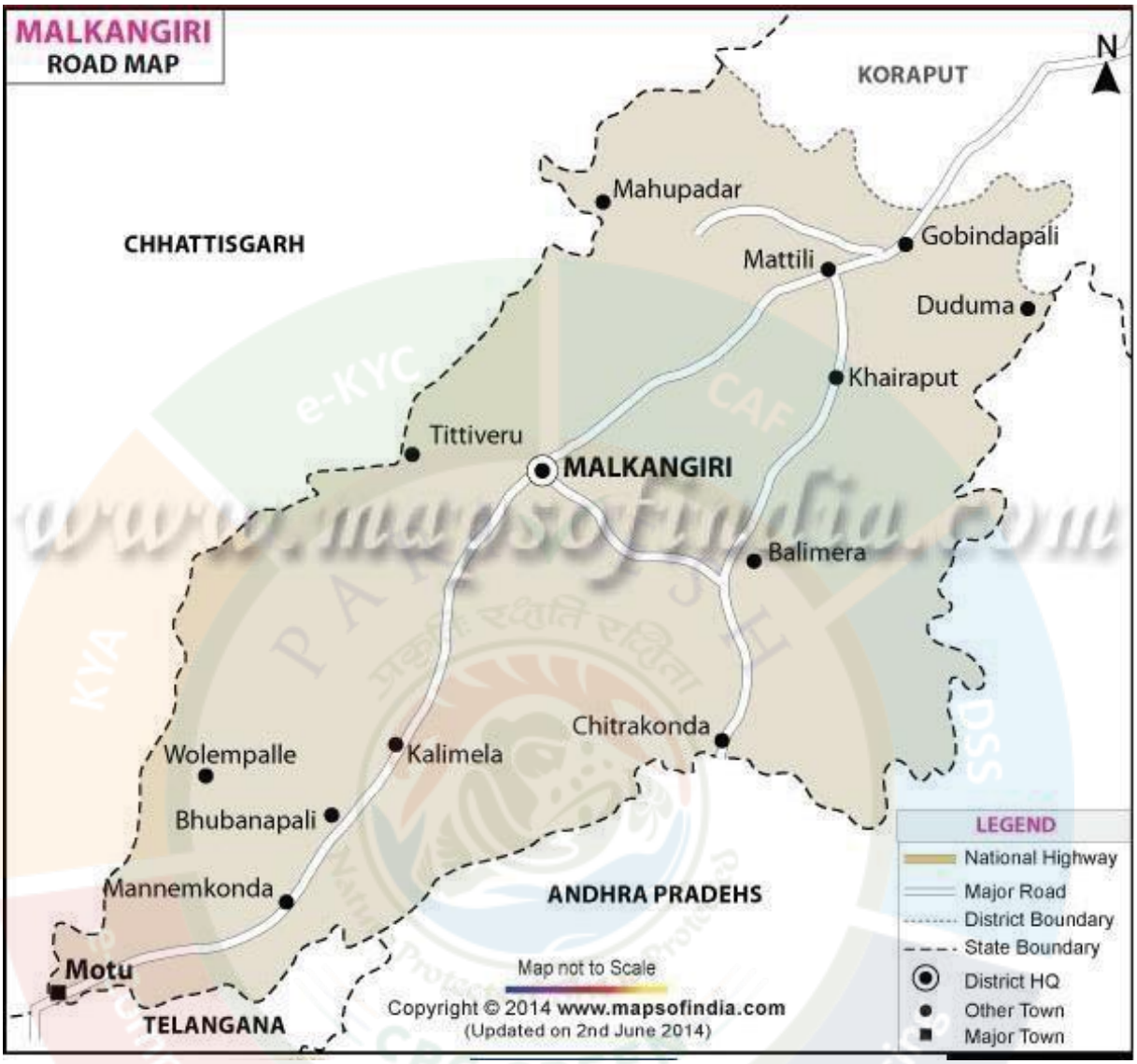
Malkangiri is the administrative headquarter of Malkangiri District. It is located at a distance of 614.2km from Bhubaneswar, state capital of Odisha. The District has 1 sub-Division. The District hasone Sub- Divisions namely 1) Malkangiri, and into 7 Blocks & 7 Tahasils, namely i) Malkangiri ii) Kalimela iii) Podia iv)Korukonda v)Chitrakonda vi)Khairput vii) Mathili. The population of the District is 613,192 according to the 2011 Census. The district accounts for 3.72% of the State's territory and about 1.45% of State's population. The density of population of the district is 106 per square km as against 270 per square km of the state. As per 2011 census, the population of Scheduled Caste is 1,38,295 (22.55%), and Scheduled Tribe is 3,56,614 (58.15%). The literacy percentage of the district covers 48.54%against 75.15 of the state.



1.3 Connectivity facilities:

Road Network

Malkangiri District is connected to major parts of Odisha and other Districts by National Highway-326. The Malkangiri town, the district headquarter is approachable road adjacent districts through State Highways.SH-25 & SH-4 crosses within the district. The important towns of the district are well connected by road.



Rail Network

Malkangiri is not connected with rail network. Nearest major railway stations are Koraput, Jeypore at 125 kms, 101Kms & Jagadalpur in Chhatisgarh at 145km.

Air Network

There is an airport located at Katelguda, on the outskirts of Malkangiri town, nearly 5 Km away from District Headquarter, Malkangiri. However, no flight operations have started as it hasn't received necessary approval from the Directorate General of Civil Aviation (DGCA), yet. Nearest airport is Jeypore Airport which is 103 kms from Malkangiri. Bhubaneswar Airport is 101 kms from Malkangiri. Rajahmundry Airport in Andhra Pradesh is 222 kms from Malkangiri.

2. OVERVIEW OF MINING ACTIVITY IN THE DISTRICT:

Other than ordinary Earth, Morrum, Stone & Sand a great variety of major mineral potential like Bauxite, Tin, Asbestos, Limestone and Specified Minor Minerals like Quartz, Talc/Soap Stone & Decorative Stone (Granite) are available in the district.

2.1 Major minerals:

Table-1

Sl No.	MINERAL	LOCATION	RESEREVE (IN MT)	REMARK S
1	Bauxite	Korukonda	0.018	
2	Limestone	Kottameta-Nandiveda-Uksalvagu	240	
3	Tin	Salimi and Mundaguda	0.000347	
4	Asbestos	Bejangiwada	-	Not estimated

2.2 Minor mineral:

Specified Minor Mineral:

Table-2

Sl No.	MINERAL	LOCATION	RESERVE INMT '	REMARKS
1	Quartz	Gorespalli, Sardaput, Ramvaram, Kotapalli, MV-79,MV-127, MV-96, Polluru	-	Not estimated
2	Talc/Soap stone	Sardaput, Pandripani	-	Not estimated
3	Decorative/ Dimension Stone	Peta, Ponarguda, Jagannathpalli, Potteru, Majhiguda, Nilakhamar, Gagarmetla, Gangla	-	Not estimated

3.The List of Mining Leases in the District with locations, area and period of Validity :-

Table-3

List of Minor Mineral sources Working, Non-Working & Proposed (New) in Malkangiri District

Tahasil	Sl.No	Name of the Quarry Lease	Village, Khata No, Plot No & Kisam	Latitude	Longitude	Date And Registration No Of Lease Deed	No & Date Of Grant Of Env Clearance	Total Area recommended for Mineral concession (in Sq. Meter/Ha.)	Mineable Mineral potential in Metric Tones/ Cums(60% of Total Minerals /potential)	Geological mineral potential in Metric tones/Cums	Name of the Lessee with address despatch	Period of Lease		Status of working or non-working/Temp permit working for
												From	To	
Chitrokonda	A 1	Orkel Sand Quarry	Khata No.-51, Plot No. -426/P Kisam-Nadi, Mouza-Orkel	18°12'59.90868"N to 18°13'13.66173"N	82°02'46.157 46"E to 82°03'03.763 43"E	1125210006 8 Dt.-23.04.2021	SEIAA-713/10-2020, dated 06.10.2020	5.000 Ha.	MR-5010	GR-7374	Sri D Venkat Rao AT-Kumutiguda Malkangiri, Odisha	23.04.2021	22.04.2026	Working
Kalimela	B 1	Maranpally Sand Bed	Khata No.-339, Plot No. -2320 & 2321, Kisam-Nadi, Mouza-Maranpally	18°06′25.2 5541"N to 18°06'45.4 7425"N	81°41'50.820 15"E to 81°42'00.384 33"E	Non-Working	Non-Working	4.950 Ha	MR-3210.25	GR-7896	Data is not available	Non-Working	Non-Working	Non-Working
Kalimela	B 2	Girkanpally Sand Quarry	Khata No.-398, Plot No. -3156 & 3240, Kisam-Nadi, Mouza-Girkanpally	18°03'12.6 3414"N to 18°03'30.1 5344"N	81°39'17.449 68"E to 81°39'.29.45 781"E	1124220007 7 Dt-26.03.2022	EC22B001OR191055, dated 18.02.2022	5.850 Ha	MR-9979	GR-23440	Sri Krishna Rangu, At/P o-Kalimela, Malkangiri, Odisha, Mob: 9437820186	26.03.2022	25.03.2027	Working

Kalimela	B 3	Tamanpally Sand Quarry	Khata No.-224, Plot No. -25/1, Kisam-Nadi, Mouza-Tamanpally	18°03'32.59"N to 18°03'17.15" N	81°35'26.345 85"E to 81°35'42.919 81"E	1124220027 3 Dt.-27.09.2022	EC22B001OR129848, dated 05.11.2022	4.920Ha	MR-3106.4	GR-4658.4	GitanjaliPanigrahi, At- Santosh Marg, Po-Bhawanipatna, Dist. - Kalahandi, Odisha, Mob. - 9437000101	27.09.2022	26.09.2027	Working
Kalimela	B 4	Venkatpallam Sand Bed	Khata No.-195, Plot No. – 01, 02,73 & 74, Kisam-Nadi, Mouza-Venkatpalam	18°07′24.30030"N to 18°07'38.1 1307"N	81°42'52.94885"E to 81°43′19.81416"E	Non-Working	Non-Working	4.50 ha	MR-2437.5	GR-7548	Data is not available	Non-Working	Non-Working	Non- Working
Kalimela	B 5	Teliguda Sand Quarry	Khata No.-50, Plot No. – 1 & 2, Kisam-Nadi, Mouza-Teliguda	18°08'30.35557"N to 18°09'02.6 1963"N	81°43'12.72572"E to 81°43'36.88176"E	Non-Working	Non-Working	5.000ha	MR-3694	GR-20000	Data is not available	Non-Working	Non-Working	Non- Working
Kalimela	B 6	Tamanpalli Sand Quarry-B	Khata No.-224, Plot No. -74/1, Kisam-Nadi, Mouza Tamanpalli	18° 03' 28.55669" N to 18°03'39.6 7686" N	81° 36' 15.66704"E to 81°36'34.10120"E	New Source	New Source	5.000 Ha.	MR-30000	GR-50000	Not Required as it is a proposed source	Not Required as it is a proposed source	Not Required as it is a proposed source	New Source for future auction
Kalimela	B 7	Padganpalli Sand Quarry-I	Khata No.-209, Plot No. -1877, Kisam-Nadi, Mouza Padangpalli	18°03'31.11981"N to 18°03'27.1 3659" N	81°40'28.26436"E to 81°40'15.22682"E	New Source	New Source	3.580 Ha	MR-18000	GR-30000	Not Required as it is a proposed source	Not Required as it is a proposed source	Not Required as it is a proposed source	New Source for future auction
Kalimela	B 8	Padganpalli Sand Quarry-II	Khata No.-209, Plot No. -2115, Kisam-Nadi, Mouza Padangpalli	18°03'43.42388"N to 18°03'27.2 7257" N	81°40'43.10078"E to 81°40'30.03325"E	New Source	New Source	4.550 Ha	MR-27000	GR-45000	Not Required as it is a proposed source	Not Required as it is a proposed source	Not Required as it is a proposed source	New Source for future auction

Kalimela	B 9	Murbanpali Sand Quarry	Khata No.-380, Plot No. -3545, Kisam-Nadi, Mouza Murbanpali	18°03'26.62687"N to 18°03'10.72827" N	81°37'18.51266"E to 81°36'54.01373"E	New Source	New Source	2.300 Ha	MR-15000	GR-25000	Not required as it is a proposed source	Not required as it is a proposed source	Not required as it is a proposed source	New Source for future auction
Kalimela	B 10	Poluru Sand Quarry	Khata No. 55(AAA), Plot No. -1232, Kisam-Nadi, Mouza-Poluru	17°51'01.36816"N to 17°50'50.49783" N	81°38'49.77274"E to 81°38'40.88117"E	New Source	New Source	5.000 ha	MR-30000	GR-50000	Not required as it is a proposed source	Not required as it is a proposed source	Not required as it is a proposed source	New Source for future auction
Khairput	C 1	Kamalapadar Sand Bed	Khata No.-23, Plot No. -70, Kisam-Nadi, Mouza-Kamalapadar	18° 35' 23.76165" N to 18° 35' 57.98786" N	82° 16' 12.03638"E to 82° 16' 34.32312"E	1125 2100 151 Dt.-12.11.2021	SEIAA-1206/01-2021, dated 20.01.2021	5.000ha	MR-4800	GR-8000	Samarjit Jena, At/ PO-Govindapalli, PS-Mathili, Dist-Malkangiri	12.11.2021	11.11.2026	Working
Khairput	C 2	Govindapalli Sand Quarry	Khata No.-452, Plot No. -596,1300,1309, Kisam-Nadi, Mouza Govindapalli,	18° 34' 00.46867" N to 18° 34' 12.22093" N	82° 16' 22.43749"E to 82° 16' 58.82375"E	1125 2200 105 Dt.-28.07.2022	EC22B001OR161538, dated 08.03.2022	4.995Ha	MR-16828	GR-54770	Prafulla Chandra Rath, At-Govindapalli, Dist.-Malkangiri	28.07.2022	27.07.2027	Working
Khairput	C 3	SikhpalliSandQuarry	Khata No.-150, Plot No. -1582/1, 1734/1 Kisam-Nadi, Mouza-Sikhpalli,	18° 27' 34.46612" N to 18° 27' 16.91427" N	82° 08' 16.68061"E to 82°08' 09.66500"E	1125 2100 122 Dt.-11.10.2021	SEIAA-1205/01-2021, dated 20.01.202	2.354Ha	MR- 8474	GR-14124	Sahadev Behera, At/PO-Govindapalli, PS-Mathili, Dist-Malkangiri	11.10.2021	10.10.2026	Working

							1							
Khairput	C 4	Pushpalli Sand Quarry	Khata No.- 259, Plot No. - 24,181, Kisam Nadi, Mouza Pushpalli	18°27'15.9 8513"N to 18°26'54.8 3596" N	82°08'25.515 87"E to 82°08'05.753 40"E	New Sour ce	New Sour ce	4.85 5 Ha	MR-28800	GR-4800 0	Not Requ ired as it is a prop osed sour ce	Not Requ ired as it is a prop osed sour ce	Not Requ ired as it is a prop osed sour ce	New Source for future auction
Mathili	D 1	Khairapall y Sand Bed	Khata No.- 131, Plot No. - 1351/1, 1169/1 & 418/1, Kisam-Nadi, Mouza-Khairapal ly	18°26'43.4 8956"N to 18°26'55.0 2735" N	82°06'58.620 10"E to 82°07'14.445 58"E	1123 2101 285 Dt.-29.1 2.20 21	SEI AA-758/ 10 - 202 0 , date d 27.1 0. 202 0	5.00 0ha	MR-34585	GR-5000 0	J. Srini vas Rao, At/P o-Math ili, Dist-Malk angir i, Odis ha	29.1 2.20 21	28.1 2.20 26	Working
Mathili	D 2	Mecca Sand Bed	Khata No.- 167, Plot No. - 2457, 2458 & 2702, Kisam-Nadi, Mouza-Mecca	18°32'30.5 1917"N to 18°32'51.6 9528" N	82°05'37.547 20"E to 82°05'55.337 83"E	1123 2100 388 Dt.-05.0 4.20 21	SEI AA-761/ 10 - 202 0, date d 27.1 0. 202 0	5.00 0ha	MR-37088	GR-5000 0	Bikra mKe shriP atra, At/P o-Naya kgud a Malk angir i	05.0 4.20 21	04.0 4.20 26	Working
Mathili	D 3	Pangam Sand Bed	Khata No.- 163, Plot No. - 152, Kisam-Nadi, Mouza-Pangam	18°31'41.7 2848"N to 18°31'58.4 0867" N	82°07'48.665 89"E to 82°08'06.333 16"E	1123 2100 313 Dt.-17.0 4.20 21	EC2 4C 010 7O R56 76 439 T, date d 08.0 5. 202 4	5.00 0ha	MR-39120	GR-5000 0	Jaya ntaB eher a, At/P o-Math ili, Dist-Malk angir i, Odis ha	17.0 4.20 21	16.0 4.20 26	Working
Mathili			Khata No.- 361,								Raje sh Kum ar Buru da, At-Pand iripa ni			

	D 4	Chaulamen di Sand Quarry	Plot No. - 444, Kisam- Nadi, Mouza- Chaulamendi	18°30'11.7 2710"N to 18°30'31.5 78 94" N	82°09'33.789 83"E to 82°09'54.562 53"E	1123 2200 174 Dt.- 16.0 2.20 22	SEIAA-1387/02-2021, dated 12.02.2021	5.000ha	MR-14510	GR-19231	Po- Serapali, Dist. - Malkangiri Odisha	16.02.2022	15.02.2227	Working
Mathili	D 5	Gangarajguma Sand Quarry	Khata No.- 100, Plot No. - 188, 190, 192,376 & 372/1, Kisam- Nadi, Mouza- Gangarajguma	18°31'01.1 4730"N to 18°31'14.8 4271"N	82°13'24.635 23"E to 82°13'41.006 69"E	1123 2101 286 Dt.- 27.1 2.20 21	SEIAA-760/10-2020, dated 27.10.2020	5.000ha	MR-37057.35	GR-50000	V Ramesh, At- Durgagudisahi, Po/Dist.- Malkangiri, Odisha	27.12.2021	26.12.2226	Working
Mathili	D 6	Maliguda Sand Bed	Khata No.- 44, Plot No. - 254 & 356, Kisam- Nadi, Mouza- Maliguda	18°28'40.1 4006"N to 18°28'58.1 8345"N	82°07'35.3"E to 82°07'55.4"E	1123 2100 387 Dt.- 05.0 4.20 21	EC24C0107OR5577761T, dated 14.12.2020	5.000ha	MR-32890	GR-50000	BikramKeshriPatra, At/P o-Nayakguda Malkangiri	05.04.2021	04.04.2226	Working
Mathili	D 7	Podaguda Sand Bed	Khata No.- 47, Plot No. - 195, Kisam- Nadi, Mouza- Podagud a	18°31'05.3 4530"N to 18°31'27.5 7123"N	82°08'54.650 65"E to 82°09'00.344 42"E.	1123 2100 216 Dt.- 08.0 4.20 21	EC24C0107OR5935833T, dated 14.12.2020	5.000ha	MR-39100	GR-50000	Lalit Somany, MV-03, At/P o/Dist.- Malkangiri, Odisha	08.04.2021	07.04.2226	Working
Mathili	D 8	Dhungiput Sand Quarry	Khata No.- 253, Plot No.- 577/1, 567/1, Kisam Nadi, Mouza Dhungiput	18°35′37.6 6640"N to 18°35'46.3 6310" N	82°15'19.623 54"E to 82°15'46.179 18"E	New Source for	New Source for	5.000 ha.	MR-31000	GR-50000	Not Required as it is a proposed source	Not Required as it is a proposed source	Not Required as it is a proposed source	New Source for future auction

Mathili	D 9	Kathiguda Sand Quarry	Khata No.-6, Plot No. -400/615/1 Kisam-Nadi, Mouza Kathigud a	18°31'57.6 6270"N to 18°32'27.9 2231" N	82°06'41.8 5464"E to 82°06'58.5 6203"E	New Sour ce for	New Sour ce for	5.00 0 ha	MR-32854	GR-5000 0	Not Requ ired as it is a prop osed sour ce	Not Requ ired as it is a prop osed sour ce	Not Requ ired as it is a prop osed sour ce	New Source for future auction
Mathili	D 10	Badarangabeda Sand Quarry	Khata No.-67, Plot No. -575/653/1, Kisam-Nadi, Mouza Badarang abeda	18°35'37.8 6931"N to 18°35'49.6 6263"N	82°01'20.231 89"N to 82°01'33.954 72"N	New Sour ce for	New Sour ce for	5.00 0 ha	MR-33450	GR-5000 0	Not Requ ired as it is a prop osed sour ce	Not Requ ired as it is a prop osed sour ce	Not Requ ired as it is a prop osed sour ce	New Source for future auction
Mathili	D 11	Timasput Sand Quarry	Khata No.-141, Plot No. -858, 1153/1 Kisam Nadi, Mouza Timasput	18°36′40.8 8888"N to 18°36'47.6 3294"N	82°09'50.582 51"E to 82°09'58.523 24"E	New Sour ce for	New Sour ce for	5.00 0 ha	MR-30000	GR-5000 0	Not Requ ired as it is a prop osed sour ce	Not Requ ired as it is a prop osed sour ce	Not Requ ired as it is a prop osed sour ce	New Source for future auction
Mathili	D 12	Bijapadar Sand Quarry	Khata No.-128, Plot No. -47, Kisam-Nadi, Mouza-Bijapadar	18°34'26.7 5038"N to 18°34'54.7 7810" N	82°03'45.6 2126"E to 82°04'00.044 80"E	New Sour ce for	New Sour ce for	4.80 0 Ha.	MR-29873	GR-4800 0	Not Requ ired as it is a prop osed sour ce	Not Requ ired as it is a prop osed sour ce	Not Requ ired as it is a prop osed sour ce	New Source for future auction
Mathili	D 13	Mahupadar Sand Quarry-I	Khata No.-211, Plot No. -1878/1, Kisam Nadi, Mouza Mahupad ar	18°35'50.3 3488"N to 18°36'00.9 8677" N	81°57'34.9 2599"E to 81°57'46.5 7583"E	New Sour ce for	New Sour ce for	5.00 0 ha	MR-33985	GR-5000 0	Not Requ ired as it is a prop osed sour ce	Not Requ ired as it is a prop osed sour ce	Not Requ ired as it is a prop osed sour ce	New Source for future auction
Mathili	D 14	Mahupadar Sand Quarry-II	Khata No.-211, Plot No. -1877/1, Kisam Nadi, Mouza Mahupad ar	18°35'57.6 7141"N to 18°36'04.2 1588" N	81°56'51.5 0912"E to 81°57'01.7 1986"E	New Sour ce for	New Sour ce for	5.00 0 ha	MR-31992	GR-5000 0	Not Requ ired as it is a prop osed sour ce	Not Requ ired as it is a prop osed sour ce	Not Requ ired as it is a prop osed sour ce	New Source for future auction
Mathili	D 15	Chaulamen di Sand Quarry-B	Khata No.-361, Plot No. -32/1, Kisam-Nadi, Mouza Chaulam endi	18°30′27.7 0754"N to 18°30'31.9 7986"N	82°08'57.083 66"E to 82°09'16.839 14"E	New Sour ce for	New Sour ce for	5.00 0 ha	MR-30000	GR-5000 0	Not Requ ired as it is a prop osed sour ce	Not Requ ired as it is a prop osed sour ce	Not Requ ired as it is a prop osed sour ce	New Source for future auction

Mathili	D 16	Mutebeda Sand Quarry	Khata No. 31(AAA), Plot No. - 15/1, 20/1, Kisam-Nadi, Mouza Mutebed a	18°28'30.33510"N to 18°28'25.42674" N	82°07'58.69015"E to 82°07'44.02078"E	New Source for	New Source for	3.477 Ha	MR-20820	GR-34770	Not Required as it is a proposed source	Not Required as it is a proposed source	Not Required as it is a proposed source	New Source for future auction
Kudumulugumma	E 1	Gotiguda Sand Quarry	Khata No.-158, Plot No. - 1162, 1172,1119, Kisam-Nadi, Mouza-Gotiguda	18°25'25.47956"N to 18°25'52.95214" N	82°10'07.29357"E to 82°10'16.55519"E	1125210013 9 Dt.-30.10.2021	SIA/OR/MIN/306715/2022, dated 28.12.2023	5.000 ha	MR-64312	GR-100000	Durga Prasad Barik, At/P o-Kudumulugumma, Dist-Malkangiri	30.10.2021	29.10.2026	Working
Kudumulugumma	E 2	Chitapari Sand Quarry.	Khata No.-57, Plot No. 394,370, Kisam Nadi, Mouza Chitapari,	18°24'53.55055"N to 18°24'43.31653" N	82°10'10.87473"E to 82°10'14.77626"E	1125210015 6 Dt.-19.12.2021	SEIAA-1207/01-2021, dated 20.01.2021	1.367Ha	MR-7074	GR-13670	Umashankar Sahu, At/P o-Korukonda, Dist. Malkangiri, Odisha	19.12.2021	18.12.2026	Working
Kudumulugumma	E 3	Maheswarpur/Kondelguda Sand Bed	Village-MaheswarpurKhata No.-103, Plot No. - 358, Village-Kondelguda, Khata No.-70, Plot No. 615,410, 411, Kisam Nadi	18°17′12.34089"N to 18°17′54.64438" N	82°06'18.64652"E to 82°06'51.03105"E	1125200039 Dt.-23.08.2020	62282/1818-NCM/03-2017, dated 12.06.2017	4.956ha	MR-34652	GR-50000	Data is not available	23.08.2020	22.08.2025	Non- Working

Malkangiri	F 1	Chidupali Sand Bed-B	Khata No.-625, Plot No.-4421/4839, Kisam-Nadi, Mouza-Chidupali	18°14'16.96214"N to 18°15'06.28552" N	81°52'07.96747"E to 81°52'.26.49586"E	1123220073 3 Dt.-19.07.2022	EC22B001OR137115, dated 07.06.2022	4.930 ha	MR-2900.5	GR-13892	Subash Chandra Mistry, At-MPV 03, Po-Malkangiri, Dist-Malkangiri	19.07.2022	18.07.2027	Working
Malkangiri	F 2	Pulimetla Sand Quarry	Khata No.-306, Plot No. -2171, Kisam-Nadi, Mouza-Pulimetla	18°10'43.51040"N to 18°10'58.57810" N	81°47'48.07324"E to 81°47'.56.87058"E	1123220055 5 Dt.-25.05.2022	EC22B001OR131069, dated 06.05.2022	4.475 ha	MR-5004	GR-6421	Kiran Kumar Gouda, at-Malkangiri	25.05.2022	24.05.2027	Working
Malkangiri	F 3	Kodelmetla Sand Quarry	Khata No.-446(AAJ), Plot No. -3377, Kisam-Nadi, Mouza-Kodelmetla	18°12'23.48304"N to 18°12'47.02863" N	81°50'00.91760"E to 81°50'.59.35857"E	1123210107 4 Dt.-06.03.2021	SEIAA-300/07-2020, dated 07.07.2020	4.860 ha	MR-13700	GR-23038	Rajesh Kumar Buruda, At-Pandripani Serapalli Malkangiri Mob No-8280885455	06.03.2021	05.03.2026	Working
Motu	G 1	Uskalbag Sand Bed	Khata No.-148, Plot No. -1, Kisam-Nadi, Mouza-Motu	18°18'38.16428"N to 18°18'49.78533" N	81°37'23.90713"E to 81°37'.34.75359"E	1124230016 3 Dt.-18.07.2023	238684/124-MINB2/12-2021, dated 02.05.202	5.000 ha	MR-6419	GR-8249	Premchand Gupta, At- Civil Lane, lalBagh, Po-Jagdalpur, Dist-Bastar, Chhattisgarh	18.07.2023	17.07.2028	Working

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Motu	G 2	Alma Sand Quarry	Khata No.-74, Plot No. -465, Kisam-Nadi, Mouza-Alma	17°53'15.8 7308"N to 17°53'25.6 6408"N	81°24'59.409 31"E to 81°25'10.922 09"E	New Sour ce	New Sour ce	5.00 0 ha	MR-30000	GR-5000 0	Not Requ ired as it is a prop osed sour ce	Not Requ ired as it is a prop osed sour ce	Not Requ ired as it is a prop osed sour ce	New Source for future auction

3.1 Methodology adopted for Identification of New sand Sources:-

In the Malkangiri district, the identification of new sand sources is governed by the Sustainable Sand Mining Management Guidelines, 2016 and the Enforcement & Monitoring Guidelines for Sand Mining (EMGSM), 2020, issued by the Ministry of Environment, Forest and Climate Change (MoEF&CC). These guidelines establish a scientific, environmentally sound, and socially responsible process for locating and approving new minor mineral extraction sites.

Scientific and geological studies.

The first phase involves conducting detailed studies to identify potential areas of sand deposits while avoiding environmentally fragile zones.

- **District Survey Report (DSR):** The foundation of the process is the District Survey Report, which maps potential mining sites across a district by focusing on the river system as a whole. The DSR serves as the basis for all subsequent Environmental Clearances (EC) and must be updated every five years.
- **Geological and hydrological data:** Geological departments and ground water boards are consulted to identify areas of deposition or *aggradation* where sand naturally accumulates. This includes river floodplains, coastal areas, palaeo-channels (ancient riverbeds), and agricultural fields.
- **Replenishment study:** A mandatory and detailed study is required to calculate the annual rate of sand replenishment in a river stretch. This determines the amount of sand that can be sustainably extracted without causing bed degradation or erosion. The study involves multiple surveys before, during, and after the monsoon season.
- **Use of technology:** Remote sensing, Geographical Information System (GIS), and UAV/drone surveys and DGPS Survey are used for accurate mapping and monitoring of potential sites and existing mining areas with proper transporting routes.

4.DETAILS OF ROYALTY OR REVENUE RECEIVED IN LAST THREE YEARS (SAND):

Table-4

SL No.	Name of the Tahasil	Name of Source	Revenue Collected for last three years (in Rs)			
			2021-22	2022-23	2023-24	Total amount in Rs.
A1	Chitrokonda	Orkel Sand Quarry	₹ 3,44,850.00	₹ 3,44,850.00	₹ 3,44,850.00	₹ 10,34,550.00
B1	Kalimela	Maranpally Sand Bed	Non-Operational	Non-Operational	Non-Operational	Non-Operational
B2		Girkanpally Sand Quarry	₹ 33,509.00	₹ 1,17,840.00	Non-Operational	₹ 1,51,349.00
B3		Tamanpally Sand Quarry	Non-Operational	₹ 2,28,510.00	₹ 62,196.00	₹ 2,90,706.00
B4		Venkatpallam Sand Bed	Non-Operational	Non-Operational	Non-Operational	Non-Operational
B5		Teliguda Sand Quarry	Non-Operational	Non-Operational	Non-Operational	Non-Operational
B6		Tamanpalli Sand Quarry-B	Non-Operational	Non-Operational	Non-Operational	Non-Operational
B7		Padganpalli Sand Quarry-I	Non-Operational	Non-Operational	Non-Operational	Non-Operational
B8		Padganpalli Sand Quarry-II	Non-Operational	Non-Operational	Non-Operational	Non-Operational
B9		Murbanpali Sand Quarry	Non-Operational	Non-Operational	Non-Operational	Non-Operational
B10		Poluru Sand Quarry	Non-Operational	Non-Operational	Non-Operational	Non-Operational
C1	Khairput	Kamalapadar Sand Bed	₹ 2,48,930.00	₹ 5,97,432.00	₹ 4,04,505.00	₹ 12,50,867.00
C2		Govindapalli Sand Quarry	₹ 2,43,217.00	₹ 3,24,290.00	₹ 2,25,182.00	₹ 7,92,689.00
C3		Sikhpalli Sand Quarry	₹ 2,57,164.00	₹ 5,14,329.00	₹ 3,63,762.00	₹ 11,35,255.00

C4		Pushpalli Sand Quarry	Non-Operational	Non-Operational	Non-Operational	Non-Operational
D1	Mathili	Khairapally Sand Bed	₹ 1,05,770.00	₹ 3,17,310.00	₹ 3,17,310.00	₹ 7,40,390.00
D2		Mecca Sand Bed	₹ 9,82,928.00	₹ 9,82,928.00	₹ 9,82,928.00	₹ 29,48,784.00
D3		**Pangam Sand Bed**	₹ 15,03,030.00	₹ 15,03,030.00	₹ 15,03,030.00	₹ 45,09,090.00
D4		**Chaulamendi Sand Quarry**	₹ 83,123.00	₹ 4,98,735.00	₹ 4,98,735.00	₹ 10,80,593.00
D5		**Gangarajguma Sand Quarry**	₹ 85,270.00	₹ 2,55,810.00	₹ 2,55,810.00	₹ 5,96,890.00
D6		**Maliguda Sand Bed**	₹ 8,07,325.00	₹ 8,07,325.00	₹ 80,735.00	₹ 16,95,385.00
D7		**Podaguda Sand Bed**	₹ 15,27,384.00	₹ 15,27,384.00	₹ 15,27,384.00	₹ 45,82,152.00
D8		**Dhungiput Sand Quarry**	Non-Operational	Non-Operational	Non-Operational	Non-Operational
D9		**Kathiguda Sand Quarry**	Non-Operational	Non-Operational	Non-Operational	Non-Operational
D1 0		**Badarangabeda Sand Quarry**	Non-Operational	Non-Operational	Non-Operational	Non-Operational
D1 1		**Timasput Sand Quarry**	Non-Operational	Non-Operational	Non-Operational	Non-Operational
D1 2		**Bijapadar Sand Quarry**	Non-Operational	Non-Operational	Non-Operational	Non-Operational
D1 3		**Mahupadar Sand Quarry-I**	Non-Operational	Non-Operational	Non-Operational	Non-Operational
D1 4		**Mahupadar Sand Quarry-II**	Non-Operational	Non-Operational	Non-Operational	Non-Operational

D1 5		**Chaulamendi Sand Quarry-B**	Non-Operational	Non-Operational	Non-Operational	Non-Operational
D1 6		**Mutebeda Sand Quarry**	Non-Operational	Non-Operational	Non-Operational	Non-Operational
E1	Kudumulugumma	**Gotiguda Sand Quarry**	₹ 1,92,462.00	₹ 3,84,924.00	₹ 3,84,924.00	₹ 9,62,310.00
E2		**Chitapari Sand Quarry.**	₹ 1,22,954.00	₹ 3,68,862.00	₹ 3,68,862.00	₹ 8,60,678.00
E3		**Maheswarpur/Kondelgud a Sand Bed**	Non-Operational	Non-Operational	Non-Operational	Non-Operational
F1	Malkangiri	**Chidupali Sand Bed-B**	Non-Operational	₹ 1,28,252.00	Non-Operational	₹ 1,28,252.00
F2		**Pulimetla Sand Quarry**	₹ 3,78,979.00	₹ 4,13,282.00	₹ 1,37,624.00	₹ 9,29,885.00
F3		**Kodelmetla Sand Quarry**	Non-Operational	Non-Operational	Non-Operational	Non-Operational
G1	Motu	**Uskalbag Sand Bed**	Non-Operational	Non-Operational	Non-Operational	Non-Operational
G2		**Alma Sand Quarry**	Non-Operational	Non-Operational	Non-Operational	Non-Operational

5.DETAILS OF PRODUCTION OF RIVER SAND IN LAST THREE YEARS:

Table-5

SL No.	Name of the Tahasil	Name of Source	Production in last three years (in Cum)			
			2021-22 MGQ	2022-23 MGQ	2023-24 MGQ	Total amount in CUM
A1	Chitrokonda	Orkel Sand Quarry	600	600	600	1800
B1	Kalimela	Maranpally Sand Bed	Non-Operational	Non-Operational	Non-Operational	Non-Operational
B2		Girkanpally Sand Quarry	50	156	Non-Operational	206
B3		Tamanpally Sand Quarry	Non-Operational	1000	280	1280
B4		Venkatpallam Sand Bed	Non-Operational	Non-Operational	Non-Operational	Non-Operational
B5		Teliguda Sand Quarry	Non-Operational	Non-Operational	Non-Operational	Non-Operational
B6		Tamanpalli Sand Quarry-B	Non-Operational	Non-Operational	Non-Operational	Non-Operational
B7		Padganpalli Sand Quarry-I	Non-Operational	Non-Operational	Non-Operational	Non-Operational
B8		Padganpalli Sand Quarry-II	Non-Operational	Non-Operational	Non-Operational	Non-Operational
B9		Murbanpali Sand Quarry	Non-Operational	Non-Operational	Non-Operational	Non-Operational
B10		Poluru Sand Quarry	Non-Operational	Non-Operational	Non-Operational	Non-Operational
C1	Khairput	Kamalapadar Sand Bed	654	1570	1570	3794
C2		Govindapalli Sand Quarry	3751	5001	5001	13753
C3		Sikhpalli Sand Quarry	700	1400	1400	3500
C4		Pushpalli Sand Quarry	Non-Operational	Non-Operational	Non-Operational	Non-Operational
D1		Khairapally Sand Bed	833	2500	2500	5833
D2		Mecca Sand Bed	2800	2800	2800	8400
D3		Pangam Sand Bed	3000	3000	3000	9000

D4	Mathili	Chaulamendi Sand Quarry	417	2500	2500	5417
D5		Gangarajguma Sand Quarry	833	2500	2500	5833
D6		Maliguda Sand Bed	2700	2700	2700	8100
D7		Podaguda Sand Bed	2700	2700	2700	8100
D8		Dhungiput Sand Quarry	Non-Operational	Non-Operational	Non-Operational	Non-Operational
D9		Kathiguda Sand Quarry	Non-	Non-	Non-Operational	Non-
			Operational	Operational		Operational
D10		Badarangabeda Sand Quarry	Non-Operational	Non-Operational	Non-Operational	Non-Operational
D11		Timasput Sand Quarry	Non-Operational	Non-Operational	Non-Operational	Non-Operational
D12		Bijapadar Sand Quarry	Non-Operational	Non-Operational	Non-Operational	Non-Operational
D13		Mahupadar Sand Quarry-I	Non-Operational	Non-Operational	Non-Operational	Non-Operational
D14		Mahupadar Sand Quarry-II	Non-Operational	Non-Operational	Non-Operational	Non-Operational
D15		Chaulamendi Sand Quarry-B	Non-Operational	Non-Operational	Non-Operational	Non-Operational
D16		Mutebeda Sand Quarry	Non-Operational	Non-Operational	Non-Operational	Non-Operational
E1	Kudumulugumma	Gotiguda Sand Quarry	700	1400	1400	3500
E2		Chitapari Sand Quarry	333	1000	1000	2333
E3		Maheswarpur/Kondelguda Sand Bed	433	650	650	1733
F1	Malkangiri	Chidupali Sand Bed-B	Non-Operational	707	Non-Operational	707
F2		Pulimetla Sand Quarry	917	1000	333	2250
F3		Kodelmetla Sand Quarry	Non-Operational	Non-Operational	Non-Operational	Non-Operational
G1	Motu	Uskalbag Sand Bed	Non-Operational	Non-Operational	Non-Operational	Non-Operational
G2		Alma Sand Quarry	Non-Operational	Non-Operational	Non-Operational	Non-Operational

6. PROCESS OF DEPOSITION OF SEDIMENTS IN THE RIVERS OF THE DISTRICT

Fluvial Process of deposition is a geological process on the face of earth, normally controlled by various factors like gradient of the river, velocity of the flowing water, amount of discharge, change in the river channel pattern & chemical precipitation etc. Sediment in rivers gets deposited as the river slows down. Larger, heavier particles like pebbles and sand are deposited first, whilst the lighter silt and clay only settle if the water is almost still. The flow of water is strongest on the outside of river bends, eroding the bank, but is slowest on the inside of the bends, allowing deposition of sand and gravel. When a river "bursts its banks" after heavy rain, flood water spreads out across the floodplain and, because this water hardly moves, finer silt and clay are deposited – often making good farmland. The general drainage pattern in the district is dendritic to sub-parallel. The Kolab river alongwith its tributaries, the Potteru and Sileru rivers is the most prominent river of the region. The Kolab river issues from the Sinkaram hills and follows a south westerly course after passing over Malkangiri district. The river joins the Godavari river in Khammam district of Andhra Pradesh. Alluvium and Sand is not well deposited in the area. Small and local patches occur along the Sabari river. It is generally 1-2.5 m in depth. Its width varies from Zero to less than a Km. "*Most part of the banks of Sabari, Sileru and Potteru rivers are rocky with no tendency to deposit alluvium on either side. The distance of the sources from the river origin is geologically very short, hence this can be concluded that the rate of deposition of sand River is moderate, while in tributary rivers within the district the rate of deposit is slow."*

Major river systems:-

The key rivers and tributaries in the district responsible for carrying and depositing sand are:

- The Kolab River: This is the most prominent river in the region, flowing from the Sinkaram hills and carrying sediment through the district.
- The Potteru and Sileru rivers: These are important tributaries of the Kolab River that also transport sediment.
- The Sabari and Machhkund basins: Malkangiri's topography is defined by these basins, which also contribute to sand deposits in the region.

The deposition process: -

The process of river sand deposition involves three main stages: erosion, transportation, and settling.

1. Erosion

- **Source of sediment:** In Malkangiri, the primary sources of sand are the upstream hilltops, surrounding plateaus, and riverbanks. The local geology, which includes rocks like sandstones, limestones, and shales, contributes to the mineral and rock particles that form the sand.
- **Weathering:** These rock formations undergo both physical and chemical weathering over time, breaking down into smaller particles.
- **Monsoon effect:** High-intensity rainfall during the monsoon season significantly increases the erosive power of the rivers, carrying a high concentration of sand and other sediments downstream.

2. Transportation

- **Suspended load:** Finer, lighter sand particles are carried suspended within the river's water flow.
- **Bedload:** Heavier and coarser sand particles are transported along the riverbed through processes such as rolling and bouncing (saltation).
- **Stream power:** The river's ability to transport sediment (stream power) is influenced by its discharge volume and the slope of the riverbed. During periods of high flow, the river carries more and larger sediment particles.

3. Deposition

- **Reduced velocity:** Sand is deposited in areas where the river's flow velocity decreases. This can happen for several reasons:
  - **Reduced gradient:** The river's velocity slows down as it transitions from the steeper highlands to the flatter plains.
  - **Meanders and curves:** On the inside bends of meandering river channels, water flow is slower, causing sediments to drop out and form sandbars.
  - **Channel widening:** As the river channel widens, the water spreads out, reducing its speed and leading to increased deposition.
  - **Seasonal changes:** The sand load carried during the monsoon is deposited as floodwaters recede and river levels drop.
- **Formation of features:** The settling of sand forms various features within the river system:
  - **Sandbars and islands:** Deposited sediments form bars within the river channel.
  - **Floodplain terraces:** During major floods, sediment is deposited in sheets across the adjacent floodplains, which builds up over time.

Factors influencing deposition

Several factors unique to the Malkangiri region influence the sand deposition process:

- **Monsoon rainfall:** The seasonal pattern of heavy monsoon rainfall is the main driver of erosion and sediment transport.
- **Topography:** The transition from the rugged Eastern Ghats hills to the lower floodplains, particularly the Malkangiri rolling uplands, creates areas where the river's gradient decreases and deposition occurs.
- **Anthropogenic activities:** Human activities, including sand mining and land use changes in the river's catchment area, can alter natural erosion and deposition rates.
- **Replenishment:** Studies show that riverbeds are replenished with sand during the monsoon season, which refuels the supply of sand for natural deposition processes.

Table-6

Sl. No.	Name of the River	Financial Year	Process of Deposition of Sediments	Mineable volume (in Cum)
1	Shabari	2021-22 to 2023-24	moderate	135846
2	Sileru	2021-22 to 2023-24	Slow	30000
3	Potteru	2021-22 to 2023-24	moderate	131131.15
4	Pangam	2021-22 to 2023-24	moderate	159691
5	Tamasa Nallah	2021-22 to 2023-24	Slow	2900.5
6	Garia	2021-22 to 2023-24	Slow	53885

7	Gariagad	2021-22 to 2023-24	Slow	30000
8	Dharamagad	2021-22 to 2023-24	Slow	31000
9	Saptadhara	2021-22 to 2023-24	Slow	34800
10	Pitakata	2021-22 to 2023-24	Slow	58094
11	Orkel	2021-22 to 2023-24	Slow	5010
12	Dardur	2021-22 to 2023-24	Slow	34585
13	Sikhar	2021-22 to 2023-24	Slow	32890
14	Gotiguda	2021-22 to 2023-24	Slow	64312
15	Dumali	2021-22 to 2023-24	Slow	41726

Sand deposition, a crucial part of the natural rock cycle, involves the settling of sand particles from a transporting medium, typically wind, water, or ice, when the medium loses energy. This process leads to the accumulation of layers of sediment that can eventually solidify into sedimentary rock.

The detailed process of sand deposition are,

Weathering

Weathering is the breakdown of rocks at the Earth's surface, by the action of rainwater, extremes of temperature, and biological activity. It does not involve the removal of rock material.

There are three types of weathering, physical, chemical and biological.

Physical Weathering: Physical weathering is caused by the effects of changing temperature on rocks, causing the rock to break apart. The process is sometimes assisted by water.

Physical weathering is of two types. These are, (i) Freeze-thaw occurs when water continually seeps into cracks, freezes and expands, eventually breaking the rock apart. (ii) Exfoliation occurs as cracks develop parallel to the land surface a consequence of the reduction in pressure during uplift and erosion.

Physical weathering happens especially in places places where there is little soil and few plants grow, such as in mountain regions and hot deserts.

Either through repeated melting and freezing of water (mountains and tundra) or through expansion and contraction of the surface layer of rocks that are baked by the sun (hot deserts).

Chemical Weathering: Chemical weathering is caused by rain water reacting with the mineral grains in rocks to form new minerals (clays) and soluble salts. These reactions occur particularly when the water is slightly acidic. These chemical processes need water, and occur more rapidly at higher temperature, so warm, damp climates are best. Chemical weathering (especially hydrolysis and oxidation) is the first stage in the production of soils.

There are different types of chemical weathering, the most important are:

Solution- Removal of rock in solution by acidic rainwater. In particular, limestone is weathered by rainwater containing dissolved CO2, (this process is sometimes called carbonation).

Hydrolysis- The breakdown of rock by acidic water to produce clay and soluble salts.

Oxidation- The breakdown of rock by oxygen and water, often giving iron rich rocks a rusty- coloured weathered surface.

Biological Weathering: Living organisms contribute to the weathering process in many ways: Trees put down roots through joints or cracks in the rock in order to find moisture. As the tree grows, the roots gradually prize the rock apart. Even the tiniest bacteria, algae and lichens produce chemicals that help break down the rock on which they live, so they can get the nutrients they need. Many animals, such as these Piddock shells, bore into rocks for protection either by scraping away the grains or secreting acid to dissolve the rock.

Erosion and Transportation:

Erosion is the process by which soil and rock particles are worn away and moved elsewhere by gravity, or by a moving transport agent – wind, water or ice.

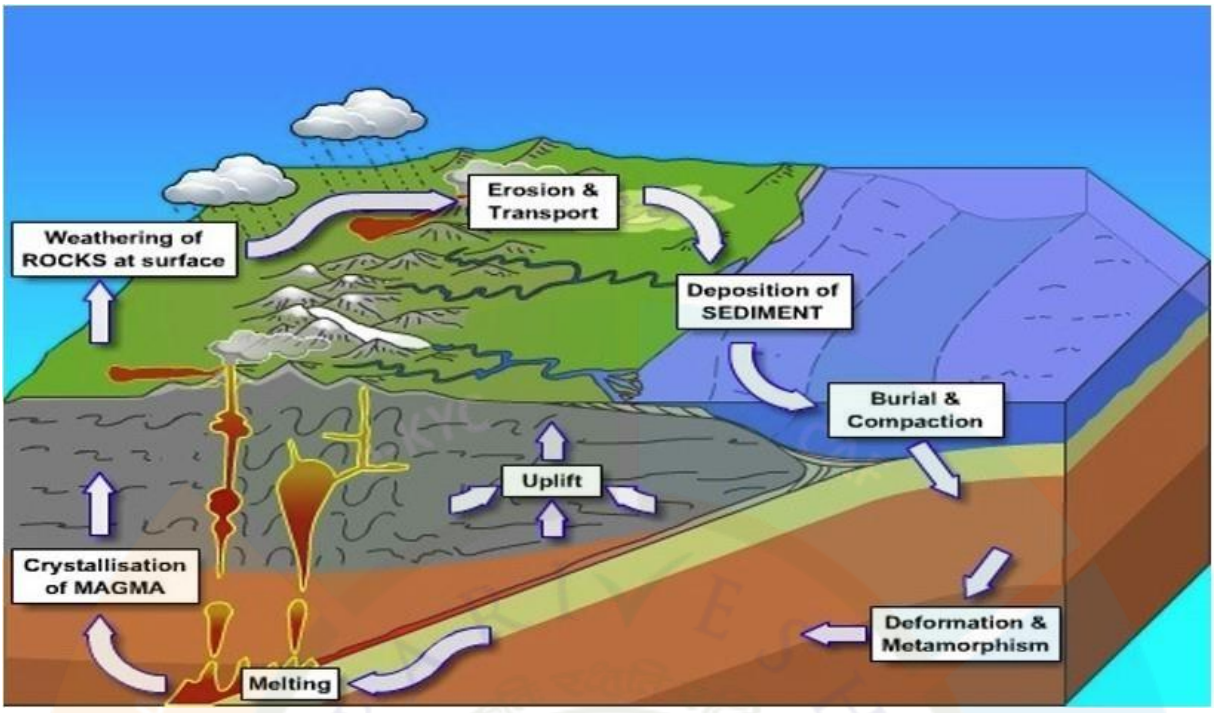
Wind: Wind-blown sand, a process called aeolian deposition, can transport sand over long distances, forming sand dunes and other landforms.

Water: Rivers, lakes, and oceans are major agents of sand transport. Rivers deposit sand in floodplains and alluvial fans, while waves and currents move sand along shorelines, creating beaches and bars.

Ice: Glaciers can carry and deposit sand, and the resulting deposits are known as glacial sediments.

Deposition:

When the transporting medium loses energy (e.g., wind slows down, river current decreases, or ice melts), the sand particles settle out of the medium and accumulate.



The specific location and conditions of deposition can vary significantly, influencing the type and size of sand deposits.

For example, rivers may deposit sand in bars along their channels, while the ocean may deposit sand on beaches or on the continental shelf. Sand dunes are formed by wind depositing sand behind obstacles or in areas where wind speed decreases.

Formation of Sedimentary Rocks:

Over time, the accumulated layers of sand can be compacted and cemented together, forming sedimentary rocks like sand stone. This process is a key part of the rock cycle, where rocks are formed, broken down, and reformed over geological time.

Sand deposition is a continuous process that shapes the Earth's surface, forming various landforms and contributing to the formation of sedimentary rocks.

- **Method of Mining**

  Extracting gravel from an excavation that does not penetrate the water table and is located away from an active stream channel should cause little or no change to the natural hydrologic processes unless the stream captures the pit during periods of flooding. The exception is that changes in evapo-transpiration, recharge, and runoff may create minor changes to the ground-water system, which may in tum affect stream flow.

a) Limiting extraction of material in floodplains to an elevation above the water table generally disturbing more surface area than allowing extraction of material below the water table.

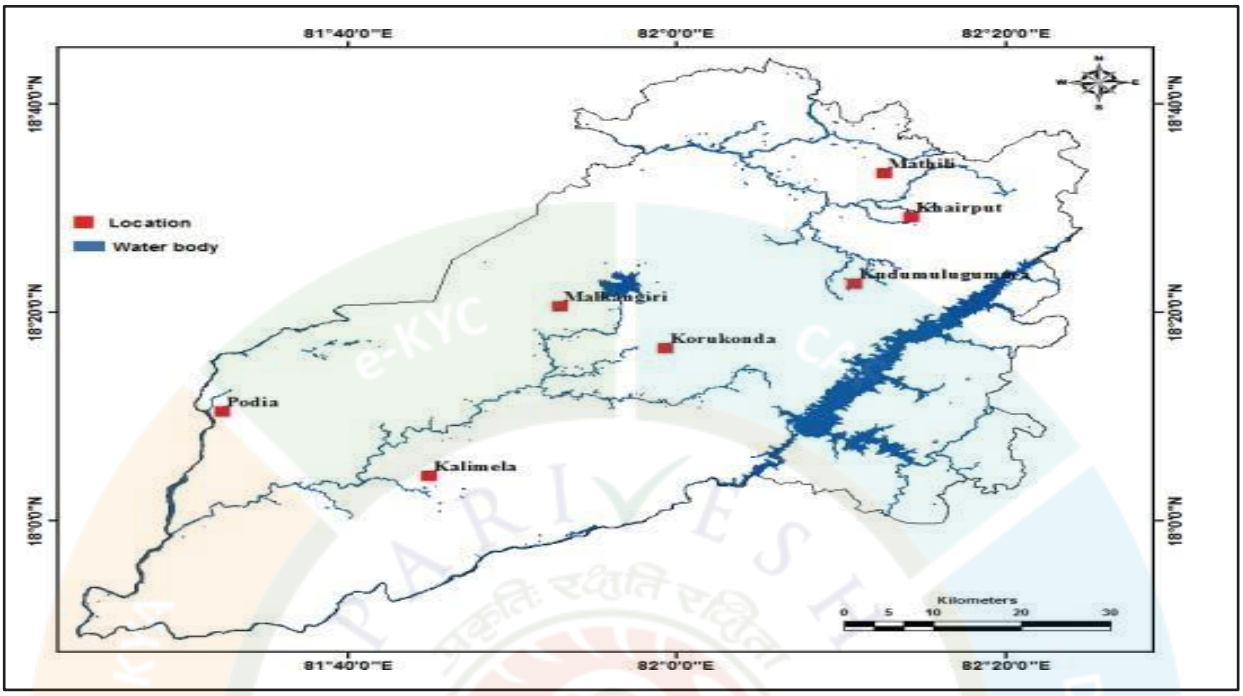
b) In-stream extraction of gravel from below the water level of a stream generally causes more changes to the natural hydrologic processes than limiting extraction to a reference point above the water level.

c) In-stream extraction of gravel below the deepest part of the channel (the thalweg) generally causes more changes to the natural hydrologic processes than limiting extraction to a reference point above the thalweg.

d) Excavating sand and gravel from a small straight channel with a narrow floodplain generally will have a greater impact on the natural hydrologic processes than excavations on a braided channel with a wide floodplain.

e) Extracting sand and gravel from a large river or stream will generally create less Impact than extracting the same amount of material from a smaller river or stream.

Drainage System



River System

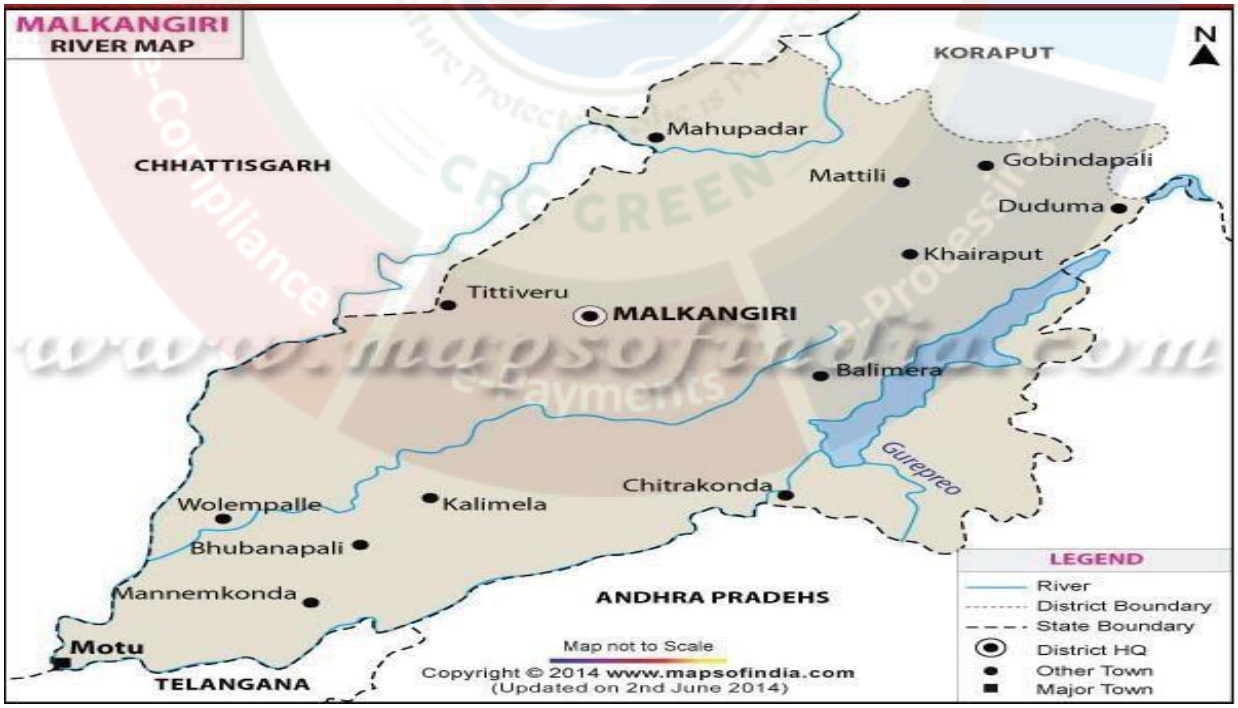


Table-7

Sl No	Tahasil	Name of the river or stream	Name of the Quarry Lease	Area (in Sq. Meter/Ha.)	Replenishment Volume	Remarks
A1	Chitrokonda	Orkel	Orkel Sand Quarry	5.000 Ha.	Data is under Process	Data is under Process & To be Submitted by **31/03/2026**
B1	Kalimela	Potteru	Maranpally Sand Bed	4.950 Ha	Data is under Process	Data is under Process & To be Submitted by **31/03/2026**
B2	Kalimela	Potteru	Girkanpally Sand Quarry	5.850 Ha	18547	Replenishment Study Report has been done
B3	Kalimela	Potteru	Tamanpally Sand Quarry	4.920Ha	Data is under Process	Data is under Process & To be Submitted by **31/03/2026**
B4	Kalimela	Potteru	Venkatpallam Sand Bed	4.50 ha	Data is under Process	Data is under Process & To be Submitted by **31/03/2026**
B5	Kalimela	Potteru	Teliguda Sand Quarry	5.000ha	Data is under Process	Data is under Process & To be Submitted by **31/03/2026**
B6	Kalimela	Potteru	Tamanpalli Sand Quarry-B	5.000 Ha.	Data is under Process	Data is under Process & To be Submitted by **31/03/2026**

B7	Kalimela	Potteru	Padganpalli Sand Quarry- I	3.580 Ha	Data is under Process	Data is under Process & To be Submitted by **31/03/2026**
B8	Kalimela	Potteru	Padganpalli Sand Quarry- II	4.550 Ha	Data is under Process	Data is under Process & To be Submitted by **31/03/2026**
B9	Kalimela	Potteru	Murbanpali Sand Quarry	2.300 Ha	Data is under Process	Data is under Process & To be Submitted by **31/03/2026**
B10	Kalimela	Sileru	Poluru Sand Quarry	5.000 ha	Data is under Process	Data is under Process & To be Submitted by **31/03/2026**
C1	Khairput	Saptadhara	Kamalapadar Sand Bed	5.000ha	Data is under Process	Data is under Process & To be Submitted by **31/03/2026**
C2	Khairput	Garia	Govindapalli Sand Quarry	4.995Ha	Data is under Process	Data is under Process & To be Submitted by **31/03/2026**
C3	Khairput	Pitakata	Sikhpalli SandQuarry	2.354Ha	7188	Replenishment Study Report has been done
C4	Khairput	Pitakata	Pushpalli Sand Quarry	4.855 Ha	Data is under Process	Data is under Process & To be Submitted by **31/03/2026**
D1	Mathili	Dardur	Khairapally Sand Bed	5.000ha	22694	Replenishment Study Report has been done

D2	Mathili	Pangam	Mecca Sand Bed	5.000ha	41695	Replenishment Study Report has been done
D3	Mathili	Pangam	Pangam Sand Bed	5.000ha	11251	Replenishment Study Report has been done
D4	Mathili	Pangam	Chaulamendi Sand Quarry	5.000ha	2969	Replenishment Study Report has been done
D5	Mathili	Garia	Gangarajguma Sand Quarry	5.000ha	11712	Replenishment Study Report has been done
D6	Mathili	Sikhar	Maliguda Sand Bed	5.000ha	19408	Replenishment Study Report has been done
D7	Mathili	Pangam	Podaguda Sand Bed	5.000ha	3301	Replenishment Study Report has been done
D8	Mathili	Dharmagad	Dhungiput Sand Quarry	5.000 ha.	Data is under Process	Data is under Process & To be Submitted by **31/03/2026**
D9	Mathili	Pangam	Kathiguda Sand Quarry	5.000 ha	Data is under Process	Data is under Process & To be Submitted by **31/03/2026**
D10	Mathili	Shabari	Badarangabeda Sand Quarry	5.000 ha	Data is under Process	Data is under Process & To be Submitted by **31/03/2026**
D11	Mathili	Saptadhara	Timasput Sand Quarry	5.000 ha	Data is under Process	Data is under Process & To be Submitted by **31/03/2026**

D12	Mathili	Pangam	Bijapadar Sand Quarry	4.800 Ha.	Data is under Process	Data is under Process & To be Submitted by **31/03/2026**
D13	Mathili	Shabari	Mahupadar Sand Quarry-I	5.000 ha	Data is under Process	Data is under Process & To be Submitted by **31/03/2026**
D14	Mathili	Shabari	Mahupadar Sand Quarry- II	5.000 ha	Data is under Process	Data is under Process & To be Submitted by **31/03/2026**
D15	Mathili	Gariagad	Chaulamendi Sand Quarry-B	5.000 ha	Data is under Process	Data is under Process & To be Submitted by **31/03/2026**
D16	Mathili	Pitakata	Mutebeda Sand Quarry	3.477 Ha	Data is under Process	Data is under Process & To be Submitted by **31/03/2026**
E1	Kudumulugumma	Gotiguda	Gotiguda Sand Quarry	5.000 ha	5205	Replenishment Study Report has been done
E2	Kudumulugumma	Dumali	Chitapari Sand Quarry.	1.367Ha	2831	Replenishment Study Report has been done
E3	Kudumulugumma	NA	Maheswarpur/Kondelgud a Sand Bed	4.956ha	Data is under Process	Data is under Process & To be Submitted by **31/03/2026**
F1	Malkangiri	Tamasa Nala	Chidupali Sand Bed-B	4.930 ha	Data is under Process	Data is under Process & To be Submitted by **31/03/2026**

F2	Malkangiri	Potteru	Pulimetla Sand Quarry	4.475 ha	Data is under Process	Data is under Process & To be Submitted by **31/03/2026**
F3	Malkangiri	Potteru	Kodelmetla Sand Quarry	4.860 ha	16364	Replenishment Study Report has been done
G1	Motu	Shabari	Uskalbag Sand Bed	5.000 ha	Data is under Process	Data is under Process & To be Submitted by **31/03/2026**
G2	Motu	Shabari	Alma Sand Quarry	5.000 ha	Data is under Process	Data is under Process & To be Submitted by **31/03/2026**

7.0 GENERAL PROFILE OF THE DISTRICT:

Malkangiri District lies in the **southernmost part of Odisha**, forming part of the Eastern Ghats hill ranges and the **Godavari river basin**. It shares boundaries with **Koraput District** to the north, **Chhattisgarh State** to the west and north-west, and **Andhra Pradesh** to the south and east.

Geographically, the district occupies an area of about **5,791 sq km**, extending between **17°45′ N to 18°40′ N latitude** and **81°30′ E to 82°40′ E longitude**.

7.1 Demography:

As per data furnished by the Assistant Collector, Census, Collectorate, Malkangiri:

Table-8

Population data as per Census - 2011				
Sl. No.	**Unit**	**Total**	**Male**	**Female**
1	Population	613192	303624	309568
2	ST Population	354614	171717	182897
3	SC Population	138295	70052	68243
4	Literacy (Total)	244706	147001	97705
5	Literacy (Rural)	212881	128473	84408
6	Literacy (Urban)	31825	18528	13297

Table-9

Demographic Status						
Category	**Male**	**Female**	**Gen**	**SC**	**ST**	**OBC**
Category wise %	49.51	50.48	-	22.55	57.83	39.31

7.2 Climate

The climate of the district is tropical with hot and dry summer and pleasant winter. The summer season extends from March to middle of June followed by the rainy season from June to September. The winter season extends from November till the end of February.

Topography and Physiography

The terrain is **undulating and hilly** in the northern and western parts due to the Eastern Ghats, while the **southern and central plains** are relatively flat and gently sloping towards the south and south-east.

- The elevation varies from **150 m to 950 m above mean sea level (AMSL)**.
- The major hill ranges include **Deomali, Gajalbari, and Matapaka Hills**.

Natural Resources

- **Minerals:** Minor minerals include sand, laterite, and decorative stone.
- **Water Resources:** Kolab Reservoir and Sabari River system.
- **Forest Produce:** Timber, bamboo, tendu leaves, and medicinal plants.

Geology and Soil

The district is underlain by **Archaean metamorphic and granitic rocks**, mainly khondalite, charnockite, granite, and gneiss. Lateritic cappings are common in plateau regions. The dominant soil types are **red loamy, lateritic, and sandy alluvial soils**, which support paddy, pulses, and oilseed crops.

8.0 LAND UTILIZATION PATTERN IN THE DISTRICT

8.1 Forest and non-forest land

Forest land use as per the data collected from Divisional Forest Officer, Malkangiri is as follows;

Table-10

Status	Total Area in Ha
Reserve Forest	35256.2401
Proposed Reserve Forest	72561.3603
Demarcated Protected Forest	18865.0586
Reserve Land	22615.7164
Projected Land	95.872
Village Forest	268.2
Compensatory Afforestation	156.098
Other Forest (Under Revenue Deptt.)	140061.394
Areas not recorded forests but having characteristics of forest (Govt.)	799.4
Areas not recorded forests but having characteristics of forest (Pvt.)	35.505
Total	**290714.8444**

Malkangiri division covers a geographical area of 5791.00 sq km which has 40.34% Forest cover area (Indian State of Forest Report, 2019). This Division lies between 17°50' to 18°45' North latitudes and 81°23' to 82°25' East longitudes. This Division has six ranges, 23 sections and 116 beats. In terms to Forest Canopy Density classes, the division has 158 sq km under very dense forest, 712.76 sq km under moderately dense forest, 1465.41 sq km under open forest and 45.90 sq km under scrub. In this Division, forest types are Moist Deciduous Forest, Southern Tropical Moist Deciduous Forests, Southern Moist Mixed Deciduous Forests, Orissa Tropical Semi Evergreen Forests, Dry Deciduous Scrub Forests and Central India South Tropical Hill Forests.

Table-11

Type of Forest Cover	FC Data-2019 Area in ha
Very Dense Forest (VDF)	158
Moderately Dense Forest (MDF)	.712.76
Open Forest (OF)	1465.41
Total	2336.17
% **of Geographical Area**	40.34
Scrub	45.90

(Source: India state of forest report 2019-Odisha)

8.2 Mining Land: Malkangiri district in Odisha is not particularly rich in mineral resources compared to some other districts in the state like Keonjhar, Sundargarh, or Angul. However, it does have some limited and localized mineral occurrences that support certain industries and local needs. Sand and Clay (Most Abundant) River sand from the Kolab, Poteru, and Sileru rivers is extensively used in construction. Clay deposits are found in several areas, useful for making bricks and pottery. Laterite and morrum are found in small patches, primarily used for road construction and embankments. Gravel and stone chips are quarried in limited quantities for local infrastructure work. Total land covered for all these above minerals is chalked. which may increase in future with reconnaissance survey.

8.3 Aricultural land

8.3.1 Agro Climatic Zone:-

Table-12

Sl. No.	Items	
1	Climate	Hot and sub-Humid
2	Mean Annual Rainfall (mm)	1559.35 mm (for the year 2022) 1762.47 mm (for the year 2022)
3	Mean Max. Summer Temp.	38^{o} - 42^{o}
4	Mean Min. Winter Temp.	20^{o} - 23^{o}
5	Soil Type	Broadly the district has Red, Lateritic and acidic soil. Soil texture is sandy loam

8.3.2Land use

Agriculture land use as per the data collected from Chief District Agriculure Officer, Malkangiri is as follows;

1. Geographical Area: 5,79,100 (Sq. Km.)
2. Cultivable Area: 1,62,716 Ha.
3. Cultivated Area:
   High 85,760 Ha.
   Medium 31,916 Ha.
   Low 25,064 Ha.
   Total 1,42,740 Ha.
4. Paddy Area (Kharif):
   High 14,235 Ha.
   Medium 31,916 Ha.
   Low 25,064 Ha.
   Total 71,215 Ha.
5. Cropping Intensity: 135 %
6. Irrigation Potential:
   Kharif 90420 Ha.
   Rabi 48315 Ha.
7. Total nos. of GPs 111
   nos. Village 1055 nos.
   NAC 1 no.
   Municipality 1 no.
8. Major Crops:
   Kharif Paddy, Maize, Pulses, Ragi, Sesamum, Vegetables Rabi Groundnut, Pulses, Vegetables

1. Large Farmers : 28 nos.
2. Medium Farmers : 7,537 nos.
3. Semi Medium Farmers: 13,104 nos.
4. Marginal Farmers : 62,976 nos.
5. Small Farmers : 23,684 nos.
6. Landless : 8320 nos.
7. Average size of holding: 1.22 Ha.

The agricultural activity is by and large confined to the traditional Kharif cultivation due to lack of adequate irrigation system. The principal crops of the district are Paddy, pulses and oilseeds.

8.4 Horticulture land

In Malkangiri District, Mathili, Khairput, Malkangiri and parts of Chitrakonda blocks are suitable for fruit orchards as most part of the land are upland. Plantations of cashew, mangos, jackfruits, papayas and bananas have been taken up in these areas. Other vegetables are also grown throughout the district as well. The plantations coverage in the District for the last five years as received from Dy Director of Horticulture, Malkangiri is given in the following table.

Table-13

Sl. No.	Year	Fruit Plants Area (Ha)					Vegetables Area (Ha)	Flowers Area (Ha)
		Papaya	Banana	Cashew	Mango	Jackfruit		Marigold
1	2023-24	142.23	515.06	15882.12	8254.54	746.59	21368.61	112.5
2	2022-23	156	536	15593	8620	309	20327	87
3	2021-22	141.8	510	15506	8275	297	19351.76	86.4
4	2020-21	135	503	15420	8520	285	19053.76	80
5	2019-20	88	510	15552	8275	297	16729	90

9 Physiography of the District;

Malkangiri District is part of Eastern Ghat Super Group, the Eastern Ghats are a discontinuous range of mountains along India's eastern coast. The Eastern Ghats run from the northern Odisha through Andhra Pradesh to Tamil Nadu in the south passing some parts of Karnataka and in the Wayanad district of Kerala. They are eroded and cut through by four major rivers of peninsular India, viz. Godavari, Mahanadi, Krishna, and Kaveri.

The mountain ranges run parallel to the Bay of Bengal. The Deccan Plateau lies to the west of the range, between the Eastern Ghats and Western Ghats. The coastal plains, including the

Coromandel Coast region, lie between the Eastern Ghats and the Bay of Bengal. The Eastern Ghats are not as high as the Western Ghats.The Eastern Ghats are older than the Western Ghats and have a complex geologic history related to the assembly and breakup of the ancient supercontinent of Rodinia and the assembly of the Gondwana super continent.

The Eastern Ghats on the east coast of India is a largely granulite terrain but also exposes granites, migmatites, anorthosites and alkalinerocks. This granulite belt has hadaprolonged history of mountain building from late Archaean tolate Proterozoic. During this long period the Eastern Ghats mobile belt witnessed repeated folding and possibly polycyclic metamorphism. Some recent findings suggest breaks between orogenic cycles and aproterozoic reworking of archeangranulites. Extreme-temperature crustal metamorphism underfluid-absent conditions and crustal an taxis in huge thickness of pelitic to psammitic protoliths producing leptynites are some of the important results of recent investigations of the Eastern Ghats mobile belt. Different generation of charnockites are present in the Eastern Ghats belt, but charnock utilisation of granitic gneisses is yet to be documented. Some apparently nascent growths, the patchy charnockites in the Chilika area are shown to be relic to folder charnockitic rocks that suffer edgranulite-facies metamorphism and attendant migmatisation.

10 RAINFALL OF THE DISTRICT AND CLIMATE CONDITION:-

The district has a subtropical climate. Southwest monsoon is the principal source of rainfall. Rainfall pattern is uneven and erratic. The average annual rainfall gradually increases from South Western to North Eastern parts of the district. The average annual rainfall of last five years as per the data furnished by the Emergency Section, Collectorate, Malkangiri is given below:

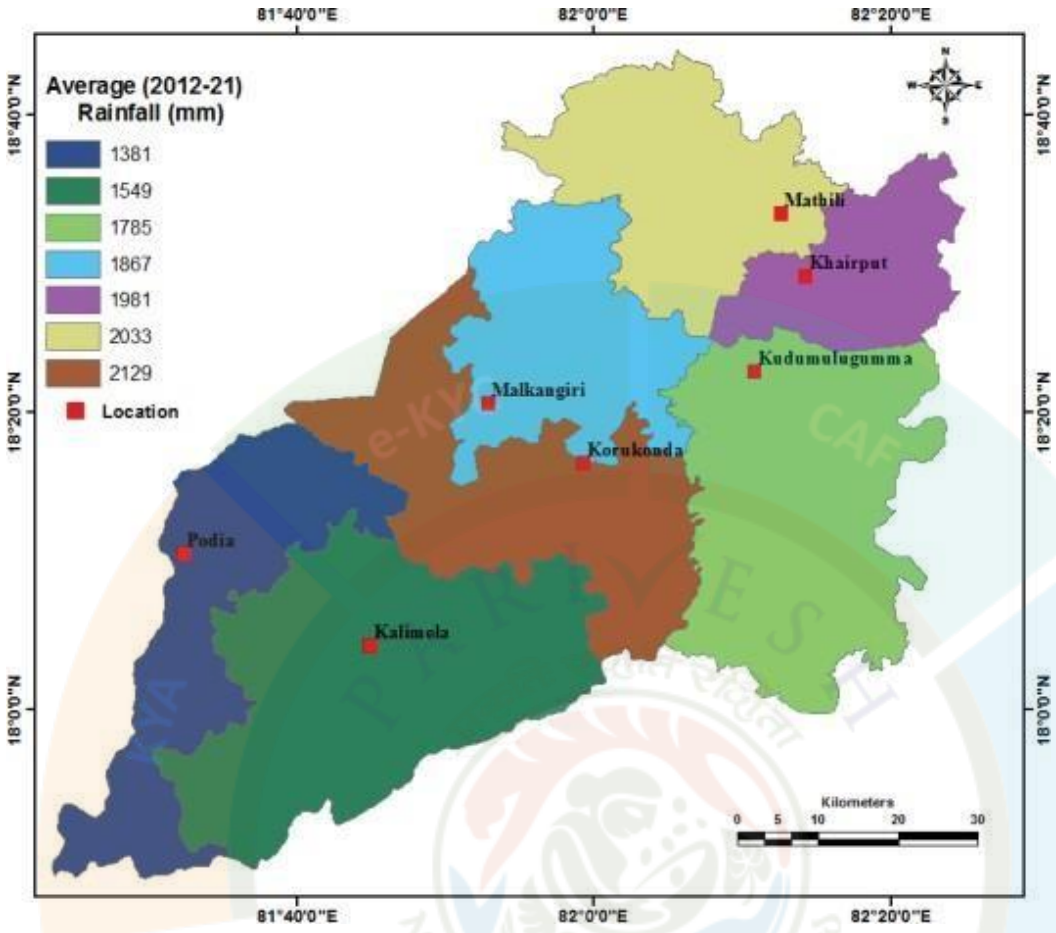
10.1 **Month wise Rainfall Data**

Table-14

Average Rainfall data of last 5 years (Month Wise)					
Month	**(Year wise rainfall in mm)**				
	2019	**2020**	**2021**	**2022**	**2023**
January	1.14	1.91	0	17.31	0
February	0	0	2.71	0	0
March	1.86	11.49	0	0	109.87

April	5.43	89.07	97.21	32.73	50.24
May	33.71	45.71	51.63	69.49	57.1
June	151.49	238.54	216.26	110.03	215.74
July	633.84	371.54	374.09	541.2	603
August	763.34	979.64	391.96	384.43	257.4
September	339.96	211.34	371.29	343.33	368.11
October	170.61	209.54	112.63	60.66	15
November	2.86	5.21	58.8	0	37.31
December	0	0	0	0.17	48.63
Total	**2104.24**	**2163.99**	**1676.58**	**1559.35**	**1762.4**

The agricultural definition of drought takes into account the negative departure of seasonal rainfall from the mean seasonal rainfall. A perusal of the frequency of occurrence of drought indicates that mild to normal drought condition prevails in Malkangiri District.



Temperature Graph- Malkangiri

Maximum temperature rising upto 44°C during May. In the summer months of April and May, hot winds from the west are generally experienced in the afternoon. December is the coldest month with lowest temperature during Winter being 11°C. Monsoon generally lasts from the end of May to October. Occasional showers are received in the month of April, November and December.

11.0 GEOLOGY & MINERAL WEALTH OF THE DISTRICT:

11.1 REGIONAL GEOLOGY

The area is characterized by a complex geological set up with a variety of rock types belonging mainly to the Precambrian and Achaeans, except a thin alluvial patch along river Kolab. The Geological successions of the district is as follows –

Recent	Alluvium	
Pre-cambrian	~~~~~~~~~~Unconfirmity~~~~~~~~~~~~~~	
	Quartzites, Limestones,Conglomerates,Shales	
	~~Unconfirmity~~~~~~~~~~~~~~	
Archeans	Younger Intrusives	Dolerite Dykes, Pgmatites, Vein Quartz
	~~Unconformity~~~~~~~~~~~~~~	
	Andalusite Schists,Sericite Quartz Schists	
	~~Unconfirmity~~~~~~~~~~~~~~	
	Charnokites Khondalites Granite Gneiss and Its variants	
	~~Base is not Known~~~~~~~~	

The area has suffered regional metamorphism up to the granulite facies and has experienced numerous phases of magmatic intrusions, accompanied by progressive and retrogressive metamorphism, repeated folding and shearing. As a result, original structures, textures and mineral compositions have been completely obliterated by new structures and mineral assemblages.

Granite Gneiss and its variants - These are medium to fine grained rocks exposed in the undulating plains and scattered hillocks. The suite of rocks comprises Hornblende Gneiss, Biotite, Gneiss and Pink Granite. Megascopically the rocks are fine to medium grained, leucocratic with well-developed foliation planes in case of gneisses. The gneisses are usually banded. The bands consist of thin layers rich in quartz and feldspar. Hornblende and mica are common occurrence while Garnet is found occasionally. The strike of the gneisses is variable, viz. N 750E - S750W with 20^{o} dip to N 850W - S 850E with vertical dips. In the majority

of the cases, the strike is similar to that of the Eastern Ghats. Granites occur in limited patches in the central and western parts of the district.

Khondalites- The khondalitic group of rocks consists of quartz - Garnet - Sillimanite Schist & Gneiss and Garnetiferous sillimanite quartzite. The khondalites are usually found in the South Eastern and Western parts of the district in the hilly terrains. These rocks exhibit multiple sets of joints having steep dips.

Charnockites- These generally occupy the hill ranges. The rock is coarse grained, dark green to grey in colour with feldspar and quartz crystals. The ferromagnesian minerals are hypersthene and pyroxene. Garnet is also present. The charnockitic rocks form massive out crops. The joints found in charnockites trend N 300E, N-S, & E-W with sub-vertical to vertical dips.

Schists - These include Andalusite - Schists and gneisses and quartz - sericite schists. These occupy the northern part of the district. They are essentially composed of feldspar, andalusite, sericite with inclusions of quartz.

Pegmatites and Dolerites- The pegmatites are commonly associated with the granite gneisses. These are rarely associated with the rocks of charnockites. The dolerites occur locally as dykes and small intrusions in the gneisses and charnockites. Garnet is found in the contact between Dolerite & Granite.

Quartz Reef - A prominent Quartz reef is observed in the northeastern boundary of the district. This is intrusive into the country rock and occurs as a narrow linear ridge with steep slopes covered by debris.

Conglomerate, Quartzite, Limestone, Shale - These rock types occur near in North Eastern - South Western boundary of the district. The Quartzites are generally ferruginous in nature and are overlain by the limestones, fine grained and white to blue in colour.

Alluvium - A narrow patch of alluvium occurs along the river Kolab and its tributaries in the northern part of the district. It has only limited thickness.

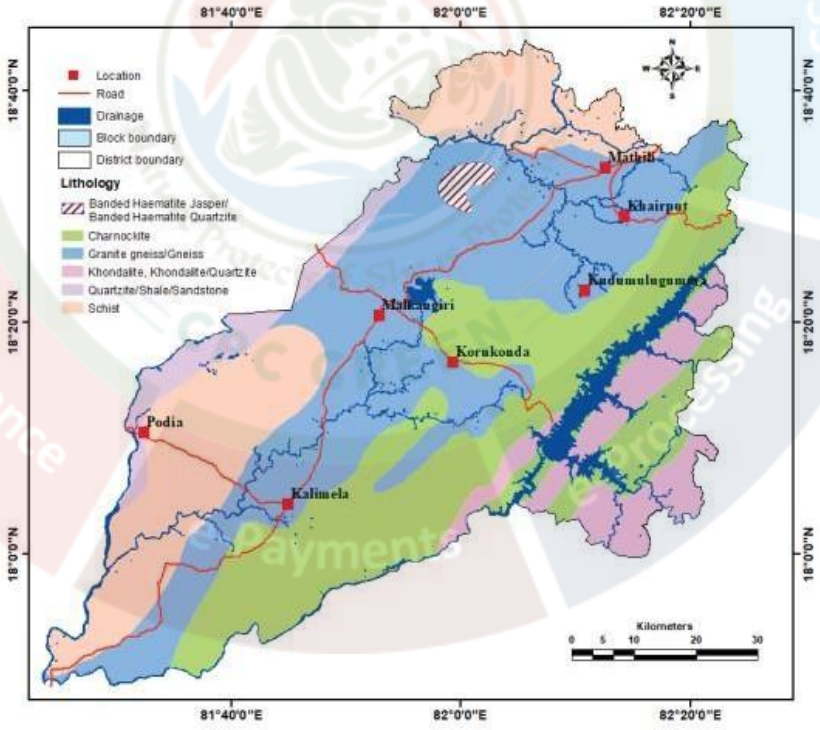
The granites and its variants are most predominant rock type and occupy major parts of the district. Geological set up of the district primarily controls the Hydrogeological condition of the area.

11.2 GEOMORPHOLOGY:

Geomorphology:

The district is characterized by varied geomorphological features. Based on Land sat data interpretations and field studies, the geomorphic units of the district are broadly identified as-Structural Hills, Denundational Hills, Residual Hills, Shallow and Moderately weathered pediplain, Pediment- Inselberg complex, Inselberg, Flood plains, Structural Valley, Linear Ridge, Bazada.

Structural Hills-It is characterized by a group of linear/ curvilinear/ folded hill ranges of large aerial extent, interspersed with narrow inter-mountain valleys showing definite structural control. It is the most important geomorphological unit in the district adjoining the entire southern border and occupying the northern corner of the district.



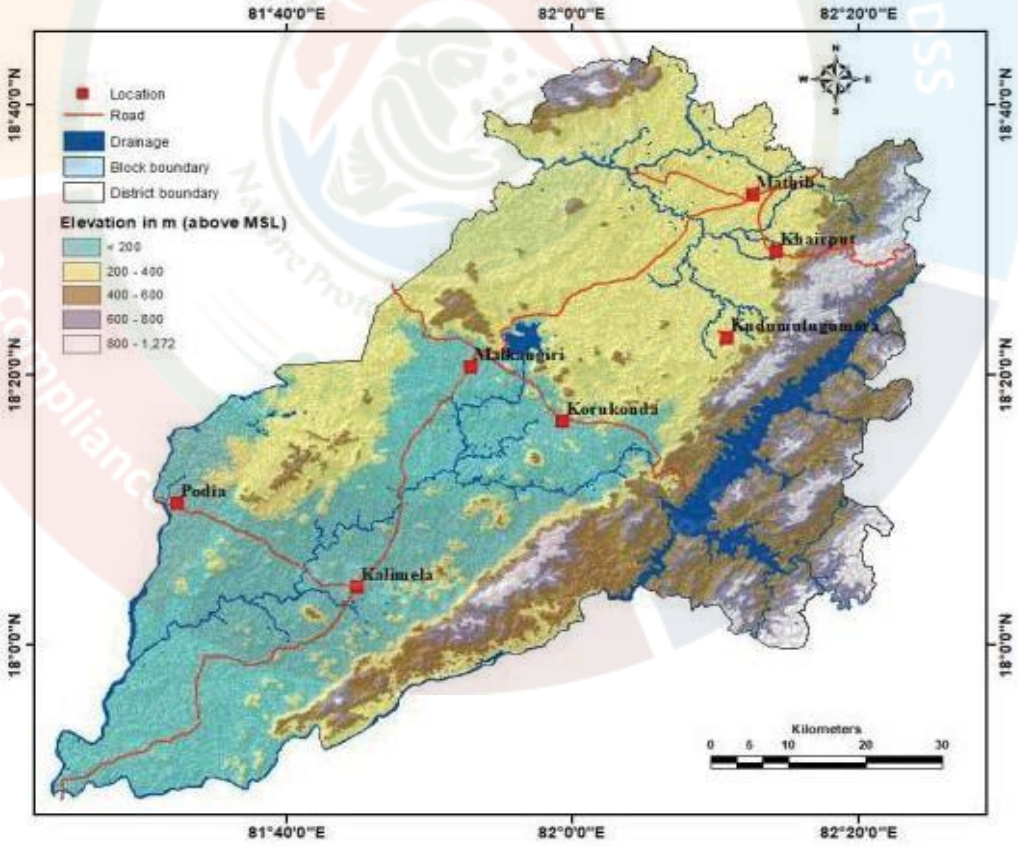
GEOLOGICAL MAP

Denudational Hills- It occurs in the North Eastern corner of the district in a limited patch. It is represented by a group of massive hill ranges interspersed

with narrow inter mountain valleys having no structural control or structures obliterated by denudation.

Residual Hills- Hill ranges of moderate dimension surrounded by plains all around, occur as isolated features along the northern boundary of the district.

Shallow and Moderately Weathered Pediplain- Next to the structural hills this forms the major geomorphological unit in the district. It presents gently undulating terrain of vast aerial extent, formed as a result of coalescence of different pediments along the foot hills of the Eastern Ghats and affected by shallow to moderate weathering. The north- eastern part of the district is characterized by moderately weathered pediplain with weathering prevalent down to a depth of 5-20m. The rest of the district is covered by shallow weathered pediplain with weathering restricted to 5m depth.



ELEVATION MAP

Pediment–Inselberg Complex- It is a gently undulating bedrock surface with

a number of small inselbergs. This unit is widely distributed throughout the district.

Inselberg- Inselbergs are scattered all over the district. These are isolated hills of limited areal extent surrounded by plains all around.

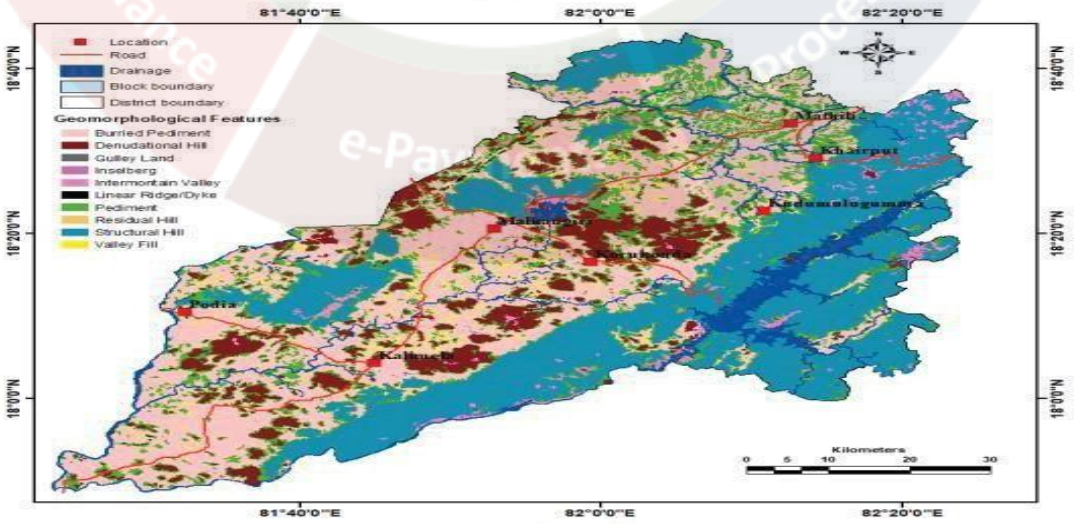
Flood Plain- A narrow stretch of alluvium occurs along river Kolab and its tributaries in the northern part of the district.

Structural Valley- A narrow linear valley within the structural hills and formed along the structurally weak planes occurs along the south-eastern boundary of the district.

Linear Ridge- A narrow line ridge of quartz reef with steep sloped covered by debris, is found in the northern part of the district.

Bajada- A gently sloping plain is formed in the foothill zone and consists mainly of alluvial and partly alluvial material comprising fine silt to big boulders. It occurs in the Southern part of the district.

The general drainage pattern in the district is dendritic to sub-parallel. The Kolab river along with its tributaries, the Potteru and Sileru rivers is the most prominent river of the region. The Kolab river issues from the Sinkaram hills and follows a south-westerly course after passing over Malkangiri district. The river joins the Godavari river in Khammam district of Telangana.

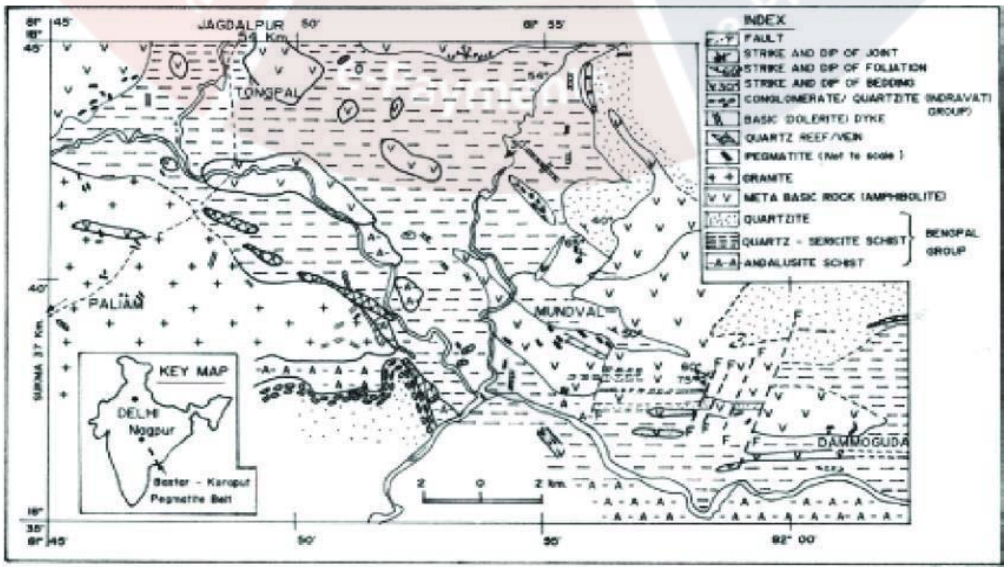


GEOMORPHOLOGY MAP

11.3 Stratigraphy:

Event Stratigraphy of the Eastern Ghat Mobile Belt is as follows;

Age (Ma)	Event
550-650	Exhumation & Stabilisation (Pan-African)
800-850	Emplacement of Anorthosite Massifs, Some Alkaline Rocks (?) Younger Granitoids are charnockites
950-1100	Main Easten Ghat Orogeny (=Grenville)
	Khondalite Group
	Garnet-Sillimanite-Graphite Gneiss (Khondalite) with minor cordierite-Sapphrine-Spinel Gneiss (Mg-AI) Calc- Silicate rocks & rare
	Marbles Quartzite (Garnet ±
	Sillimanite)
1100-1500	Emplacement of Alkaline rocks along with the rift Margin
1800-1600	Evolution of platform (Purana) basins like Cuddapah, Chhattisgarh Indravati etc.
2600-2800	Evolution of Nellore-Khemmam schist belt in Dharwar Craton Charnokite & Gneisses of the basement (WCZ).



11.4 Mineral Resources:

The total good quality Limestone reserves are near Kotameta, Nandiveda and Uskalvagu, estimated at around 240 million tonnes and Bauxite deposits are recorded near Korkunda, estimated at 0.018 million tonnes and Tin deposits are found near villages of Salimi and Mundaguda and estimated at around 0.000347 million tonnes.

In the Minor mineral categories, the specified minor minerals like quartz are found in the villages of Gorespalli, Saradaput, Ramavaram, Kotapalli and MV-79, 127, 96 and Talc/soap stone are found in the villages of Sardaput and Pandripani. However, the reserves of the specified minor minerals are not estimated by Department of Mines & Geology, BBSR.

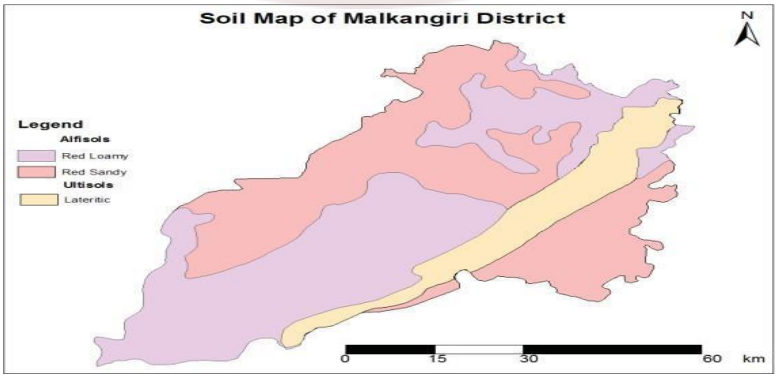
The Dimension stone are located around the villages of Peta, Ponarguda, Jagannathpalli, Potteru, Majhiguda, Nilakhamar, Gagarmetla, Gangla, but the reserves are not estimated by Department of Mines & Geology, BBSR.

11.5 Soil:

The distribution of different soil types in the district depends much on its physiographic and lithologic variations. Based on the physical and chemical characteristics, mode of origin and occurrence, soils of the district may be classified into two groups namely Alfisols (Red Soil) and Ultisols (Lateritic soil).

Alfisols- Alfisols or red soil are the most prominent soil types in the district. There are two different varieties-reds and soil and red loamy soil. They are red in colour and clayey in nature especially the loamy soil, poor in organic matter. Its fertility is low.

Ultisols- Ultisols o rlateritic soil occurs in a narrow diagonal strip across the district trending NE- SW. They are red to brown in colour and clayey in nature. Due to low organic matter content the fertility of lateritic soil is low.



12.0 DISTRICT WISE DETAILS OF RIVER OR STREAM AND OTHER SAND SOURCES:

12.1 DRAINAGE SYSTEM WITH DESCRIPTION OF MAIN RIVERS

Malkangiri district is a physically hilly terrain having Predominantly dendritic drainage pattern to sub-parallel, there is only one main river named Sileru, Kolab River along with its tributaries, the Potteru and Saptadhara Rivers are the most prominent rivers of the region. The Kolab River originates from the Sinkaram hills and follows a south westerly course after passing over Malkangiri district. The river joins the Godavari river in Khammam district of Telangana. The distance of the sources from the river origin is geologically very short, hence this can be concluded that the rate of deposition of sand in Sileru & Kolab River is moderate, while in rest rivers within the district, the rate of deposit is low.

Additional river source details are given in the following table:

Drainage system with description of main rivers

Sl No.	Name of river	Area (Sq.km drained)	% area drained in the District
01	Sabari / Kolab	20427.00	28.34
02	Sileru / Machhkund	6477	75.80
03	Potteru	2188	100

12.2 SALIENT FEATURES OF IMPORTANT RIVERS AND STREAMS:

The District has considerable flat land, which provide suitable site for agricultural use. The hilly areas are mostly under forest with patches of cultivation on scarp areas. Major rivers flowing in the District are The Kolab, Potteru, Sileru & Sabari. Major crops grown in the District are paddy. major source of irrigations are Canals, Tanks, well and tube wells.

S l N o .	Name of the River or Stream	Total Length in the District (in km)	Place of Origin	Altitude at Origin	Portion of the River or Stream Recommended for Mineral Concession	Length of area recommended for mineral concession (in mtr) Average width of area recommended for mineral	Average width of area recommended for mineral concession (in meters)	Area recommended for mineral concession (in Square meter)	Mineable Mineral potential (in Cum.) (60% of total mineral potential)
1	Shabari	380	The Sabari River originates in the state of Odisha, specifically from the Sinkaram hill ranges on the western slopes of the Eastern Ghats in the state of Odisha. It is also known as the Kolab River in Odisha.	1374 m	Badarangabeda Sand Quarry	415.87	116.17	50000	33450
					Mahupadar Sand Quarry-I	302.88	170.36	50000	33985
					Mahupadar Sand Quarry-II	284.40	180.98	50000	31992
					Uskalbag Sand Bed	300	160	5.000 ha	6419
					Alma Sand Quarry	297.58	157.07	5.000 ha	30000
2	Sileru	112	The Sileru River originates in the Mudugal hills of the Alluri Sitharama Raju district in Andhra Pradesh	560 m	Poluru Sand Quarry	281.55	197.13	50000	30000
					Maranpally Sand Bed	679.66	93.57	49500	3210.25
					Girkanpally Sand Quarry	689.94	67.20	58500	9979

3	Potteru	111.25	The Potteru River originates on the western slopes of the Eastern Ghats	915	Tamanpally Sand Quarry	683.77	70	49200	3106.4
					Venkatpallam Sand Bed	986.50	52.42	45000	2437.5
					Teliguda Sand Quarry	1388.37	57.08	50000	3694
					Tamanpalli Sand Quarry-B	572.23	94.14	50000	30000
					Padganpalli Sand Quarry-I	1007.73	89.80	35800	18000
					Padganpalli Sand Quarry-II	1007.73	89.80	4550	27000
					Murbanpali Sand Quarry	886.70	81.44	2300	15000
					Pulimetla Sand Quarry	483.15	80	44750	5004
					Kodelmetla Sand Quarry	1200	40	48600	13700
4	Pangam	35	it's a local headwater stream rising on the foothills of the Eastern Ghats in Mathili/Malkangiri area.	170	Mecca Sand Bed	840	70	50000	37088
					Pangam Sand Bed	700	73.55	50000	39120
					Chaulamendi Sand Quarry	900	80	50000	14510
					Podaguda Sand Bed	685.73	80	50000	39100
					Bijapadar Sand Quarry	955.78	48.46	48000	29873
5	Tamasa Nallah	55	The natural nallah arise in the foothills of the Eastern Ghats around Tamasa / Malkangiri	220	Chidupali Sand Bed-B	1870	30	49300	2900.5

6	Garia	45	Garia River originates from the Sinkaran hills in the Eastern Ghats of Odisha's Koraput district. It is a tributary of the Godavari River	245	Govindapalli Sand Quarry	600	150	49950	16828
					Gangarajguma Sand Quarry	800	200	50000	37057.35
7	Gariagad	44	foothills immediately around Gariaguda village (Khairaput tehsil), Malkangiri district	880	Chaulamendi Sand Quarry-B	+858.48	69.67	50000	30000
8	Dharamagad	68	The Dharamgarh river's origin is not a single, well-defined point like a spring or a lake. Instead, it is formed by the confluence of several streams and tributaries originating in the Eastern Ghats mountain range.	274	Dhungiput Sand Quarry	830	86.15	50000	31000
9	Saptadhara	65	The Saptadhara river is not a single, well-defined river with a singular origin. Instead, it refers to a confluence of seven rivers, specifically the seven rivers of the Sapta Sindhu region in ancient India.	251	Kamalapadar Sand Bed	1450	40	50000	4800
					Timasput Sand Quarry	247.27	108.23	50000	30000
10	Pitakata	70	The Pitakata river is not a prominent or officially recognized river in Malkangiri, Odisha.	242	Sikhpalli Sand Quarry	727.04	41.50	23540	8474
					Pushpalli Sand Quarry	882.83	54.78	48550	28800
					Mutebeda Sand Quarry	418.55	81.51	34770	20820

11	Orkel	24	Around Orkel village	880	Orkel Sand Quarry	573.28	90.66	50000	5010
12	Dardur	28	NE Malkangiri foothills	250	Khairapally Sand Bed	689.81	80	50000	34585
13	Sikhar	31	Sikhar River is the tributary of Garia River in the Eastern Ghats of Odisha.	245	Maliguda Sand Bed	1100	50	50000	32890
14	Gotiguda	42	The Gotiguda river originates in the hills near Lakhbahal village in the Thuamul Rampur block of Kalahandi district, Odisha.	250	Gotiguda Sand Quarry	1100	60	50000	64312
15	Dumali	39	Dumali Nallah near Guru Dumali Village in Mathili Block of Malkangiri District	320	Chitapari Sand Quarry	400	35.32	13670	7074
					Maheswarpur/ Kondelguda Sand Bed	1812.22	35.92	49560	34652

13.0 DISTRICT WISE AVAILABILITY OF SAND OR GRAVEL OR AGGREGATE RESOURCES

13.1 Mineral Potential: -

The mineral potential (sand) had been studied for past few years basing on their continuous deposition, lifting capacity, transportation details and replenishment details in various River bed. Previously, the volume of sand deposition were studied by manual method within the precise area granted by the Concerned authority. The details of mineral potential of sand were recorded as per the approved Mining Plan. Presently for few sources Replenishment study has already been completed and for the rest sources Premonsoon and Post monsoon study was under process.

Total mineral reserve of Sand will access after detail study or grant of potential area, which may investigate as per details below. (i) Blocks were identified based on geological studies through field observation. (ii) Mineable resource was calculated by considering detail prospecting. (iii) Area calculated as per GPS co-ordinates and information obtained from local people. Land detail need to be verified from revenue record. (iv) Since this is an interim report, as per the present

requirement of minerals, more such blocks need to be identified and the data should be updated periodically, after certain intervals to update the data bank of DSR.

Mineral Potential				
Name of the River or Stream	**Boulder (Cum)**	**Bajari (Cum)**	**Sand (Cum)**	**Total Mineable Mineral Potential (Cum)**
Shabari	Nil	Nil	135846	135846
Sileru	Nil	Nil	30000	30000
Potteru	Nil	Nil	10780	10780
Pangam	Nil	Nil	55000	55000
Tamasa Nallah	Nil	Nil	3535	3535
Garia	Nil	Nil	37505	37505
Gariagad	Nil	Nil	12500	12500
Dharamagad	Nil	Nil	31000	31000
Saptadhara	Nil	Nil	7850	7850
Pitakata	Nil	Nil	7000	7000
Orkel	Nil	Nil	3000	3000
Dardur	Nil	Nil	12500	12500
Sikhar	Nil	Nil	13500	13500
Gotiguda	Nil	Nil	7000	7000
Dumali	Nil	Nil	8250	8250

13.2 Annual Deposition: -

The annual replenished volume is considered as the annual deposition.

Annual Deposition				
Name of the River or Stream	**Boulder (Cum)**	**Bajari (Cum)**	**Sand (Cum)**	**Total Mineable Mineral Potential (Cum)**
Shabari	Nil	Nil	135846	135846
Sileru	Nil	Nil	30000	30000
Potteru	Nil	Nil	10780	10780
Pangam	Nil	Nil	55000	55000
Tamasa Nallah	Nil	Nil	3535	3535
Garia	Nil	Nil	37505	37505
Gariagad	Nil	Nil	12500	12500
Dharamagad	Nil	Nil	31000	31000
Saptadhara	Nil	Nil	7850	7850
Pitakata	Nil	Nil	7000	7000
Orkel	Nil	Nil	3000	3000
Dardur	Nil	Nil	12500	12500
Sikhar	Nil	Nil	13500	13500
Gotiguda	Nil	Nil	7000	7000
Dumali	Nil	Nil	8250	8250

13.3 The list of Portion of the River or Stream Recommended for Mineral Concession

Table -15

SL NO	NAME OF TAHASIL	NAME OF SOURCE	Portion of the River or Stream Recommended for Mineral Concession		Length of area recommended for mineral concession (in meters)	Average width of area recommended for mineral concession (in meters)	Area recommended for mineral concession (in Square meter)	Mineable Mineral potential (in Cum.) (60% of total mineral potential)
			Khata No.	Plot No.				
1	2	3	4	5	6	7	8	9
A1	Chitrokonda	Orkel Sand Quarry	51	426/P	573.28	90.66	50000	5010
B1	Kalimela	Maranpally Sand Bed	339	2320 & 2321	679.66	93.57	49500	3210.25
B2	Kalimela	Girkanpally Sand Quarry	398	3156 & 3240	689.94	67.20	58500	9979
B3	Kalimela	Tamanpally Sand Quarry	224	25/1	683.77	70	49200	3106.4
B4	Kalimela	Venkatpallam Sand Bed	195	01, 02,73 & 74	986.50	52.42	45000	2437.5
B5	Kalimela	Teliguda Sand Quarry	50	1 & 2	1388.37	57.08	50000	3694
B6	Kalimela	Tamanpalli Sand Quarry-B	224	74/1	572.23	94.14	50000	30000
B7	Kalimela	Padganpalli Sand Quarry-I	209	1877	1007.73	89.80	35800	18000
B8	Kalimela	Padganpalli Sand Quarry-II	209	2115	1007.73	89.80	4550	27000
B9	Kalimela	Murbanpali Sand Quarry	380	3545	886.70	81.44	2300	15000
B10	Kalimela	Poluru Sand Quarry	55(AAA	1232	281.55	197.13	50000	30000
C1	Khairput	Kamalapadar Sand Bed	23	70	1450	40	50000	4800

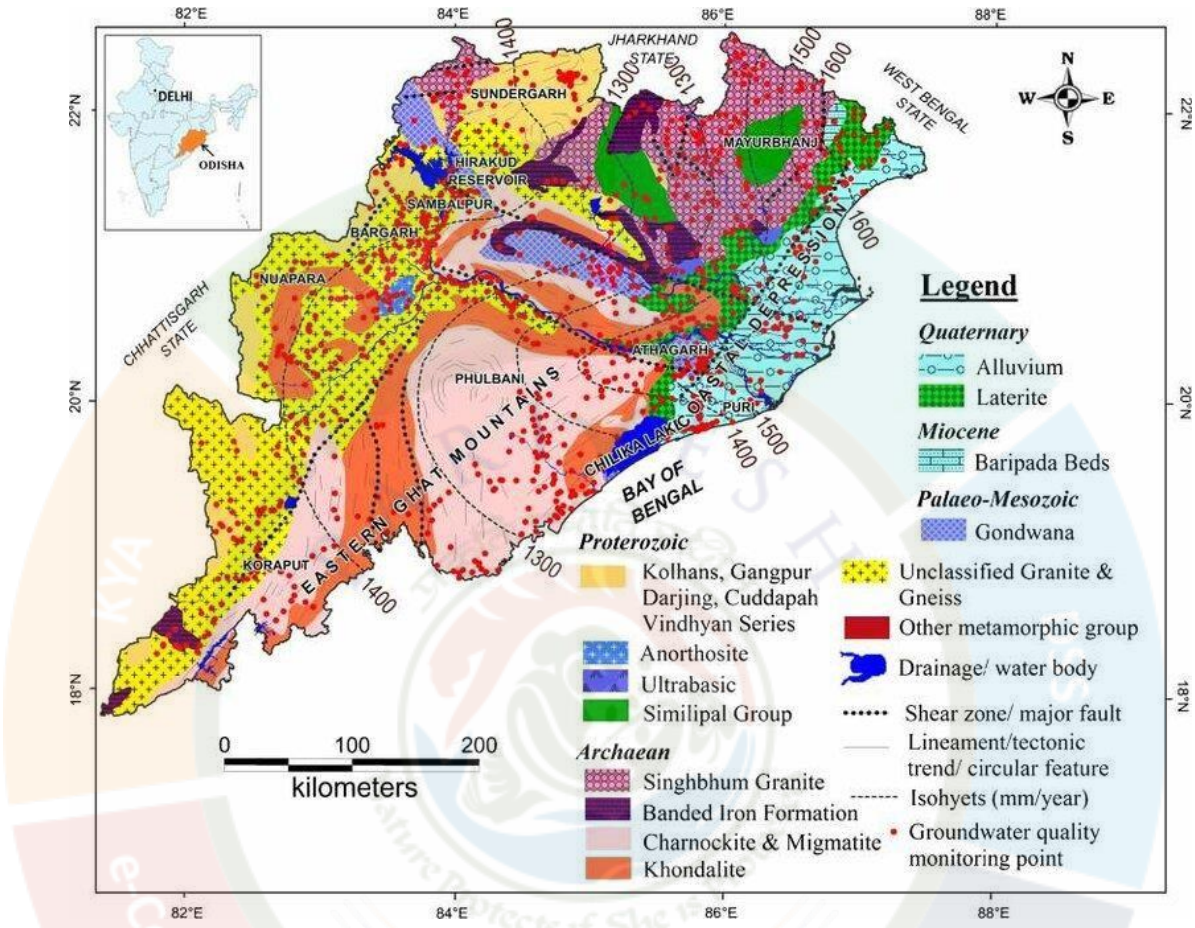
C2	Khairput	Govindapalli Sand Quarry	452	596,1300 ,1309	600	150	49950	16828
C3	Khairput	Sikhpalli SandQuarry	150	1582/1, 1734/1	727.04	41.50	23540	8474
C4	Khairput	Pushpalli Sand Quarry	259	24,181	882.83	54.78	48550	28800
D1	Mathili	Khairapally Sand Bed	131	1351/1, 1169/1 & 418/1	689.81	80	50000	34585
D2	Mathili	Mecca Sand Bed	167	2457, 2458 & 2702	840	70	50000	37088
D3	Mathili	Pangam Sand Bed	163	152	700	73.55	50000	39120
D4	Mathili	Chaulamendi Sand Quarry	361	444	900	80	50000	14510
D5	Mathili	Gangarajguma Sand Quarry	100	188, 190, 192,376 & 372/1	800	200	50000	37057.35
D6	Mathili	Maliguda Sand Bed	44	254 & 356	1100	50	50000	32890
D7	Mathili	Podaguda Sand Bed	47	195	685.73	80	50000	39100
D8	Mathili	Dhungiput Sand Quarry	253	577/1, 567/1	830	86.15	50000	31000
D9	Mathili	Kathiguda Sand Quarry	6	400/615/1	1103.72	62.80	50000	32854
D10	Mathili	Badarangabeda Sand Quarry	67	575/653/1	415.87	116.17	50000	33450
D11	Mathili	Timasput Sand Quarry	141	858, 1153/1	247.27	108.23	50000	30000
D12	Mathili	Bijapadar Sand Quarry	128	47	955.78	48.46	48000	29873
D13	Mathili	Mahupadar Sand Quarry-I	211	1878/1	302.88	170.36	50000	33985
D14	Mathili	Mahupadar Sand Quarry-II	211	1877/1	284.40	180.98	50000	31992
D15	Mathili	Chaulamendi Sand Quarry-B	361	32/1	858.48	69.67	50000	30000

D16	Mathili	Mutebeda Sand Quarry	31(AAA	15/1, 20/1	418.55	81.51	34770	20820
E1	Kudumulugumma	Gotiguda Sand Quarry	158	1162, 1172,1119	1100	60	50000	64312
E2	Kudumulugumma	Chitapari Sand Quarry	57	394,370	400	35.32	13670	7074
E3	Kudumulugumma	Maheswarpur/Kondelguda Sand Bed	103 & 70	358 & 615,410, 411	1812.22	35.92	49560	34652
F1	Malkangiri	Chidupali Sand Bed-B	625	4421/ 4839	1870	30	49300	2900.5
F2	Malkangiri	Pulimetla Sand Quarry	306	2171	483.15	80	44750	5004
F3	Malkangiri	Kodelmetla Sand Quarry	446(AAJ)	3377	1200	40	48600	13700
G1	Motu	Uskalbag Sand Bed	148	1	300	160	5.000 ha	6419
G2	Motu	Alma Sand Quarry	74	465	297.58	157.07	5.000 ha	30000

14. DEMAND AND SUPPLY OF THE MINERAL IN THE LAST THREE YEARS:

Sl. No.	Mineral Type	2021-22		2022-23		2023-24		Remarks
		Demand (CuM)	Supply (CuM)	Demand (CuM)	Supply (CuM)	Demand (CuM)	Supply (CuM)	
1	Sand	3786.31	3786.31	3249.34	3249.34	83698.08	83698.08	As per Market Need demand and supply is sufficient.

15.0 Mineral Map of the District.



16.0Methodology adopted for calculation of Mineral Calculation:

Total mineral reserve of Sand will access after detail study or grant of potential area, which may investigate as per details below. (i) Blocks were identified based on geological studies through field observation. (ii) Mineable resource was calculated by considering detail prospecting. (iii) Area calculated as per GPS co-ordinates and information obtained from local people. Land detail need to be verified from revenue record. (iv) Since this is an interim report, as per the present requirement of minerals, more such blocks need to be identified and the data should be updated periodically, after certain intervals to update the data bank of DSR.The District Survey Report shall form the basis for application for environmental clearance, preparation of reports and appraisal of projects. The Report shall be updated once every five years.

Objective for Replenishmnet Study for Identification of Sources, Area of erosion & proximity to Infrastructural activities & Installations:-The objective of a replenishment survey for sand sources is to scientifically determine the annual rate of natural sand deposition to establish sustainable extraction limits and prevent over-mining. This is crucial for environmental clearance for sand mining and ensuring the long-term health of river and coastal ecosystems. The survey quantifies the amount of sand that replenishes over a period, typically between the post- and pre-monsoon seasons, and this data informs decisions on how much sand can be legally and responsibly extracted without damaging the riverbed.

The specific goals of a replenishment survey include:

- **Assess the annual replenishment rate:** The survey calculates the rate at which sand naturally replenishes within a river channel or coastal area, often by comparing the sand volume in a source area before and after the monsoon season. This allows authorities to set a safe and sustainable limit for extraction that is less than or equal to the natural replenishment rate.
- **Prevent over-extraction and environmental damage:** Unscientific and excessive sand mining can cause severe environmental damage, such as riverbank erosion, habitat loss, and lowering of the groundwater table. The survey provides the scientific data needed to prevent such over-exploitation.
- **Determine safe extraction limits:** The study helps determine the maximum quantity of sand that can be extracted from a specific site without negatively impacting the natural equilibrium of the river or coastline.
- **Ensure ecological stability:** Sand dunes and riverbeds are vital for ecological stability, providing habitat for plants and animals and protecting coastlines and riverbanks from erosion and flooding. The survey helps to ensure these areas remain stable and functional.
- **Support integrated management plans:** The data from a replenishment survey is essential for creating robust coastal zone and river management plans. It helps inform decisions on where and when dredging and mining can occur, and if beneficial use of dredged sediment is possible.
- **Maintain flood discharge capacity:** Excessive sand mining can lower the riverbed, but if sand builds up due to lack of extraction, it can also reduce a river's carrying capacity and

increase flood risk. The survey helps manage the sand budget to maintain the channel's flood capacity.

- **Provide legal and regulatory support:** Replenishment studies provide the scientific foundation for government agencies to grant environmental clearances and enforce regulations. Legal frameworks often require these studies to ensure transparency and accountability in the mining process.
- **Enable long-term monitoring:** The survey establishes baseline data on elevation and sand levels, which is then used in long-term monitoring programs. These programs can track changes in the sand source and assess the cumulative effects of extraction over time.

15. 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 regularly. 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 equipment 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 Malkangiri 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.

Annexure-I

Details of Sand/M-Sand Sources

A. Rivers

SL NO	Name of the River or Stream	Total Length in the District in KM (approx.)	Typ
1	**2**	**3**	
1	Shabari	380	
2	Sileru	112	
3	Potteru	111.25	
4	Pangam	35	
5	Tamasa Nallah	55	
6	Garia	45	
7	Gariagad	44	
8	Dharamagad	68	
9	Saptadhara	65	
10	Pitakata	70	
11	Orkel	24	
12	Dardur	28	
13	Sikhar	31	
14	Gotiguda	42	
15	Dumali	39	

NA-it is denoted as data is not available

B. De-Siltation Location:

Name of Reservoir/Dams	Maintain by State Govt./PSU etc.	Location	District	Tehsil	Vil
Nil	Nil	Nil	Nil	Nil	Nil

C. Patta Lands/Khatedari Lands:

Sl no	Name of the Owner	Area(Ha)	District	Tehesil	Village
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicab

D. M-Sand Plants:

Plant Name	Owner	District	Tehesil	Village	Geo-Locat
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

FINAL LIST OF POTENTIAL MINING LEASES (Existing and Proposed) OF SAND SAIRAT SOURCES IN						
Sl. No.	River Details	Lease Details	Area (in Ac/Ha)	Distance (in KM) from PA/BR/WC/ Forest	Mining leases within 500 meters (if yes cluster area)	Total excavatio Tonne /Annur considerin digging de max as meters
Tahasil: Chitrakonda						
A1	Orkel	Orkel Sand Quarry Khata No.-51, Plot No. - 426/P Kisam-Nadi, Mouza-Orkel Lat: 18°12'59.90868"N to 18°13'13.66173" N Long: 82°02'46.15746"E to 82°03'03.76343"E	5.000 Ha	R.F – 3.50	No	600
Tahasil: Kalimela						
B1	Potteru	Maranpally Sand Bed Khata No.-339, Plot No. - 2320 & 2321, Kisam-Nadi, Mouza-Maranpally Lat: 18°06′25.25541"N to 18°06'45.47425"N Long: 81°41'50.82015"E to 81°42'00.38433"E	4.950 Ha	R.F – 7.24	No	Non Operatio
B2	Potteru	Girkanpally Sand Quarry Khata No.-398, Plot No. - 3156 & 3240, Kisam-Nadi, Mouza-Girkanpally Lat: 18°03'12.63414"N to 18°03'30.15344" N	5.850 Ha	R.F – 3.11	No	156

		Long: 81°39'17.44968"E to 81°39'.29.45781"E				
B3	Potteru	Tamanpally Sand Quarry Khata No.-224, Plot No. - 25/1, Kisam-Nadi, Mouza-Tamanpally Lat: 18°03'32.59"N to 18°03'17.15" N Long: 81°35'26.34585"E to 81°35'42.91981"E	4.920 Ha	R.F – 3.80	No	1000
B4	Potteru	Venkatpallam Sand Bed Khata No.-195, Plot No. – 01, 02,73 & 74, Kisam-Nadi, Mouza-Venkatpalam Lat: 18°07′24.30030"N to 18°07'38.11307"N Long: 81°42'52.94885"E to 81°43′19.81416"E	4.50 Ha	R.F – 2.01	No	Non-Operatio
B5	Potteru	Teliguda Sand Quarry Khata No.-50, Plot No. – 1 & 2, Kisam-Nadi, Mouza-Teliguda Lat: 18°08'30.35557"N to 18°09'02.61963"N Long: 81°43'12.72572"E to 81°43'36.88176"E	5.000 Ha	R.F – 1.94	No	Non-Operatio
B6	Potteru	Tamanpalli Sand Quarry-B Khata No.-224, Plot No. - 74/1, Kisam-Nadi, Mouza-Tamanapalli Lat: 18° 03' 28.55669"N to 18°03'39.67686" N Long: 81° 36' 15.66704"E to 81°36'34.10120"E	5.000 Ha.	R.F– 4.23	No	Non-Operatio
B7	Potteru	Padganpalli Sand Quarry-I Khata No.-209, Plot No. - 1877, Kisam-Nadi, Mouza-Padangpalli	3.580 Ha	R.F– 1.54	No	Non-Operatio

		Lat: 18°03'31.11981"N to 18°03'27.13659" N Long: 81°40'28.26436"E to 81°40'15.22682"E				
B8	Potteru	Padganpalli Sand Quarry-II Khata No.-209, Plot No. - 2115, Kisam-Nadi, Mouza-Padangpalli Lat: 18°03'43.42388"N to 18°03'27.27257" N Long: 81°40'43.10078"E to 81°40'30.03325"E	4.550 Ha	R.F– 1.55	No	Non-Operatio
B9	Potteru	Murbanpali Sand Quarry Khata No.-380, Plot No. - 3545, Kisam-Nadi, Mouza-Murbanpali Lat: 18°03'26.62687"N to 18°03'10.72827" N Long: 81°37'18.51266"E to 81°36'54.01373"E	2.300 Ha	R.F – 5.34	No	Non-Operatio
B10	Sileru	Poluru Sand Quarry Khata No.-55(AAA), Plot No. - 1232, Kisam-Nadi, Mouza-Poluru Lat: 17°51'01.36816"N to 17°50'50.49783" N Long: 81°38'49.77274"E to 81°38'40.88117"E	5.000 Ha	R.F – 1.50	No	Non-Operatio
Tahasil: Khairput						
C1	Saptadhara	Kamalapadar Sand Bed Khata No.-23, Plot No. - 70, Kisam-Nadi, Mouza-Kamalapadar Lat:18° 35'23.76165"N to 18°35'57.98786"N Long: 82°16'12.03638"E to 82°16'34.32312"E	5.000ha	R.F – 3.03	No	1570

C2	Garia	Govindapalli Sand Quarry Khata No.-452, Plot No. -596,1300,1309, Kisam-Nadi, Mouza-Govindapalli Lat: 18°34'00.46867"N to 18°34'12.22093" N Long:82°16'22.43749"E to 82°16'58.82375"E	4.995Ha	R.F – 4.30	No	5001
C3	Pitakata	Sikhpalli Sand Quarry Khata No.-150, Plot No. -1582/1, 1734/1 Kisam-Nadi, Mouza-Sikhpalli, Lat: 18° 27'34.46612"N to 18° 27'16.91427" N Long: 82° 08'16.68061"E to 82°08'09.66500"E	2.354Ha	R.F – 10.05	Yes	1400
C4	Pitakata	Pushpalli Sand Quarry Khata No.-259, Plot No. - 24,181, Kisam-Nadi, Mouza-Pushpalli Lat: 18°27'15.98513"N to 18°26'54.83596" N Long: 82°08'25.51587"E to 82°08'05.75340"E	4.855 Ha	R.F – 9.83	Yes	Non-Operatio
Tahasil: Mathili						
D1	Dardur	Khairapally Sand Bed Khata No.-131, Plot No. -1351/1, 1169/1 & 418/1, Kisam-Nadi, Mouza-Khairapally Lat:18°26'43.48956"N to 18°26'55.02735" N Long: 82°06'58.62010"E to 82°07'14.44558"E	5.000Ha	R.F–15.28	No	2500

D2	Pangam	Mecca Sand Bed Khata No.-167, Plot No. -2457, 2458 & 2702, Kisam-Nadi, Mouza-Mecca Lat:18°32'30.51917"N to 18°32'51.69528" N Long: 82°05'37.54720"E to 82°05'55.33783"E	5.000Ha	R.F–9.25	No	2800
D3	Pangam	Pangam Sand Bed Khata No.-163, Plot No. -152, Kisam-Nadi, Mouza-Pangam Lat: 18°31'41.72848"N to 18°31'58.40867" N Long: 82°07'48.66589"E to 82°08'06.33316"E	5.000Ha	R.F– 16.93	No	3000
D4	Pangam	Chaulamendi Sand Quarry Khata No.-361, Plot No.-444, Kisam-Nadi, Mouza- Chaulamendi Lat: 18°30'11.72710"N to 18°30'31.578 94" N Long: 82°09'33.78983"E to 82°09'54.56253"E	5.000Ha	R.F – 9.14	No	2500
D5	Garia	Gangarajguma Sand Quarry Khata No.-100, Plot No. -188, 190, 192,376 & 372/1, Kisam-Nadi, Mouza-Gangarajguma Lat: 18°31'01.14730"N to 18°31'14.84271"N Long: 82°13'24.63523"E to 82°13'41.00669"E	5.000Ha	R.F – 7.92	No	2500
D6	Sikhar	Maliguda Sand Bed Khata No.-44, Plot No. -254 & 356, Kisam-Nadi, Mouza-Maliguda	5.000Ha	R.F – 11.33	Yes	2700

		Lat:18°28'40.14006"N to 18°28'58.18345"N Long: 82°07'35.3"E to 82°07'55.4"E				
D7	Pangam	Podaguda Sand Bed Khata No.-47, Plot No. -195, Kisam-Nadi, Mouza-Podaguda Lat: 18°31'05.34530"N to 18°31'27.57123"N Long:82°08'54.65065"E to 82°09'00.34442"E.	5.000Ha	R.F – 10.81	No	2700
D8	Dharmagad	Dhungiput Sand Quarry Khata No.-253, Plot No.- 577/1, 567/1, Kisam-Nadi, Mouza-Dhungiput Lat:18°35'37.66640"N to 18°35'46.36310" N Long:82°15'19.62354"E to 82°15'46.17918"E	5.000 Ha	R.F – 4.87	No	Non-Operatio
D9	Pangam	Kathiguda Sand Quarry Khata No.-6, Plot No.- 400/615/1 Kisam-Nadi, Mouza-Kathiguda Lat: 18°31'57.66270"N to 18°32'27.92231" N Long: 82°06'41.85464"E to 82°06'58.56203"E	5.000 Ha	R.F – 8.99	No	Non-Operatio
D10	Shabari	Badarangabeda Sand Quarry Khata No.-67, Plot No. - 575/653/1, Kisam-Nadi, Mouza-Badarangabeda Lat: 18°35'37.86931"N to 18°35'49.66263" N Long: 82°01'20.23189"E to 82°01'33.95472"E	5.000 Ha	R.F – 5.63	No	Non-Operatio

D11	Saptadhara	Timasput Sand Quarry Khata No.-141, Plot No. - 858, 1153/1 Kisam-Nadi, Mouza-Timasput Lat: 18°36′40.88888"N to 18°36'47.63294"N Long: 82°09'50.58251"E to 82°09'58.52324"E	5.000 Ha	R.F – 10.71	No	Non-Operatio
D12	Pangam	Bijapadar Sand Quarry Khata No.-128, Plot No. - 47, Kisam-Nadi, Mouza-Bijapadar Lat: 18°34'26.75038"N to 18°34'54.77810" N Long: 82°03'45.62126"E to 82°04'00.04480"E	4.800 Ha	R.F – 6.82	No	Non-Operatio
D13	Shabari	Mahupadar Sand Quarry-I Khata No.-211, Plot No. - 1878/1, Kisam-Nadi, Mouza-Mahupadar Lat: 18°35'50.33488"N to 18°36'00.98677" N Long: 81°57'34.92599"E to 81°57'46.57583"E	5.000 Ha	R.F – 4.15	No	Non-Operatio
D14	Shabari	Mahupadar Sand Quarry-II Khata No.-211, Plot No. - 1877/1, Kisam-Nadi, Mouza-Mahupadar Lat: 18°35'57.67141"N to 18°36'04.21588" N Long: 81°56'51.50912"E to 81°57'01.71986"E	5.000 Ha	R.F – 4.23	No	Non-Operatio
D15	Gariagad	Chaulamendi Sand Quarry-B Khata No.-361, Plot No. - 32/1, Kisam-Nadi, Mouza-Chaulamendi Lat: 18°30′27.70754"N to 18°30'31.97986"N Long: 82°08'57.08366"E to	5.000 Ha	R.F – 9.25	No	Non-Operatio

		82°09'16.83914"E				
D16	Pitakata	Mutebeda Sand Quarry Khata No.-31(AAA), Plot No. -15/1, 20/1, Kisam-Nadi, Mouza-Mutebeda Lat: 18°28'30.33510"N to 18°28'25.42674" N Long:82°07'58.69015"E to 82°07'44.02078"E	3.477 Ha	R.F – 10.70	Yes	Non-Operatio
Tahasil: Kudumulugumma						
E1	Gotiguda	Gotiguda Sand Quarry Khata No.-158, Plot No. -1162, 1172,1119, Kisam-Nadi, Mouza-Gotiguda Lat:18°25'25.47956"N to 18°25'52.95214" N Long: 82°10'07.29357"E to 82°10'16.55519"E	5.000 Ha	R.F– 7.32	No	1400
E2	Dumali	Chitapari Sand Quarry Khata No.-57, Plot No.- 394,370, Kisam-Nadi, Mouza-Chitapari Lat: 18°24'53.55055"N to 18°24'43.31653" N Long: 82°10'10.87473"E to 82°10'14.77626"E	1.367 Ha	R.F– 6.01	No	1000

E3	Dumali	Maheswarpur/Kondelguda Sand Bed Village- Maheswarpur, Khata No.-103, Plot No. -358, Village- Kondelguda, Khata No.-70, Plot No. 615,410, 411, Kisam-Nadi Lat: 18°17′ 12.34089"N to 18°17′54.64438" N Long: 82°06'18.64652"E to 82°06'51.03105"E	4.956 Ha	R.F – 3.96	No	650
Tahasil: Malkangiri						
F1	Tamasa Nala	Chidupali Sand Bed-B Khata No.-625, Plot No.-4421/ 4839, Kisam-Nadi, Mouza-Chidupali Lat:18°14'16.96214"N to 18°15'06.28552" N Long: 81°52'07.96747"E to 81°52'.26.49586"E	4.930 Ha	R.F– 12.07	No	707
F2	Potteru	Pulimetla Sand Quarry Khata No.-306, Plot No. -2171, Kisam-Nadi, Mouza-Pulimetla Lat: 18°10'43.51040"N to 18°10'58.57810" N Long: 81°47'48.07324"E to 81°47'.56.87058"E	4.475 Ha	R.F– 7.03	No	1000
F3	Potteru	Kodelmetla Sand Quarry Khata No.-446(AAJ), Plot No. - 3377, Kisam-Nadi, Mouza-Kodelmetla	4.860 Ha	R.F– 8.60	No	Non-Operatio

		Lat: 18°12'23.48304"N to 18°12'47.02863" N Long: 81°50'00.91760"E to 81°50'.59.35857"E				
Tahasil: Motu						
G1	Shabari	Uskalbag Sand Bed Khata No.-148, Plot No. -1, Kisam-Nadi, Mouza-Motu Lat: 18°18'38.16428"N to 18°18'49.78533" N Long: 81°37'23.90713"E to 81°37'.34.75359"E	5.000 Ha	R.F– 13.18	No	Non-Operatio
G2	Shabari	Alma Sand Quarry Khata No.-74, Plot No. -465, Kisam-Nadi, Mouza-Alma Lat: 17°53'15.87308"N to 17°53′25.66408"N Long: 81°24'59.40931"E to 81°25'10.92209"E	5.000 Ha	R.F– 2.71	No	Non-Operatio

List of Cluster & Contiguous Cluster Clusters:

Name of Tahasil	River Name	Cluster No	Lease No	Location (River Bed/Patta Land)	Village	Name of Minor Minerals in Cluster	Area (in Ha)	To Clu Are H
Khairput	Pitakata	Cluster No-1	C3	River Bed	Sikhpalli	Sikhpalli SandQuarry	2.354	7.
			C4		Pushpalli	Pushpalli Sand Quarry	4.855	
Mathili	Sikhar	Cluster No-2	D6	River Bed	Maliguda	Maliguda Sand Bed	5.000	8.
	Pitakata		D16		Mutebeda	Mutebeda Sand Quarry	3.477	

Contiguous Clusters:

River Name	Contiguous Cluster No	Cluster No	Number of leases in the cluster	Location (Riverbed/Patta Land)	Distance between clusters	Village	
No Contiguous Cluster Situation available in respect of Malkangiri District							

Transportation Routes for individual leases								
SL NO	**NAME OF TAHASIL**	**NAME OF SOURCE**	**Transportation Route No**	**No 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)**	**Recom dation road (B Topped pave**
A1	Chitrokonda	Orkel Sand Quarry	Village Road	4	7	3	Unpaved	Unpav
B1	Kalimela	Maranpally Sand Bed	Village Road	2	3	5	Unpaved	Unpav
B2	Kalimela	Girkanpally Sand Quarry	Village Road	4	5	3	Unpaved	Unpav
B3	Kalimela	Tamanpally Sand Quarry	Village Road	2	4	2	Unpaved	Unpav
B4	Kalimela	Venkatpallam Sand Bed	Village Road	3	5	3	Unpaved	Unpav
B5	Kalimela	Teliguda Sand Quarry	Village Road	2	4	4	Unpaved	Unpav
B6	Kalimela	Tamanpalli Sand Quarry-B	Village Road	4	5	2	Unpaved	Unpav
B7	Kalimela	Padganpalli Sand Quarry-I	Village Road	4	6	3	Unpaved	Unpav
B8	Kalimela	Padganpalli Sand Quarry-II	Village Road	3	5	3	Unpaved	Unpav
B9	Kalimela	Murbanpali Sand Quarry	Village Road	5	7	2	Unpaved	Unpav
B10	Kalimela	Poluru Sand Quarry	Village Road	4	12	3	Unpaved	Unpav
C1	Khairput	Kamalapadar Sand Bed	Village Road	3	8	2	Unpaved	Unpav
C2	Khairput	Govindapalli Sand Quarry	Village Road	4	10	3	Unpaved	Unpav
C3	Khairput	Sikhpalli SandQuarry	Village Road	2	7	2	Unpaved	Unpav

C4	Khairput	Pushpalli Sand Quarry	Village Road	4	12	4	Unpaved	Unpav
D1	Mathili	Khairapally Sand Bed	Village Road	7	15	3	Unpaved	Unpav
D2	Mathili	Mecca Sand Bed	Village Road	3	7	3	Unpaved	Unpav
D3	Mathili	Pangam Sand Bed	Village Road	6	10	2	Unpaved	Unpav
D4	Mathili	Chaulamendi Sand Quarry	Village Road	2	4	4	Unpaved	Unpav
D5	Mathili	Gangarajguma Sand Quarry	Village Road	4	12	3	Unpaved	Unpav
D6	Mathili	Maliguda Sand Bed	Village Road	3	11	4	Unpaved	Unpav
D7	Mathili	Podaguda Sand Bed	Village Road	2	10	3	Unpaved	Unpav
D8	Mathili	Dhungiput Sand Quarry	Village Road	4	11	3	Unpaved	Unpav
D9	Mathili	Kathiguda Sand Quarry	Village Road	4	10	3	Unpaved	Unpav
D10	Mathili	Badarangabeda Sand Quarry	Village Road	3	12	4	Unpaved	Unpav
D11	Mathili	Timasput Sand Quarry	Village Road	2	4	4	Unpaved	Unpav
D12	Mathili	Bijapadar Sand Quarry	Village Road	4	5	2	Unpaved	Unpav
D13	Mathili	Mahupadar Sand Quarry-I	Village Road	4	6	3	Unpaved	Unpav
D14	Mathili	Mahupadar Sand Quarry-II	Village Road	3	5	3	Unpaved	Unpav
D15	Mathili	Chaulamendi Sand Quarry-B	Village Road	2	7	4	Unpaved	Unpav
D16	Mathili	Mutebeda Sand Quarry	Village Road	4	11	3	Unpaved	Unpav
E1	Kudumulugumma	Gotiguda Sand Quarry	Village Road	4	12	3	Unpaved	Unpav

E2	Kudumulugumma	Chitapari Sand Quarry.	Village Road	5	11	4	Unpaved	Unpav
E3	Kudumulugumma	Maheswarpur/Kondelguda Sand Bed	Village Road	5	14	4	Unpaved	Unpav
F1	Malkangiri	Chidupali Sand Bed-B	Village Road	3	6	5	Unpaved	Unpav
F2	Malkangiri	Pulimetla Sand Quarry	Village Road	2	2	3	Unpaved	Unpav
F3	Malkangiri	Kodelmetla Sand Quarry	Village Road	2	3	4	Unpaved	Unpav
G1	Motu	Uskalbag Sand Bed	Village Road	3	7	2	Unpaved	Unpav
G2	Motu	Alma Sand Quarry	Village Road	4	10	3	Unpaved	Unpav

Cluster No	Lease No	Transportation Route No	Number of tippers / days of cluster	Number of tippers/days of all the clusters on route	Length of Route in KM	Type of Road (Black Topped/Unpaved)	Recommendation for road (Black/Topped/ Unpaved)	The Con Gov Own
Cluster No-1	C3	Village Road to State Highway	2	7	2	Unpaved	Unpaved	Le
	C4	Village Road to State Highway	4	12	4	Unpaved	Unpaved	Le
Cluster No-2	D6	Village Road to State Highway	3	11	4	Unpaved	Unpaved	Le
	D16	Village Road to State Highway	4	11	3	Unpaved	Unpaved	Le

CERTIFICATION REGARDING PREPARATION OF DSR

The District Survey Report for all Minor Mineral & Specified Minor Minerals in respect of Malkangiri District is in accordance with Appendix-X. (I)- For river sand & (II)- for other than River Sand 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 orders of Hon'ble Supreme Court dt. 10.11.2021 in connection with C.A. Nos. 3661-3662 of 2020. Before preparation of all District Survey report of all Minor Minerals, field verification has been conducted by the Sub-Divisional Committees of Malkangir & Sub-Divisional Magistrate, Officers from Irrigation Department, State Pollution Control Board, Forest Department, Geology Department & Mining Officer. The DSR is being submitted to SEIAA, Odisha, Bhubaneswar for necessary evaluation and approval.

Mining Officer, Malkangiri

Geologist, O/o Joint Director Geology, Koraput

Deputy Director of Mines
Jeypore Circle

Deputy Director of Mines
Koraput Circle

Asst.Conservator of Forest, Malkangiri Forest Division
Malkangiri

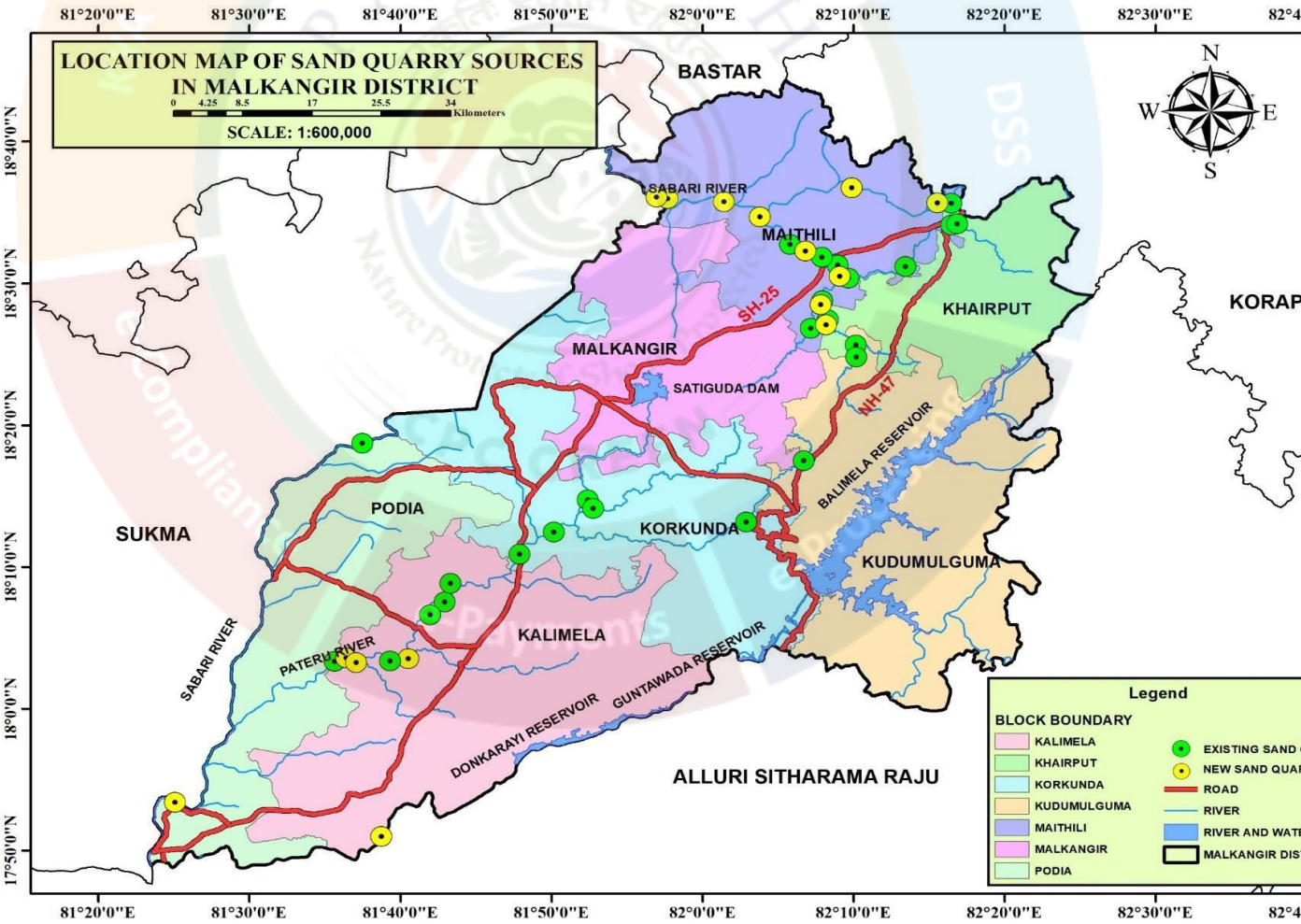
S.D.O. CKD.Earth Dam Division,
Malkangiri

Regional Officer
SPCB,Koraput

Sub-Collector cum-Sub-Divisional Committee,
Malkangiri

Collector cum District Magistrate,
Malkangiri

LOCATION MAP OF SAND QUARRY SOURCES OF MALKANGIRI DISTRICT



TRANSPORTING ROUTE MAP OF MALKANGIRI DISTRICT