



**DISTRICT SURVEY REPORT(DSR)
OF
MALKANGIRI DISTRICT, ODISHA
FOR
ROAD METAL/BUILDING STONE/BLACK STONE
(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**

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PREAMBLE

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

Keeping in view of experience gained in period of decade, the MoEF& CC came out with Environmental Impact Assessment Notification S.O.-1533(E) dated 14th Sept. 2006. It has been made mandatory to obtain environmental clearance for different kinds of development projects as listed in Scheduled -I of notification. Further, pursuance of the order of Hon'ble Supreme Court Petition (C) No. 19628- 19629 of 2009, dated 27th Feb. 2012 In the matter of Deepak Kumar etc., Vs State of Haryana and others etc., Prior Environmental Clearance has now become mandatory for mining of Minor Minerals irrespective of the area of Mining Lease. And, also in view of the Hon'ble National Green Tribunal, order dated the 13th Jan. 2015 the matter regarding Sand, Brick Earth, & Burrowed Earth cutting for Road Construction has to take prior E.C. for Mining Lease irrespective of the fact that whether the area involved is more or less than 5 hectares. They also suggested to make a policy on E.C for minor minerals lease in cluster. MoEF& CC in consultation with State Government has prepared Guidelines on Sustainable Sand Mining & Minor minerals other than sand mining in 2016, detailing the provisions on Environmental Clearance for cluster. Creation of

District Environmental Impact Assessment Authority (DEIAA) & proper monitoring of Minor Minerals. Mining, using Information Technology to track the mineral out material from source to destination.

DEAC will scrutinize and recommend the prior environmental clearance of mining of minor mineral to DEIAA on basis of District Survey Report. This will model and guiding document which is a compendium of available mineral resources, geographical setup, Environmental and Ecological set up of the District and replenishment of minerals and is based on data of various departments, published reports, Journal and websites. Subsequently, Hon'ble Supreme Court vide their order dt. 18.01.2022 in connection with Civil Appeal Nos. 3661-3662 of 2020, the State of Bihar and others Vrs- Pawan Kumar and others at Paragraph 14 "We therefore find it appropriate to substitute the directions issued by Tribunal vide judgment and order dated 14th October-2020 with the following directions,

- (i). The exercise of preparation of DSR for the purpose of mining of the State of Odisha 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 SEAII. It should be ensured that a strict adherence to the procedure and parameters laid down in the policy of January-2020 should be followed".*
- (iii). The District Survey Report will form the basis for application for Environmental Clearance, preparation of reports and appraisal of projects. District Survey Reports are to be reviewed once in every five years as per statue.*
- (iv). 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,2024.

- (v). The Main objective of the preparation of District Survey Report is to ensure the following:*
- (vi). Identification of Mineral Resources in the District.*
- (vii). Identification of areas of minor minerals having the potentiality where mining can be allowed.*
- (viii). 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 17°47'58" and 18°44'18" and East longitudes 81°23'23" and 82°27'05" 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 34°C and minimum temperature of

13°C. 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 34°C and minimum temperature is 8°C. 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 km² (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.

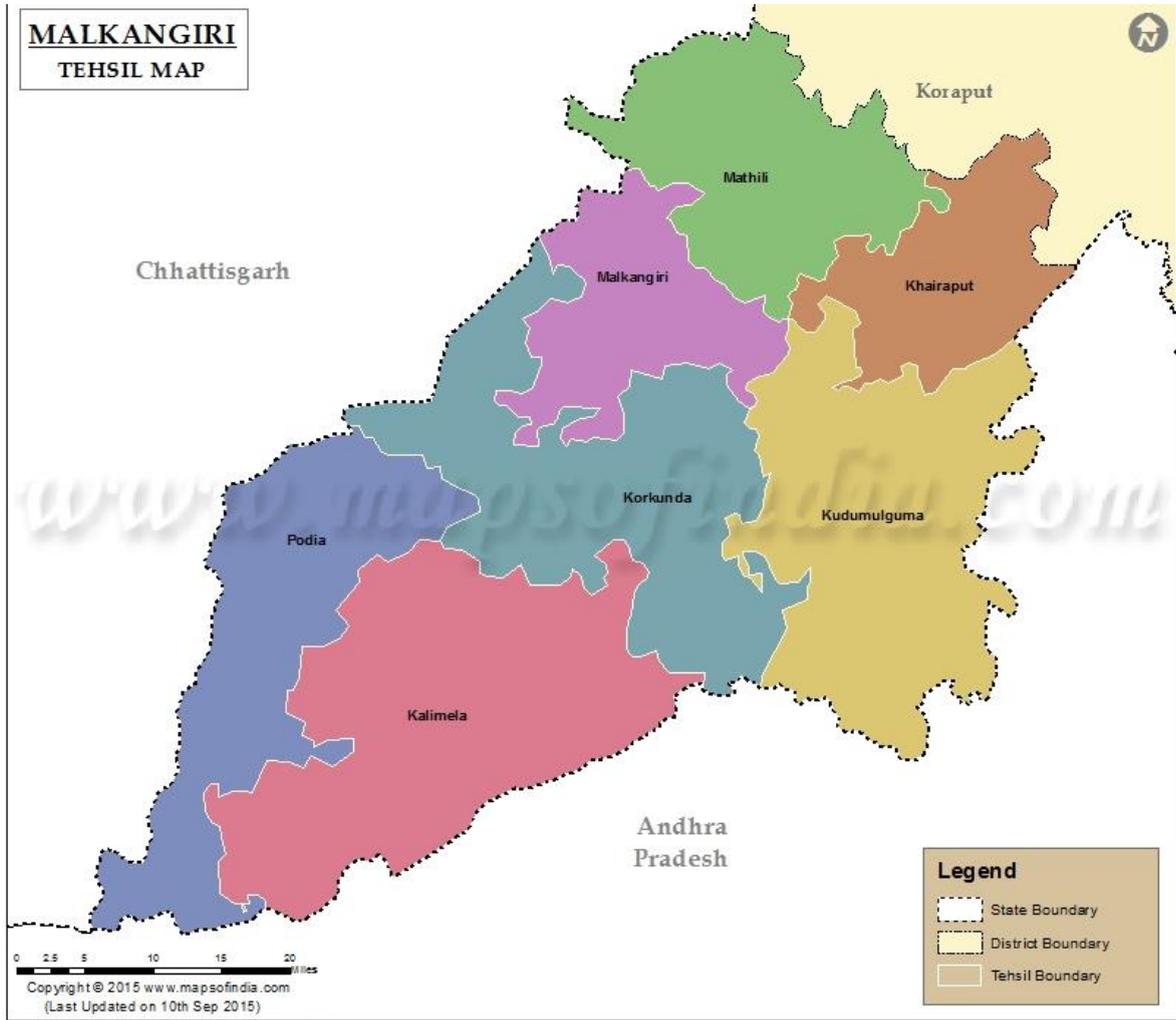
Almost the entire population of Malkangiri is engaged in agriculture and primary sector, because it is relatively isolated from the rest of Odisha, as compared to other towns and cities, and developmental stages related to secondary and tertiary sectors are yet to be done. The primary sector accounts 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. It has 1045 villages covering 7 Blocks, 7Tahasilsand1 Sub-Division .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

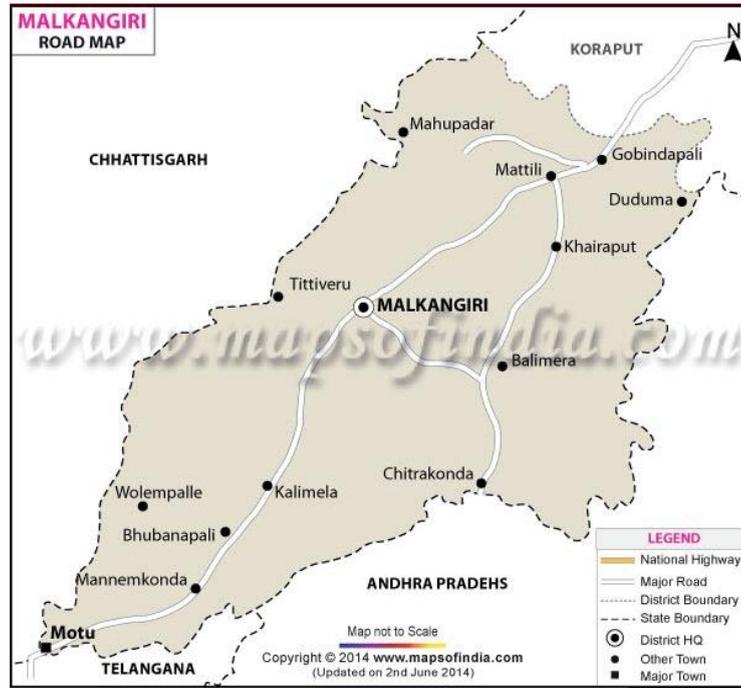
(22.55%), and Scheduled Tribe is 3,56,614 (58.15%). The literacy percentage of the district covers 48.54% against 75.15 of the state.



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

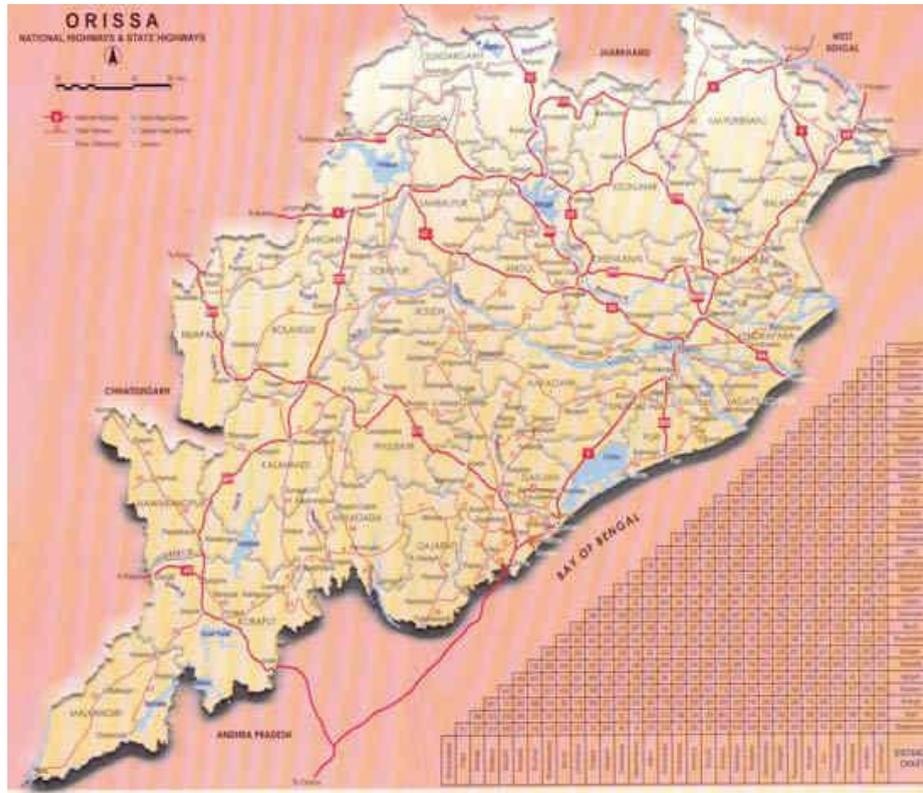
Malkangiri is not connected with rail network. Nearest major railway stations are Koraput, Jeypore and Jagdalpur.



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:

SI No.	MINERAL	LOCATION	RESERVE INMT	REMARKS
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:

SI No.	MINERAL	LOCATION	RESERVE INMT	REMARKS
1	Quartz	Goespalli, 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

For details on specified minor mineral mining activities, please refer to table in Annexure-I (D)

3.0 GENERAL PROFILE OF THE DISTRICT:

3.1 Demography:

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

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

Demographic Status

Category	Male	Female	Gen	SC	ST	OBC
Category wise %	49.51	50.48		22.55	57.83	39.31

4.0 GEOLOGY OF THE DISTRICT:

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	~~~~~Unconformity~~~~~	
	Quartzites, Limestones, Conglomerates, Shales	
	~~~~~Unconformity~~~~~	
Archeans	Younger Intrusives	Dolerite Dykes, Pgmatises, Vein Quartz
	~~~~~Unconformity~~~~~	
	Andalusite Schists, Sericite Quartz Schists	
	~~~~~Unconformity~~~~~	
	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 20o 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 dolerite in some areas.

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.

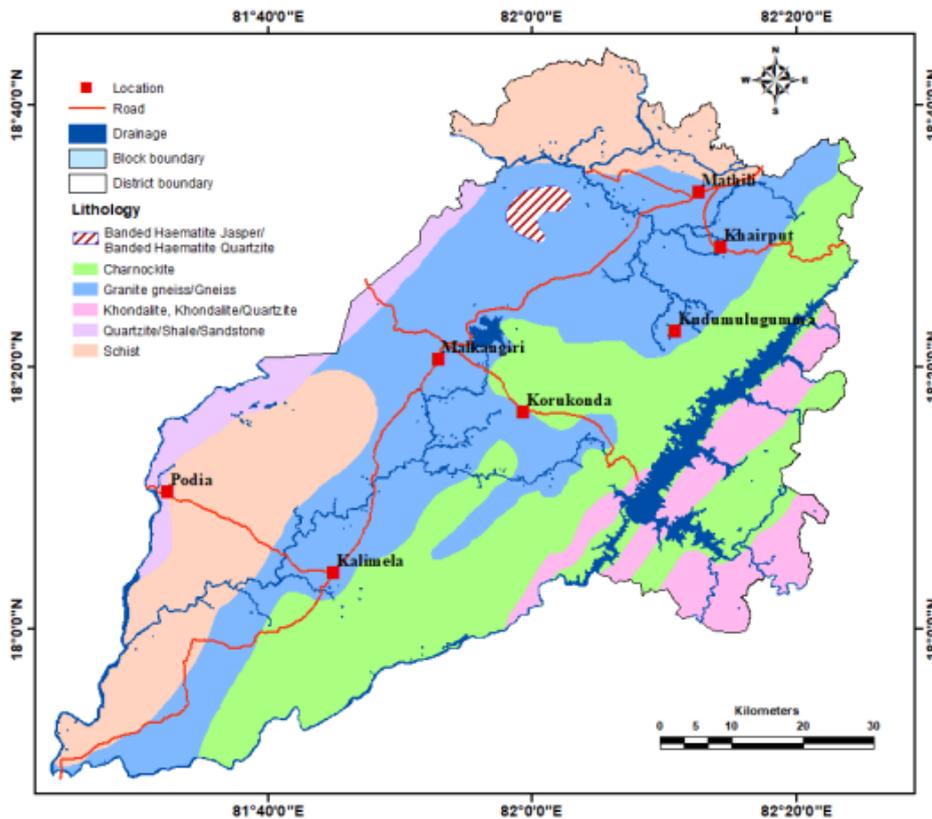
The granites and its variants are most predominant rock type and occupy major parts of the district. Geological set up of the district primarily controls the Hydrogeological condition of the area.

4.1 Physiography:

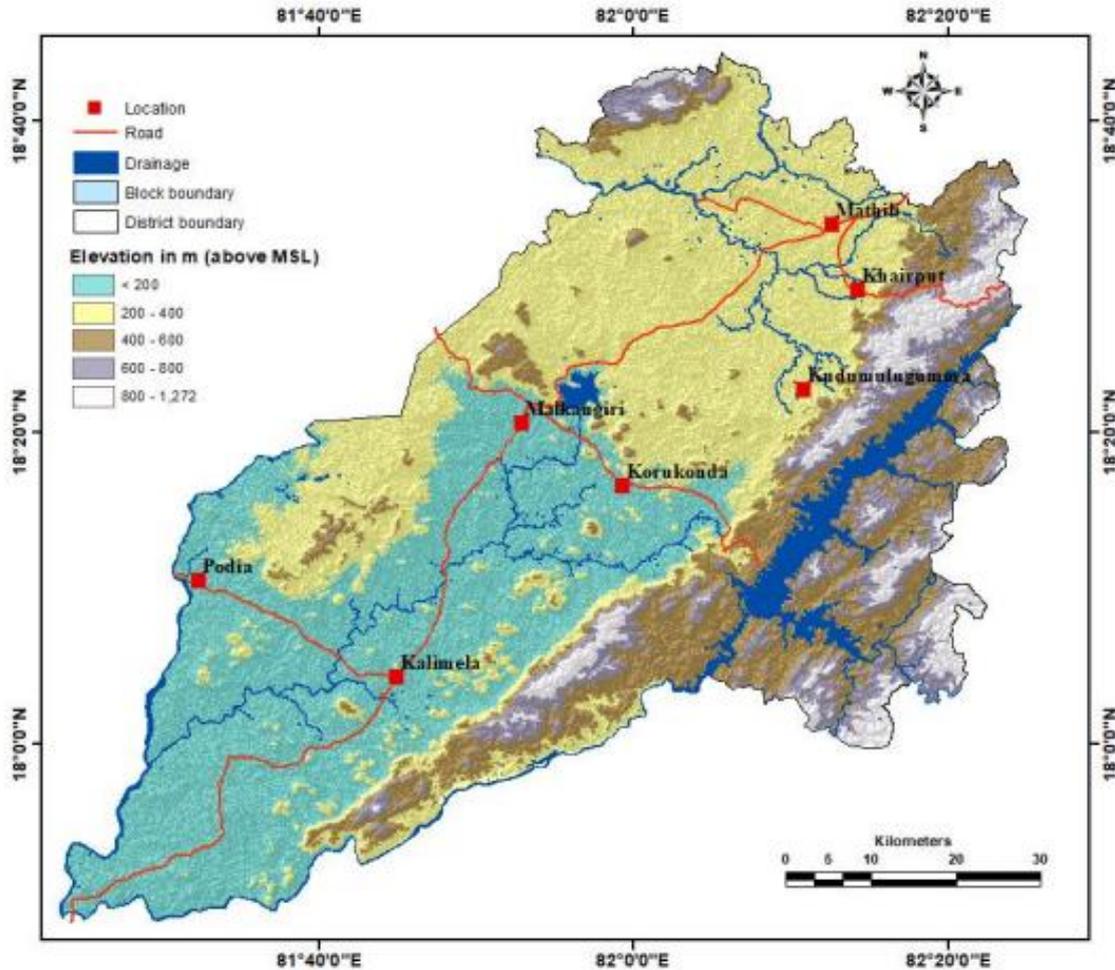
Malkangiri District is part of Eastern Ghat Super Group, the Eastern Ghats are a discontinuous range of mountains along India's eastern coast. The Eastern Ghats run from the northern Odisha through Andhra Pradesh to Tamil Nadu in the south passing some parts of Karnataka and in the Wayanad district of 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 alkaline rocks. This granulite belt has had a prolonged history of mountain building from late Archaean to late 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 a Proterozoic reworking of Archaean granulites. Extreme-temperature crustal metamorphism under fluid-absent conditions and crustal anatexis 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 generations of charnockites are present in the Eastern Ghats belt, but charnockite 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 folded charnockitic rocks that suffered granulite-facies metamorphism and attendant migmatization.



GEOLOGICAL MAP



ELEVATION MAP

4.2 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, Denudational 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.

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.

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.

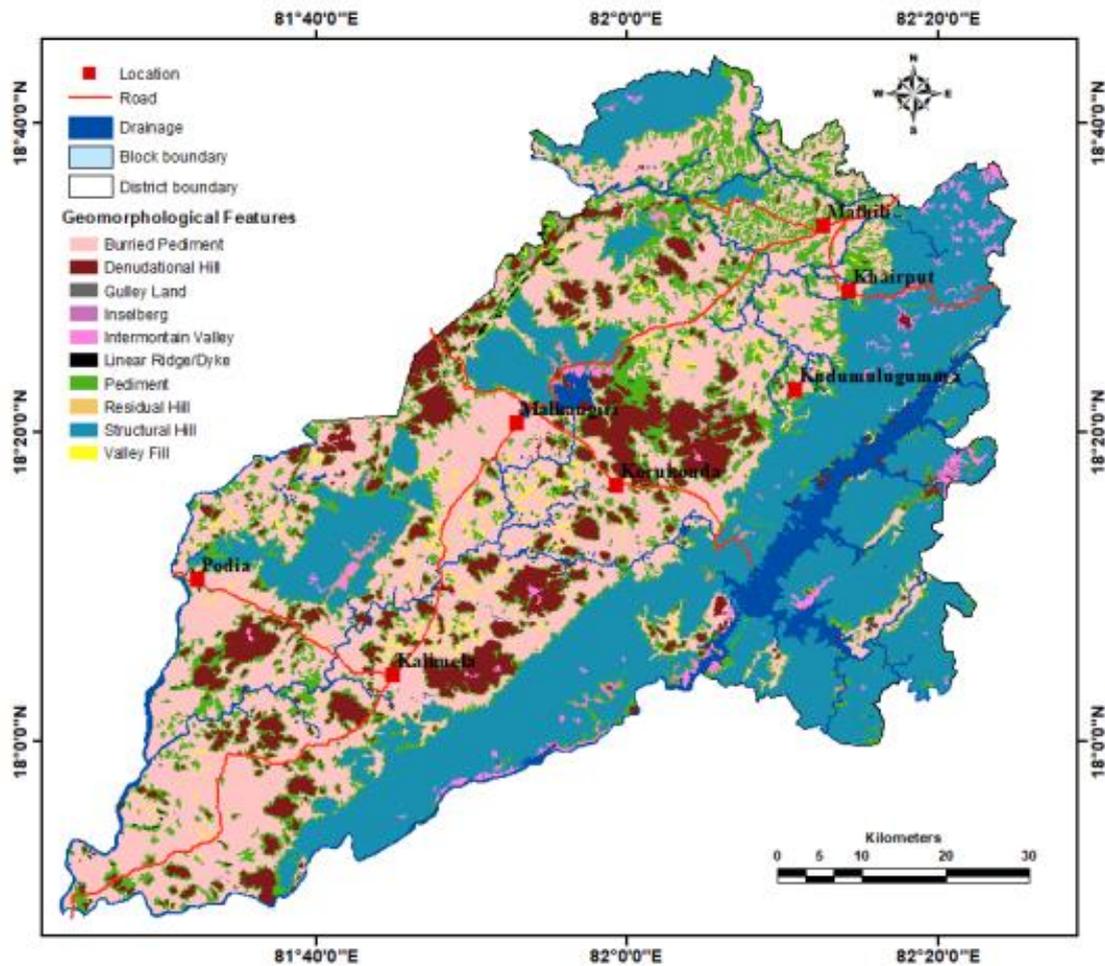
Flood Plain– A narrow stretch of alluvium occurs along river Kolab and its tributaries in the northern part of the district.

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.

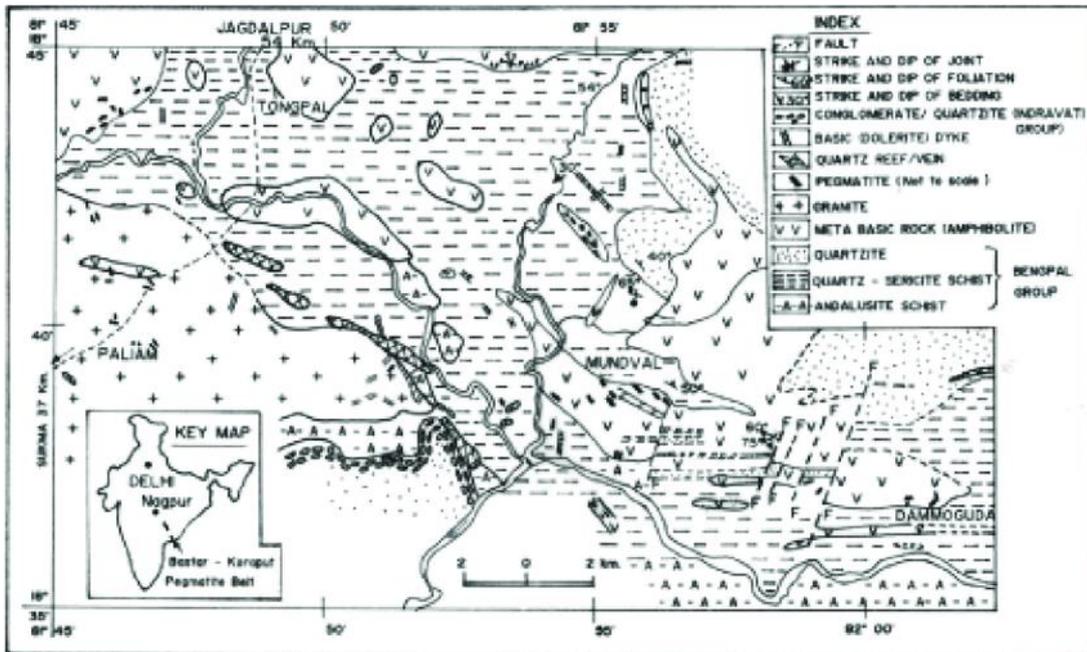


GEOMORPHOLOGY MAP

4.2 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 Eastern 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).



4.3 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.

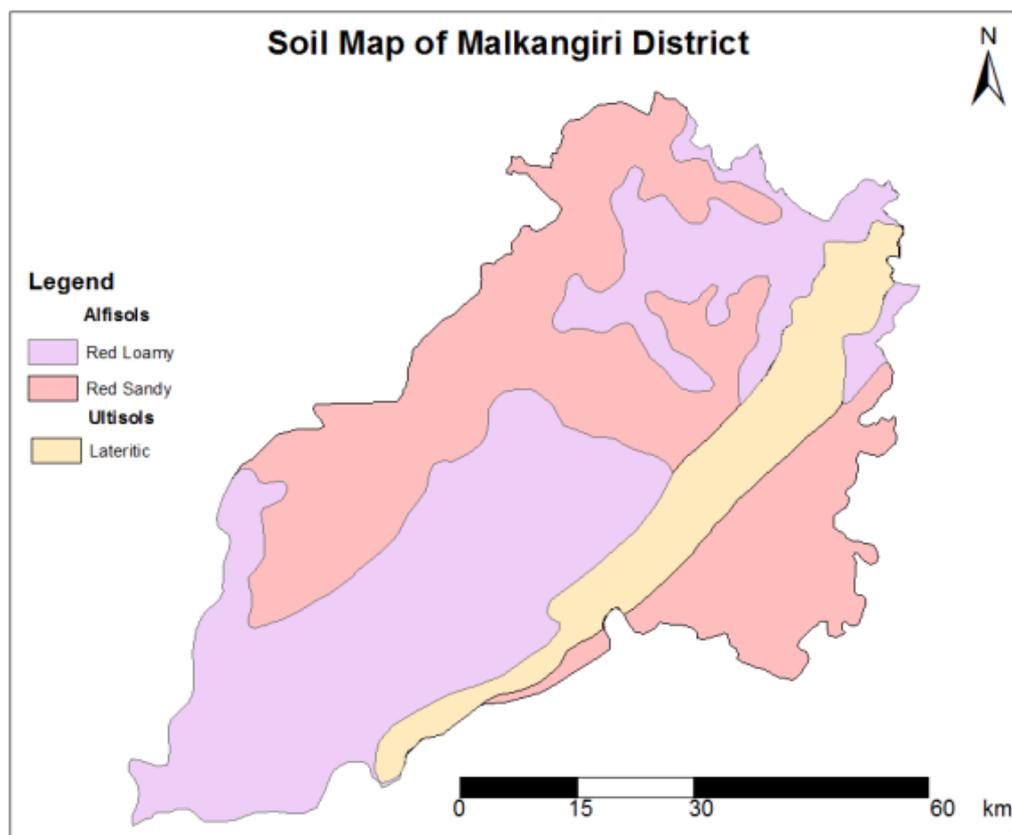
The Dimension stone are located around the villages of Peta, Ponarguda, Jagannathpalli, Potteru, Majhiguda, Nilakhamar, Gagarmetla, Gangla, but the reserves are not estimated by Department of Mines & Geology, BBSR.

4.4 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 (RedSoil) 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 or lateritic 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.



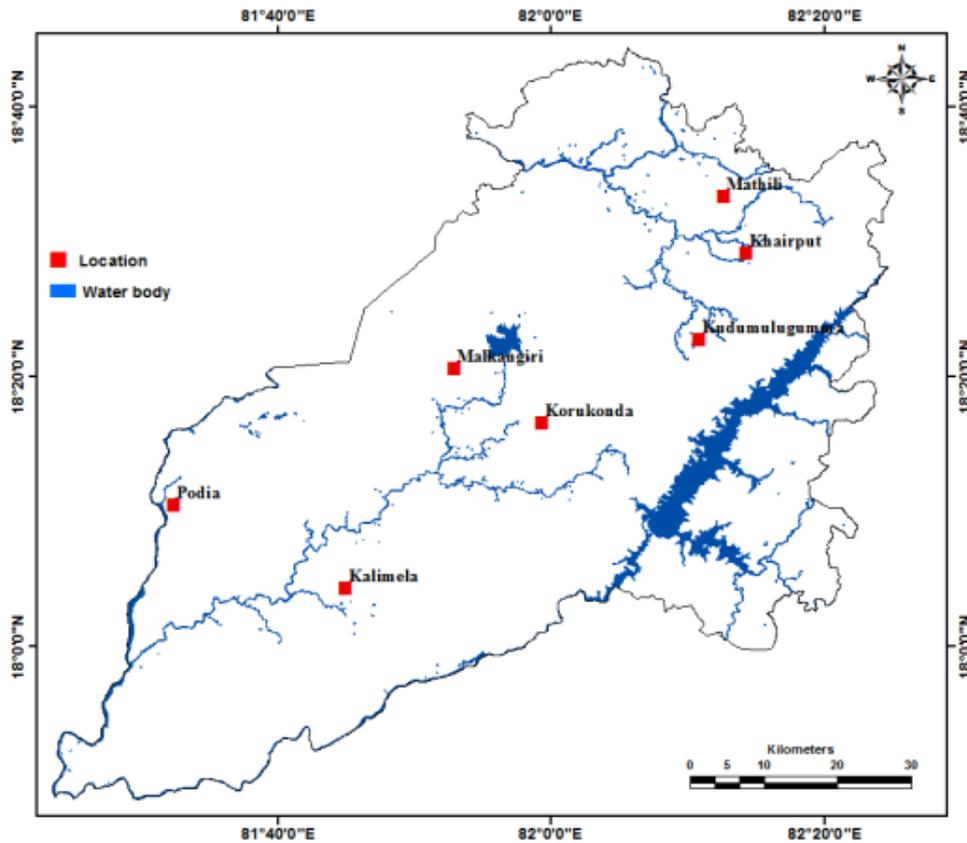
5. DRAINAGE OF IRRIGATION PATTERN

Malkangiri district is a physically hilly terrain having majorly 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 slow.

Additional river source details are given in the following table:

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

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.



DRAINAGE MAP



River System

6.0 LAND UTILIZATION PATTERN IN THE DISTRICT**6.1 Forest and non-forest land**

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

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.

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)

6.2 Agricultural land

6.2.1 Agro Climatic Zone

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° – 42°
4	Mean Min. Winter Temp.	20° – 23°
5	Soil Type	Broadly the district has Red, Lateritic and acidic soil. Soil texture is sandy loam

6.2.2 Land use

Agriculture land use as per the data collected from Chief District Agriculture 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.

6.3 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.

Sl. No.	Year	Fruit Plants Area (Ha)					Vegetables Area (Ha)	Flowers Area (Ha) Marigold
		Papaya	Banana	Cashew	Mango	Jackfruit		
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

7.0 SURFACE WATER AND GROUND WATER SCENARIO OF THE DISTRICT

7.1 Hydrogeology

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 rises from the Sinkaram hills and follows a southwesterly course after passing over Malkangiri district. The river joins the Godavari river in Khammam district of Telanagana.

The major surface water bodies are reservoirs, rivers, streams and ponds etc. The river Potteru which is a tributary of Kalab 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.

The hydrogeology of the district varies widely depending upon the geological and geomorphic setup and soil characteristics. The major hydrogeological units maybe categorized as- Consolidated formations and Unconsolidated to Semi-consolidated formations

Consolidated formations- Almost the entire district is underlain by the consolidated formations, comprising granites, granite gneiss and its variants, charnockites, Khondalites, Schists, Quartzites, Limestones etc. These formations lack primary porosity and are rendered porous and permeable only when weathered and fractured. The weathered residuum forms the main repositories of groundwater, which occurs under water table conditions and circulates through deeper fractures and fissures.

Unconsolidated Formations- Alluvium-Alluvium is not well developed in the area. Small and local patches occur along the Sabari river. It is generally 2-5 m 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. As such these are not useful for ground water development because of its limited areal extent and thickness.

Ground Water Occurrence: The nature of occurrence and movement of ground water were studied through periodical monitoring of ground water and well inventory conducted during the systematic and reappraisal hydrogeological surveys in the district. The phreatic zone, constitute the most potential ground water storage in the district. The depth to water table values depend upon several factors including rainfall, topography, drainage characteristics, lithology, depth and nature of weathering, water bearing and water yielding properties of the rocks as also surface irrigation.

The aquifer parameters of various hydro-geological units were evaluated through pumping tests of representative dug wells and slug tests/ compressor tests of bore wells. The aquifer parameters include Transmissivity and specific capacity Index. Transmissivity indicates aquifers property to transmit water and specific capacity Index($K=C/A$) of the formations is expressed in terms of flow of ground water per meter depression of head over unit cross sectional area of inflow offered by the aquifer. Transmissivity has been calculated for bore wells and specific capacity Index for open wells.

Deeper Aquifers- CGWB carried out Ground Water Exploration in the district by deploying one down the Hole Hammer (DTH) Rig. The study was aimed at identification of deeper potential fracture zones and for assessing yield potentials. In total 8 exploratory wells and 2 observation wells have been drilled in Malkangiri District. The sites for exploration were selected taking into account the hydro-geological characteristics of formations, favourable topography and tectonic features.

All the wells were drilled in Granite Gneisses except one bore well in Kalimela. The depth of drilling ranged from 38 m to 200 m below ground level. The top 8 to 20 m of the

bore wells are cased with 178 mm diameter M.S. pipe to prevent collapse of the loose overburden. Rest of the borewell is left uncased to tap the water bearing fractured. The discharge of the wells as tested by compressor varied widely from negligible to 10.6 Ips.

7.2 Depth to water level

Transmissivity values ranged from 2.6 m²/day to 27.5 m²/day. Exploratory drilling has been carried out in all the blocks of the district. At Mathili in the North East Corner of the district fracture zones were encountered in the Hornblende Mica Schist and Granite Gneiss at depths of 100m and 137m below ground level with a cumulative discharge of 2 LPS. However, towards south at Khairput, a number of fracture zones were encountered in depth range of 24m to 107m below ground level. The cumulative yield of the well was 2.8LPS. The formation continues to be Granite Gneisses, at Kudumulgumma south of Khairput, High yielding fracture zones, eleven in number were encountered within a depth of 130m below ground level. The aquifer is Granite Gneiss with maximum discharge recorded at 10.6Ips. The high yielding fractured granite gneisses extend southwards and at Balimela the discharge of the exploratory well was 5.16Ips. In this well also a number of fracture zones have been encountered at various depths. However, the formations are compact towards west and yield of the exploratory well at Korukunda has been negligible down to 200m depth. Similar formations continue in the adjacent block and at Malkangiri, the exploratory well yielded hardly 0.88 Ips, though a number of fracture zones were encountered within a depth of 144m. In the south western part of the district at Kalimela, six fracture zones were encountered in the exploratory well down to a depth of 195.3 meter below ground level during which the yield of the well was 2.54Ips. In this well charnockite was encountered in the deeper zones. At Podia in the western most corner of the district a number of fractures were encountered within a depth of 159 meter below ground level with a cumulative discharge of 3.59 Ips.

7.3 Ground Water Quality

The quality of ground water in Malkangiri district has been assessed based on chemical analysis of water samples collected during the hydrogeological surveys ground water monitoring and exploratory drilling. The general ranges of different chemical constituents are as below–

Chemical Constituents	Shallow	Deeper Aquifers
pH	7.17 – 8.21	6.86 – 8.18
Specific conductance(S/cm at 25°C)	214 - 1664	156 – 1103
Chloride(mg/L)	14 - 255	7.1 – 50
Calcium (mg/L)	18 - 110	14 – 62

Magnesium(mg/L)	36 - 54	1.8 – 47
Bicarbonates(mg/L)	79 - 409	85 – 543
TotardHardnessasCaCO3(mg/L)	75 - 495	45 – 260
Sodium (mg/L)	10 - 161	13 – 140
Potassium (mg/L)	12 - 62	1.2 – 12
Sulphate (mg/L)	-	1 – 41
Iron (mg/L)	-	0.14 – 0.53

In the U.S Salinity Diagram the suitability of ground water for irrigation in the district, has been assessed on the basis of Sodium Absorption Ratio (SAR) and specific conductance. The classification of ground water based on U.S Salinity Diagram in the district is given below:

USSL Class	Grade	No. of Samples	%
C1S1	Good	2	12.50%
C1S2	Moderately Good	-	-
C1S3	Unsuitable	-	-
C1S4	Highly unsuitable	-	-
C2S1	Good	9	56.25%
C2S1	Moderately Good	-	-
C2S3		5	31.15%
C2S4			
C3S1		5	31.15%
C3S4		-	-

It may be seen from above that groundwater samples collected from the shallow aquifers are good in quality and suitable for irrigation purposes. The water samples of deeper aquifers are well within the permissible limits of drinking water standard.

The Piper Tri-linear diagram for the type of groundwater in the district, has been assessed. The plot reveals that more than 60% of the samples belong to the calcium–bi–carbonate (temporary hardness) type of water the rest belong to the mixed type.

7.4 Ground Water Development

Block wise

It is basically a tribal district and occupied by hard crystalline rocks. Development of groundwater is feasible through dug wells. The Net ground water resource of the district is assessed to be 33598 HM and the gross annual draft for domestic, industrial, and irrigation

uses is 2942 HM. The average stage of ground water development in the district is 8.76%. The lowest being Kudumulguma at 4.57% and highest being at Khairput at 13.38%.

Ground Water Development: Ground water development in the district is mainly through dug wells, Dug-cum-bore wells and bore wells. Ground water is mainly used for domestic and irrigation purpose and in limited scale for industrial purposes.

The district has a nets own area of 117823 ha out of the total geographical area of 439080ha. However, only about 46000ha area in the district is presently irrigated from both surface and ground water sources, leaving more than 60% of the nets own area without irrigation facilities. This vast area has rainfed agriculture. For augmenting food-grains production this area has to brought under the strings of irrigation. Considering the low stage of ground water development in the district, there remains ample scope for further ground water exploitation which will expand the irrigated agriculture.

Dugwell- It is the most common groundwater abstraction structure in the district. Dugwells are feasible in pediplain areas. In hilly tracts it is feasible only in the intermountain valleys. The design of the dug wells depends upon hydro-geomorphological and hydro-geological setup, depth to water table, seasonal water table fluctuation. The dug wells should be located preferably in topographic low and should tap maximum thickness of the weathered zone. The dug wells should be of 10m to 18m depth and 4.5m to 6m in diameter. All the wells should be energized for optimal utilization of their potentials. Tentatively a total of 27189 additional wells are feasible in the district. The wells may be fitted with 1.5 to 2H.P. centrifugal pumps. The wells may sustain yield maximum up to 3lps.

Dug-cum-Borewell- The dug cum borewell can be constructed in the areas where the weathered zone is more than 15m deep. The vertical bores drilled within dug well increase the yield of the well. The bore well within the dug well should be 25m to 30m in depth from ground level. The wells should be fitted with 2H.P. centrifugal /submersible pumps may sustain yield upto 3lps.

BoreWells- Lineaments or structurally weak zones in the hard rocks present favourable sites for bore wells. Bore wells have not met with success in Korukonda block. Bore wells located in the vicinity of lineaments are likely to be successful. Wells drilled in Granite and Granite Gneisses are likely to be more successful than in other formations. Bore wells should be 100m to 150m deep and of 150mm to 200mm diameter. The borewells may be fitted with submersible pumpsets of 2-3H.P depending upon the well discharge and depth to water level.

The district is predominantly inhabited by weaker section of the society and the majority of the farmers have small and marginal land holdings. In such a background sinking of ground water structures viz. dug-wells and bore-wells which require small capital investments and less maintenance cost will be a better alternative for the poor farmers as compared to the major and medium irrigation projects. The financial institutions may provide loans on easy terms for the construction of these wells. The wells should be sunk at the hydro-geologically favourable sites. For this purpose, the expert guidance can be sought from the State Ground water Organisation. Agricultural extension services may educate the farmers in adopting suitable cropping pattern, so as to fully utilize the newly created potentials. Energisation of the wells will ensure optimal utilization of this yield potentials. Programme may also be launched for the construction of percolation tanks, check dams, contour bounding which will conserve rain water and facilitate additional recharge to the ground water reservoirs.

For the population of Malkangiri district particularly in the hilly areas, groundwater is the only sustainable and safe source of drinking water, particularly during summer season, when water scarcity becomes acute. As part of the Technology Mission programme in Malkangiri district, borewell sites were pinpointed through hydrogeological investigations aided by Remote Sensing Studies. The water scarcity in the district may be effectively mitigated through scientific management and judicious utilization of ground water resources.

While targeting ground water structures for irrigation use or for heavy industrial establishment utmost care should be taken in maintaining the safe distance between ground water structures to avoid well interference. This will facilitate optimal utilization of resources without any appreciable drawdown interference. The distance between any two dug wells/ dug cum bore wells fitted with pumpset should be kept at least 100m. The distance between two borewells may be kept between 150-200m.

7.5 Ground Water Related Issue and Problems

Some of key ground water related issues are:

Ground Water Pollution: Based on the chemical analyses of water samples collected from different aquifers, it is observed that almost all chemical constituents are well within the permissible limit for drinking as well as irrigational purposes, except in some localized patches where high nitrate values have been observed. As such there is no ground water pollution in the district.

Ground Water Depletion: The stage of ground water development in different blocks varies from 3.08% (Kudmulguma) to 13.70% (Khairput) with the overall stage of development at 6.02% in the district. The fall of water levels are shown by 46% of the total and maximum fall is recorded to the tune of 0.1.113m (MV-64 in Kalimela block) with the majority of the values resting within 10cm. From the perusal of water level over a period of 10years, it has been observed that there is a significant decline in the trend groundwater level.

Special Studies: Special studies in the district, has been taken up in the field of drinking water source finding under Rajiv Gandhi Technology Mission on Drinking Water.

Technology Mission on Drinking Water: Kalimela block of Malkangiri District covered under the programme of Technology Mission on Drinking Waters. CGWB carried out scientific source finding for 14 no-source villages. A multidisciplinary approach was adopted for identification of sustainable water sources. It included a study of the remote sensing maps which depicted lineaments and geomorphic units showing favourable locates of groundwater. The hydrogeological characteristics and yield potentials of formations were studied through spot hydrogeological surveys and sites for suitable groundwater structures were pinpointed for each village. In Kalimela block 14no-source villages were covered under source finding mission. Borewells were recommended in 7 villages and sanitary wells in 7 others.

7.6 Mass Awareness Campaign (MAP) & Water Management Training Programme (WMTP) by CGWB

NIL

7.7 AREA NOTIFIED BY CGWB/SGWA

None

7.8 RECOMMENDATIONS

- Large scale planning for Ground Water Resources development should be preceded by intensive hydrogeological and geophysical survey aided by Remote Sensing studies and ground truth data.
- Existing dugwells should be deepened to tap the maximum saturated thickness of the weathered mantle or vertical bores maybe drilled to enhance the yield of the well where normally the dugwells get dried up.

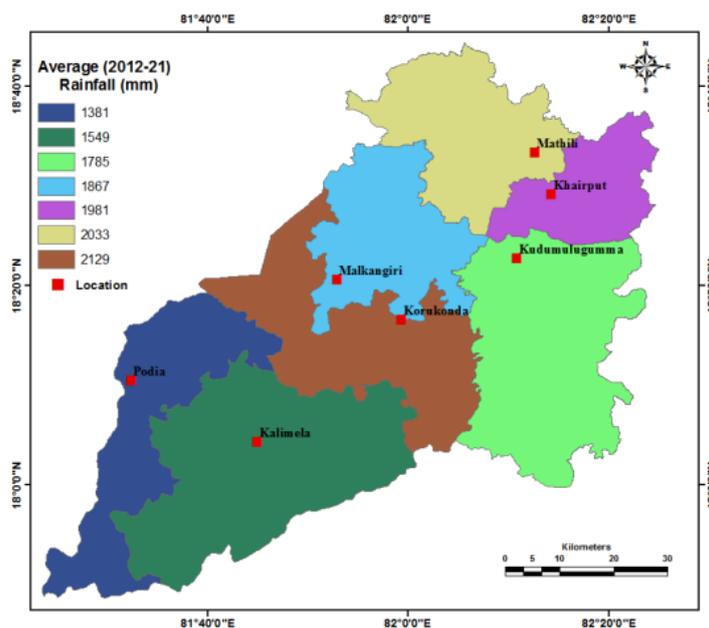
- Energisation of wells should be stepped up to ensure optimal utilisation of the groundwater resources to create additional irrigation potential.
- The State Ground Water Organization should render expert guidance for siting groundwater structures in favourable hydrogeological settings.
- The farmers should be educated through agricultural extension services, Mass Awareness and water management training programme to adopt suitable cropping pattern, conservation of ground water and irrigation practices especially for drought tolerant crops for optimal utilisation of available groundwater resources.
- Programme for artificial recharge may also be taken up in areas where deeper water table condition coupled with high fluctuation is observed for augmentation of groundwater resources through construction of percolation tanks, subsurface dykes, check dams, nala bunding and contour bunding and other site specific favourable artificial recharge structures.
- In areas of shallow water table lying within 0 to 5m below ground level during post monsoon period, surface water bodies like local ponds, farm ponds and small earthen dam along small streams may be constructed to hold water for long duration and for replenishment of soil moisture.
- Proper maintenance of reservoirs, tanks and spring channel by periodical desiltation should be carried out so that the precious water resource could be judiciously utilized after monsoon.
- For augmentation of drinking water supply to the major towns and villages near the major rivers, infiltration galleries or collector wells may be constructed in suitable locales to fruitfully harness the base flow/ subsurface flow which otherwise goes as waste.
- Network hydrograph stations in the canal command areas should be strengthened and periodical water level measurements continued to monitor any alarming rise of water table.
- Not Growing of sugarcane and cash crops may be encouraged along the thin linear alluvial patches lying adjacent to major rivers where prolific ground water is available throughout the year.

8.0 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:

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.



8.1 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.

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.

9.0 DETAILS OF MINING LEASE OF ROAD METAL IN THE DISTRICT

Please refer Table in Annexure – I (A) & I (B)

10. DETAIL OF ROYALTY OR REVENUE RECEIVED IN LAST THREE YEARS (ROAD METAL):

SI No	Tahasil Name	Mineral	Royalty Collection		
			2021-22	2022-23	2023-24
1	Chitrakonda	Road Metal	₹ 69,93,738.00	₹ 74,74,118.00	₹ 64,33,778.00
2	Kalimela	Road Metal	₹ 25,41,436.00	₹ 1,10,47,288.00	₹ 47,39,414.00
3	Khairput	Road Metal	₹ 0.00	₹ 0.00	₹ 0.00
4	Kudumulugumma	Road Metal	₹ 2,11,858.00	₹ 1,73,766.00	₹ 1,88,656.00
5	Malkangiri	Road Metal	₹ 14,04,887.00	₹ 46,00,000.00	₹ 1,32,21,840.00
6	Mathili	Road Metal	₹ 0.00	₹ 0.00	₹ 0.00
7	Motu	Road Metal	₹ 0.00	₹ 54,65,837.00	₹ 10,00,000.00
	Total		₹ 1,11,51,919.00	₹ 2,87,61,009.00	₹ 2,55,83,688.00

11. DETAIL OF PRODUCTION OF ROAD METAL IN LAST THREE YEARS:

Sl. No	Name of the Tahasil	2021-22	2022-23	2023-24	Total Quantity (Cubic meter)
1	Kalimela	12570.67	23602.80	23602.80	59776.27
2	Khairput	Nil	Nil	Nil	Nil
3	Chittrakonda	16000.00	16000.00	16000.00	48000.00
4	Kudumulugumma	2816.00	2816.00	2816.00	8448.00
5	Malkangiri	11908.00	8026.00	8026.00	27960.00
6	Mathili	6600.00	6600.00	6600.00	19800.00
7	Motu	Nil	3040.00	3040.00	6080.00
GrandTotal		48,894.67	60,084.80	60,084.80	1,69,064.27

12. MINERAL MAP OF THE DISTRICT:

Nil

13. LIST OF LETTER OF INTENT (LOI) HOLDERS IN THE DISTRICT ALONG WITH ITS VALIDITY (MORRUM)

Please refer Table in Annexure – I (A) & I (B)

14. TOTAL MINERAL RESERVE AVAILABLE IN THE DISTRICT

Total mineral reserve of Road Metal 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.

Summary of Identified Road Metal Mineral Potential:

Please refer Table in Annexure – I (C) & I (C-a)

15. QUALITY / GRADE OF MINERAL AVAILABLE IN THE DISTRICT**Road Metal found in District: -**

Road Metal of the District is very much suitable for making of various construction purposes.

16. USE OF MINERAL:

Road Metal of the District is used mainly for road constructions, also used in various construction activities like house buildings.

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

As per data furnished by the Works Deptt.

Data furnished by R&B Malkangiri Division:

Sl. No.	Mineral Type	2023-24		Remarks
		Demand (CuM)	Supply (CuM)	
1	Road Metal	261874.195	261874.195	

Data furnished by RWS & S Malkangiri Division:

Sl. No.	Mineral Type	2021-22		2022-23		2023-24		Remarks
		Demand (CuM)	Supply (CuM)	Demand (CuM)	Supply (CuM)	Demand (CuM)	Supply (CuM)	
1	Road Metal	NA						

18. MAP OF EXISTING MINING LEASES IN THE DISTRICT:

Nil

19. DETAILS OF THE AREA OF WHERE THERE IS A CLUSTER OF MINING LEASES VIZ. NUMBER OF MINING LEASES, LOCATION (LATITUDE AND LONGITUDE)

Please refer Table in Annexure – III

20. DETAILS OF ECO-SENSITIVE AREA, IF ANY, IN THE DISTRICT:

Eco sensitive zone of Kondakameru wild life sanctuary is located within the District.

21. IMPACTS OF MINING ON ENVIRONMENT:

The most important environmental impact of mining projects are:

Acid mine drainage and contaminant leaching

Acid mine drainage is considered one of mining most serious threats to water resources. A mine with acid mine drainage has the potential for long-term devastating impacts on rivers, streams and aquatic life. If mine waste is acid generating, the impacts to fish, animals and plants can be severe. Many streams impacted by acid mine drainage have a pH value of 4 or lower – similar to battery acid. Plants, animals, and fish are unlikely to survive in streams such as this.

Transportation sources:

Transpiration sources of air pollutants include heavy vehicles used in excavation operations, cars that transport personnel at the mining site, and trucks that transport mining materials.

The level of polluting emissions from these sources depends on the fuel and conditions of the equipment. Even though individual emissions can be relatively small, collectively these emissions can be of real concern. In addition, mobile sources are a major source of particulate matter, carbon monoxide, and volatile organic compounds that contribute significantly to the formation of ground-level ozone

Stationary sources:

The main gaseous emissions are from combustion of fuels in power generation installations, and drying, roasting, and smelting operations. Many producers of precious metals smelt metal on-site, prior to shipping to off-site refineries. Typically, gold and silver are produced in melting/fluxing furnaces that may produce elevated levels of airborne mercury, arsenic, sulfur dioxide, and other metals

Fugitive emissions:

Common sources of fugitive emissions include: storage and handling of materials; mine processing; fugitive dust, blasting, construction activities, and roadways associated with mining activities; leach pads, and tailing piles and ponds; and waste rock piles. Sources and characteristics of fugitive emissions dust in mining operations vary in each case, as do their impacts. Impacts are difficult to predict and calculate but should be considered since they could be a significant source of hazardous air pollutants.

Noise and vibration:

Noise pollution associated with mining may include noise from vehicle engines, loading and unloading of rock into steel dumpers, chutes, power generation, and other sources. Cumulative impacts of shoveling, ripping, drilling, blasting, transport, crushing, grinding, and stock-piling can significantly affect wildlife and nearby residents.

Vibrations are associated with many types of equipment used in mining operations, but blasting is considered the major source. Vibration has affected the stability of infrastructures, buildings, and homes of people living near large-scale open-pit mining operations. According to a study commissioned by the European Union in 2000: "Shocks and vibrations as a result of blasting in connection with mining can lead to noise, dust and collapse of structures in surrounding inhabited areas. The animal life, on which the local population may depend, might also be disturbed."

22. REMEDIAL MEASURES TO MITIGATE THE IMPACT OF MINING ON THE ENVIRONMENT:

- Water sprinkling on haul road, loading and unloading points.
- Plantation along the safety zone and dump area.
- Providing dust masks to workers.
- Regular monitoring of ambient air quality.
- Provision of air conditioned cabin of Excavators and Dumpers.
- Regular and proper maintenance of working equipments.
- Periodic medical examination of the workers and organize medical camp in the area.
- Use Milli Second Delay Detonator in blasting operation.
- Provisions of ear plug to the workers.
- Regular training program to the mine workers and operators.

23. RECLAMATION OF MINED OUT AREA

Necessity of Reclamation & Rehabilitation:

- Exponential growth in mineral production since 1980.
- Mining activities causes physical, chemical, biological and socio-economic changes in the area.
- Surface mining activities disturb the original land profile.
- In India, mineral production comes mostly from open cast mines & hence Land degradation problems is of serious concern.
- An intricate, in-depth and site-specified techniques involving integrated approach is necessary.

Reclamation has three vital roles:

- i. **Reclamation** – Reclamation means return the mined-out land with useful life. It implies restoring the land to a form and productivity that is useful and in conformity with a prior land use. Reclamation always may not be a single- phase operation.

- ii. **Rehabilitation** – Rehabilitation is to bring back the degraded land to a normal stage by a special treatment. It is a process of taking some mitigation measures for disturbed environmental condition created through mining activities.
- iii. **Restoration** – Restoration is the process of returning the mined out land being fit to an acceptable environmental condition. However, the general acceptable meaning of the term is bringing the disturbed land to its original form. Restoration is often used to indicate that biological properties of soil are put back to what they were. This is a rare phenomenon.
- iv. When active mining ceases, mine facilities and the site are reclaimed and closed. The goal of mine site reclamation and closure should always be to return the site to a condition that most resembles the pre-mining condition. Mines that are notorious for their immense impact on the environment often made impacts only during the closure phase, when active mining operations ceased. These impacts can persist for decades and even centuries.

Mine reclamation and closure plans must describe in sufficient detail how the mining company will restore the site to a condition that most resembles pre-mining environmental quality; how it will prevent – in perpetuity – the release of toxic contaminants from various mine facilities (such as abandoned open pits and tailings impoundments); and how funds will be set aside to insure that the costs of reclamation and closure will be paid for.

Proposed future land use after reclamation:

a. Forestry, b. Recreation, c. Water Reservoir, d. Crop Land, e.residential/Commercial, f. Fish & wildlife Habitat, g. Undeveloped Land, h. Grazing/Pasture Land

Statutory requirement:

As per the Mineral Conservation Development Rule, 2017, the following rules must be bare in mind by the mine owner/agent/manager, which is a part of reclamation activities

Rule 22, Mine Closure Plan

Rule 23, Submission of Progressive Mine Closure Plan Rule 24, Submission of Final Mine Closure Plan

Rule 26, Responsibility of holder of mining lease Rule 27, Financial Assurance

Rule 35, Sustainable Mining

24. RISK ASSESSMENT AND DISASTER MANAGEMENT PLAN:

Mining activity because of the very nature of the operation, complexity of the systems, procedures and methods always involves some amount of hazards. Hazard identification and

risk analysis is carried for identification of undesirable events that can leads to a hazard, the analysis of hazard mechanism by which this undesirable event could occur and usually the estimation of extent, magnitude and likelihood of harmful effects. The activities which can cause high risk related to face stability and the person blasting the shots. It was observed that on a working face of the mine, there were large cracks and unsupported rocks were present, which can lead to a serious hazard and injure workers engaged in loading operation and machineries because of rock falls or slides. This type of condition turns out because improper dressing of the bench and improper supervision. To avoid the hazards due to fall of rocks the face must be examined, made suitable for working and the remedial measures must be taken to make it safe if there is any doubt that a collapse could take place. Working of the face should be in the direction considering the geology of the area such that face and quarry side remain stable. Another major risk identified in mines is due to the firing of explosive by an unqualified person. In the mines there is problem of fly rocks and the village is located close to the mine and so it is rated high as it can affect may people. Explosives by nature have the potential for the most serious and catastrophic accident. Planning of round of shots, holes correctly drilled, direction logged, weight of explosive suitable for good fragmentation are the few of the steps necessary to ensure its safe use and if the shots are not properly designed can result in misfires, early ignition and flying rocks. No person is allowed to use explosives without being properly trained in its handling. In the mine, a large numbers of heavy vehicles were in operation and the roads were not proper for haulage purpose. The haulage roads were not even and were not wide enough for the crossing purpose and hence the chances of hazards are very high. The main hazards arising from the use large earth moving vehicles are incompetent drivers, brake failure, lack of all-around visibility from the driver position, vehicle movements particularly reversing, roll over, and maintenance. Those most at risk are the driver and pedestrians likely to be struck by the vehicle, and drivers of smaller vehicles, which cannot be seen from the cabs of large vehicles. Edge protection is always necessary to prevent inadvertent movement over the edge of roadway or a bench. Seatbelt will protect driver in case of roll. Good maintenance and regular testing are necessary to reduce the possibility of brake failure. Access to the vehicles should always be restricted to those people necessary for the work in hand. The use of personal protective equipment and proper arrangements is essential to check if the person is wearing protective equipment or not. The personal protective equipment includes helmet, non-skid safety boots, safety glasses, earmuffs etc. The required personal protective equipment should be provided and used in a manner that protects the individual from injury. Few minor injuries which can be prevented

are slip, trip, or fall hazards; hazards due to rock falls and collapse of unstable rocks, atmosphere containing toxic or combustible gases; protects from chemical or hazardous material etc. A disaster management plan should be prepared for taking care of for any disaster. Other risk which are included in this category are noise, as it occurs and it can lead to permanent disability. There are problems related to road traffic in and out issuers; inappropriate exposure of moving machines; mechanical failure and because of large number of moving trucks and dumpers there is large quantity of dust present in roadways which affects the operators and can lead to accidents causing injury. They are in acceptable range because of precautions measures taken but no step is taken it can cause hazard hence steps should be taken to reduce the hazards such as for dust suppression system should be installed. Other problems like occurrence of lots of mosquitoes in the area due to unhygienic conditions which affect the human health causing malaria, dengue etc. and causing a person to be hospitalized.

Disaster in the mines like fires, explosions, entrapments, and inundations can occur any time, so emergency preparedness is a must. The Disaster management plan and risk assessment in the mines will include all sorts of above-mentioned emergency and the extent that this plan will be implemented will depend on the nature and scope of the emergency. The basic purpose of Disaster management plan and risk assessment to ensure that mine rescue and recovery activities are conducted safely for rescuer and survivors. According to MMR act 1961 a standard operating procedure should be drawn for involvement different category of staff and officers. The SOP should be updated periodically to reduce the chaos and response to the emergency should be quick and smooth. The responsible person should be familiar with his responsibility during the mock drills. One or two standby should be there to replace the person in Emergency situation. Rescue operations should not include the survivors for any assistance.

First Information of Disaster / Emergency should go to the attendance clerk on duty. Duties of attendance Clerk (Emergency Siren) the attendance clerk or other designated person should on getting information of major accident, sound a hooter or a siren immediately declaring a state of emergency at the mine and then to contact the manager and on his advice to call key personnel using the information listed in the Emergency Organization Chart. It is important that all telephone calls are recorded in a telephone log book. Duties of Other Officials should be displayed and handed over to all concerned. Copy the same should be kept at Manager's Office for ready reference. Establishment of Control Room at Unit Level,

Area Level and Company Level is essential. Control Room should keep the contact information about –

- Company Manager
- Company owner/ Administrative officer.
- District Administration
- Govt. Hospitals in Nearby Localities,
- Private Nursing Homes of Localities

Attendance roaster and duty charge register should be properly maintained so the record of missing people can be obtained.

25. DETAILS OF THE OCCUPATIONAL HEALTH ISSUE IN THE DISTRICT:

The persons employed in the mines are exposed to a number of hazards at work which adversely affect their health. Some of the important ones are dust, noise, heat, humidity, vibration etc. In recent times, there has been increasing awareness among mining industry and the workers about occupational diseases such as Coal Worker's Pneumoconiosis, Silicosis, Manganese Poisoning, Hearing Impairment etc. caused by exposure to health hazards at work. Almost all occupational diseases are known to cause permanent disablement and there is no effective treatment. However, most of the occupational diseases can be prevented by adopting proper occupational health measures and engineering control on airborne dust at workplace.

Following diseases have been notified as the diseases connected with mining operations for the purpose of sub-section (1) of Section 25 of the Mines Act, 1952:

S.R.O. 1306 dated the 21st July, 1952

1. Silicosis
2. Tuberculosis

Total Number of TB cases in Malkangiri District of last 5 years as per data furnished by CDMO Malkangiri

BLO CK & YEA R	CHITRAK ONDA	KALI MELA	KHAI RPUT	KORUK ONDA	MALKA NGIRI	MAT HILI	PO DIA	TOT AL
2019	168	192	70	281	210	167	102	1190
2020	124	206	60	218	197	103	127	1035
2021	125	218	66	226	242	92	101	1070
2022	143	228	95	260	247	183	128	1284
2023	136	229	94	258	244	136	116	1213

S.R. O. 2521 dated the 26th June, 1986

Cancer of lung or the stomach or the pleura and peritoneum (i.e. mesothelioma)

25 S.O. 399(E) dated 21st February, 2011

1. Noise Induced Hearing Loss
2. Contact Dermatitis caused by direct contact with chemical.
3. Pathological manifestations due to radium or radioactive substances

System of Detection of Occupational Diseases in Mines In order to detect occupational diseases the industry is required to conduct medical examinations and health surveillance of workers as per the provisions of Mines Act. The present efforts of mines management are concentrated on detection of silicosis, Pneumoconiosis and other notified diseases. Very little attention is paid to other occupational diseases. The essential features of health surveillance programme required to be carried out in mines are:

- (a) Initial Medical Examination of persons to be employed in mines.
- (b) Periodic Medical Examination once every five years. General physical examination, chest radiographs, lung function tests and audiometry.
- (c) Classification of chest radiographs of workers as per ILO Classification.
- (d) Medical examination within one year of superannuation. Evaluation of all cases of suspected pneumoconiosis by Pneumoconiosis Medical Board.
- (f) Maintenance of medical records till the person is in service and 10 years thereafter.

The cases of silicosis detected during health surveillance programme are referred to Pneumoconiosis Medical Board of the mining companies for evaluation and certification. If certified, the case is notified to the enforcement authority and evaluated for disability and payment of compensation. Many cases of silicosis and other pneumoconiosis go undetected and a large number of cases of silicosis are misdiagnosed due to lack of training of medical professionals.

26. PLANTATION GREEN BELT DEVELOPMENT IN RESPECT OF LEASE ALREADY GRANTED IN THE DISTRICT:

During mining operation green belt development through plantation is most important for environment safe guard, which should be supervision by mining department. Different type of species should be planted near lease periphery to keep environment clean at post mining period through reclamation. Where specific usefulness of land could be decided, afforestation is normally planned through the site could have been considered for better possibilities of land use.

27. 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 in situ 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.

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

List of Operational Rod Metal Sources in Malkangiri District

Sl no	Name of the Tahasil	Sl. No.	Name of the Quarry Lease	Name of the lessee	Address & Contact number of the Lessee	Mining Lease Grant order No & Date	Area of Mining Lease in (Hc)	Period for Mining Lease	Period of Mining Lease 1st/2nd	Date of Comment of Mining Operation	Status (working/Non working/te mp. Working for dispatch etc)	capture/ Non capture	Obtained Environmental Clearance(yes/No). If yes Letter No with Date of grant of EC	Location of the Minor lease(Longitude/Latitude)	Method of Mining(open cast /under ground)	Geological Reserve (MT/Cums)	Mincable Reserve (MT/Cums)		
1		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CHITRAKONDA																			
1	Chittrakonda	1	Chitapari Stone Quarry	Smt Suadevi Surana	At/PO- Malkangiri, Dist- Malkangiri	11252100 156Dt- 10.12.2021	Khata-134 Plot-1175/2 KISAM- Patharabani Area- 5.00 Ha	10.12.2021	09.12.2026		Operational		SEIAA 1207/01/2021 DT-30.06.2021	Latitudes-18°14'54.30484"N to 18°15'02.44987" N and Longitudes 82°02'15.91059"E to 82°02'16.01424"E	Open Cast	GR-2096062.9	MR-1382244.3		
2	Chittrakonda	2	Kamwada Stone Quarry	Sindri Parameswar Rao	At-Chidananda Street Malkangiri, PO- Malkangiri, Dist- Malkangiri	11252300 018 Dt- 28.01.2023	Khata-402 Plot-1717 KISAM-Pahad, AC-12.355 Ha- 5.0	28.01.2023	27.01.2028		Operational		SEIAA 1700/05/2021 DT-28.09.2021	Latitudes-18°14'12.06"N to 18°14'19.05" N and Longitudes 81°58'58.04"E to 81°59'07.00"E	Open Cast	GR-941360.4	MR-559397.7		
3	Chittrakonda	3	Arnabhata Stone Quarry	Smt Suadevi Surana	At/PO- Malkangiri, Dist- Malkangiri	11252200 117 Dt- 08.09.2022	Khata-87 Plot-88,89 KISAM-Parbat, Ha-1.81	8.09.2022	7.09.2027		Operational		SEIAA 1698/05/2021 DT-28.09.2021	Latitudes-18°07'54.48906"N to 18°07'59.56994" N and Longitudes 82°15'50.30014"E to 82°15'57.20439"E	Open Cast	GR-504194	MR-321881		
4	Chittrakonda	4	Antalguda Stone Quarry	Sri G.Nilaknta Rao	At-Kumutiguda Malkangiri, PO- Malkangiri, Dist- Malkangiri	11252100 125 Dt- 03.11.2021	Khata-31 Plot-1 KISAM-Parbat, Ha-3.0	3.11.2021	2.11.2026		Operational		SEIAA 1701/05/2021 DT-28.09.2021	Latitudes-18°12'00.17666"N to 18°12'09.06569" N and Longitudes 82°17'19.61248"E to 82°17'28.77875"E	Open Cast	GR-752121	MR-369018		
KALIMELA																			
5	Kalimela	1	Mangipalli Stone Quarry	Chava Venugopal	304, E-111, Road No-78, Jublee Hills, Hyderabad, AP-500033	11242200 260 Dt- 25.11.2022	Khata-287, Plot- 2331,KISAM-Parbat, Ha- 3.52	25.11.2022	24.11.2027		Operational		251860/219-MINB2/01-2022 Dt- 04.04.2022	Latitudes-18°06'37.20413"N to 18°06'41.86407" N and Longitudes 81°45'36.32778"E to 81°45'45.56199"E	Open Cast	GR-131076	MR-99450		
6	Kalimela	2	Anantapalli Stone Quarry	Chava Venugopal	304, E-111, Road No-78, Jublee Hills, Hyderabad, AP-500034	11242200 258 Dt- 25.11.2022	Khata-226, Plot- 252/2,KISAM-Pahada, AC- 12.355, Ha-5.0	25.11.2022	24.11.2027		Operational		244298/112-MINB2/12-2021 Dt- 18.02.2022	Latitudes-17°51'56.73"N to 17°51'53.59"N and Longitudes 81°34'24.57"E to 81°34'25.59"E	Open Cast	GR-520937.3	MR-306686.6		
7	Kalimela	3	Patakonda Stone Quarry	Suraj Masid	At/Po-Kalimela, Dist.-Malkangiri , Odisha	27.04.2022 Regd.no- 11242200 078	Khata-76, Plot- 122,KISAM-Patharabani, Ha- 4.50	27.04.2022	26.04.2027		Operational		238693/74-MINB2/11-2021 Dt- 18.02.2022	Latitudes-18°08'14.98"N to 18°08'11.48"N and Longitudes 81°50'03.92"E to 81°50'06.96"E	Open Cast	GR-112440	MR-68085		

8	Kalimela	4	Idikonda Stone Quarry	Sunil Somani	At-Chidananda Street, Main Road, At/Po-Malkangiri, Dist.-Malkangiri, Odisha	29.03.2022 2 Regd.no-112442200073	Khata-54, Plot-350/1, Kisam-Pahada, AC-10.5, Ha-4.25	29.03.2022	28.03.2027					Operational		238667/73-MINB2/11-2021 Dt.-18.02.2022	Latitudes-17°59'33.26873"N to 17°59'42.41430"N and Longitudes 81°44'06.69324"E to 81°44'11.85857"E	Open Cast	GR-1199984	MR-650997
9	Kalimela	5	Bhejngiwada Stone Quarry	Mesak Rabi Madri	At/Po/Ps-Podia, Dist.-Malkangiri, Odisha	23.02.2022 2 Regd.no-11242200046	Khata-629, Plot-43/1, Kisam-Patharbani, AC-11.11, Ha-4.50	23.02.2022	22.02.2027					Operational		239028/81-MINB2/11-2021 Dt.-01.02.2022	Latitudes-18°07'35.20768"N to 18°07'42.43954"N and Longitudes 81°53'35.68292"E to 81°53'46.02410"E	Open Cast	GR-1027292	MR-324934.2

MATHILI

10	Mathili	1	Challanguda Stone Quarry	Sunil Dey	At/Po-Kalimela, Dist.-Malkangiri, Odisha	11232200113 Dt.-29.01.2022	Khata-70, Plot-21, Kisam-Patharbani, Ha-0.465	29.01.2022	28.01.2027					Operational		SEIAA-1369/02-2021 Dt.-19.08.2021	Latitudes-18°29'31.28251"N to 18°29'34.06819"N and Longitudes 82°06'32.33810"E to 82°06'34.82568"E.	Open Cast		MR-5462
11	Mathili	2	Sardapat Stone Quarry	Pooja Gupta	At-Chandlii, Kotpad, Dist-Koraput	11232100637 dt.18.06.2021	Khata-98, Plot-1004, Kisam-Gramya Jangal, Ha-2.292	18.06.2021	17.06.2026					Operational		SEIAA-310/07-2020 Dt.08.07.2020	Latitudes-18°35'38.36377"N to 18°35'34.11961"N and Longitudes 82°09'5.69259"E to 82°09'11.41559"E.	Open Cast	GR-206425	MR-117835

KUDUMULUGUMMA

12	Kudumulugumma	1	Bhutajhola Stone Quarry	Jitendra Mohanty	At-DNK, PO-Malkangiri, Dist-Malkangiri	11252100150Dt-26.11.2021	Khata-10, Plot-52, Kisam-Patharbani, Ha-1.16	26.11.2021	25.11.2025					Operational		SEIAA-1143/01/2021 DT-24.05.2021	Latitudes-18°12'50.51976"N to 18°12'54.21387"N and Longitudes 82°06'37.40618"E to 82°06'44.96572"E	Open Cast	GR-113821.06	MR-71595.2
13	Kudumulugumma	2	Rampur Stone Quarry	Himansu Mohapatra	At/PO-Jeypore, Dist-Koraput	11252200108 Dt-29.07.2022	Khata-6, Plot-71, Kisam-Parbat, Ha-2.025	29.07.2022	28.07.2027					Operational		242726/194-MINB2/01/2022 DT-31.03.2022	Latitudes-18°20'39.51"N to 18°20'42.84"N and Longitudes 83°09'18.37"E to 83°09'25.22"E	Open Cast	GR-494052.3	MR-271850.4

MALKANGIRI																	
14	Malkangiri	1	Malkangiri Stone Quarry -B	Sri Abani Nayak	At-Chidananda Street, PO/PS- Malkangiri, Dist- Malkangiri	11232300 900 Dt- 16.09.202 3	Khata-1005, Plot- 5448,Kisam- PATTITA, Ha-2.0	16.0 15.09 9.20 .2028 23				Operational	270096/292- MINB2/06- 2022 Dt- 17.08.2022	Latitudes-18°21'30.85"N to 18°21'34.80" N and Longitudes 81°54'39.09"E to 81°54'44.98"E	Open Cast	GR-619814.2	MR-209946.2
15	Malkangiri	2	Kichivelly Stone Quarry	Pradeep Kumar Das	At/PO/PS- Nayapalli, Bhubaneswar, Dist- Khorda	11232200 496 Dt- 09.05.202 2	Khata-178, Plot- 545,Kisam- Patharbani, Ha- 3.10	09.0 08.05 5.20 .2027 22				Operational	226117/37- MINB2/08- 2021 Dt- 31.12.2021	Latitudes-18°16'24.34"N to 18°16'32.20" N and Longitudes 81°57'3.99"E to 81°57'09.89"E	Open Cast	GR-504754	MR-121358.7
16	Malkangiri	3	Mariwada Stone Quarry	Lalit Somani	Chidananda Street, At/Po/Dist- Malkangiri, Odisha	11232400 127 Dt- 07.02.202 4	Khata-570, Plot- 1311,Kisam- Parbata, Ha- 2.0	07.0 06.02 2.20 .2029 24				Operational	274878/1203- MINB2/10- 2022 07.02.2023	Latitudes-18°14'15.66801"N to 18°14'23.28864" N and Longitudes 81°59'08.71203"E to 81°59'16.12167"E	Open Cast	GR-193914	MR-85058.3
17	Malkangiri	4	Malkangiri Stone Quarry -A	Sindhri Parmeswar Rao	At-Chidananda Street Malkangiri, PO- Malkangiri, Dist- Malkangiri	11232200 264 Dt- 10.03.202 2	Khata-1005, Plot-5446, 5447,Kisam- Patita, Ha-3.0	10.0 09.03 3.20 .2027 222				Operational	237867/63- MINB2/11- 2021 09.11.2021	Latitudes-18°21'11.68"N to 18°21'23.45" N and Longitudes 81°54'31.55"E to 81°54'.48.99"E	Open Cast	GR-732076.7	MR-249933.6
18	Malkangiri	5	Dudameta Stone Quarry	Simanchal Sabat	At/PO/PS- Malkangiri, Dist- Malkangiri	11232100 644 Dt- 21.06.202 1	Khata-110, Plot-493, 5447,Kisam- Pahada Nandapahad, Ha-2.88	21.0 20.06 6.20 .2026 21				Operational	SEIAA-308/07- 2020 Dt- 19.01.2021	Latitudes-18°14'33.82"N to 18°14'39.31" N and Longitudes 81°55'49.72"E to 81°55'.59.24"E	Open Cast	GR-464003.8	MR-251061.3
19	Malkangiri	6	Korukonda Stone Quarry-B	Simanchal Sabat	At/PO/PS- Malkangiri, Dist- Malkangiri	11232100 282 Dt- 10.03.202 1	Khata- 623(AAA), Plot- 1,918,Kisam- Pahada, Ha-2.0	10.0 09.03 3.20 .2026 21				Operational	SEIAA-299/07- 2020 Dt- 15.01.2021	Latitudes-18°16'19.19"N to 18°16'21.96" N and Longitudes 81°58'38.00"E to 81°58'.35.94"E	Open Cast	GR-301738.1	MR-158549.3
MOTU																	
20	Motu	1	Parsanpalli Stone Quarry	Pooja Gupta	At-Civil Line Lal Bag Jagdalpur Dist Baster Chhatisgarh- 494001	11242200 113 Dt- 22.06.202 2	Khata-147 A.A.A, Plot- 147 A.A.A,Kisam- Patharabani, Ha-5.0	22.0 21.06 6.20 .2027 22				Operational	238688/146- MINB2/12- 2021 Dt- 08.03.2022	Latitudes-18°16'01.14403"N to 18°16'08.71643" N and Longitudes 81°35'32.93122"E to 81°35'40.29803"E	Open Cast	GR-737651.3	MR-421173.0

N.B: The Geological resource and Mineable reserve is as per approved mining plan by Authorized officers.

ADDITIONAL INFORMATION AS SOUGHT FOR VIDE LETTER NO. 4605 /SEIAA DT. 25.05.2022 ON DISTRICT SURVEY REPORT OF OPERATIONAL ROAD METAL SOURCES Annexure - I (A-a)

Sl no	Name of the Tahasil	Sl. No.	Name of the Quarry Lease	Status	Name of the lessee	Address & Contact number of the Lessee	Mining Lease Grant order No & Date	Area of Mining Lease in (Hc)	Period for Mining Lease	Obtained Environmental Clearance(Yes/No), if yes Letter No with Date of grant of EC	Location of the Minor lease (Longitude/Latitude)	Method of Mining (open cast /under ground)	Geological Reserve (MT/Cums)	Mineable Reserve (MT/Cums)	Distance from Nearest Road/Rail way Bridge	Distance from Nearest Stone Mining Source	Distance from village Road	Distance from School, Temple etc.	Distance from nearest Eco Sensitive Zone/Wild life Sanctuary	Whether the site is nonforest land for any forest Kissam	DLC status of the Source	Presently feasible or needs extinction	Whether there is any cluster situation	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25

CHITRAKONDA

1	Chittrakonda	1	Arabhata Stone Quarry	Operational	Smt Suadevi Surana	At/PO- Malkangiri, Dist- Malkangiri	1125200117 Dt-08.09.2022	1.81	08.09.2022	07.09.2027	SEIAA 1698/05/2021 DT-28.09.2021	Latitudes-18°07'54.48906"N to 18°07'59.56994" N and Longitudes 82°15'50.30014"E to 82°15'57.20439"E	Open Cast	GR-504194	MR-321881	4.7 km	8 KM	0.2 km	0.6 km	188.9 km	Non-Forest	NA	Feasible	NO
2	Chittrakonda	2	Antalguda Stone Quarry	Operational	Sri G.Niaknta Rao	At-Kumutiguda Malkangiri, PO- Malkangiri, Dist- Malkangiri, Dist- Malkangiri	11252100125 Dt-03.11.2021	3.00	03.11.2021	02.11.2026	SEIAA 1701/05/2021 DT-28.09.2021	Latitudes-18°12'00.17666"N to 18°12'09.06569" N and Longitudes 82°17'19.61248"E to 82°17'28.77875"E	Open Cast	GR-752121	MR-369018	5.4 km	8 KM	0.3 km	1.3 km	180.9 km	Non-Forest	NA	Feasible	NO
3	Chittrakonda	3	Chitpari Stone Quarry	Operational	Smt Suadevi Surana	At/PO- Malkangiri, Dist- Malkangiri	11252100156Dt-10.12.2021	5.00	10.12.2021	09.12.2026	SEIAA 1207/01/2021 DT-30.06.2021	Latitudes-18°14'54.30484"N to 18°15'02.44987" N and Longitudes 82°02'15.91059"E to 82°02'16.01424"E	Open Cast	GR-2096062.9	MR-1382244.3	2.6 km	3 km	0.5 km	0.9 km	189.4 km	Non-Forest	NA	Feasible	NO
4	Chittrakonda	4	Kamwada Stone Quarry	Operational	Sindri Parameswar Rao	At-Chidananda Street Malkangiri, PO- Malkangiri, Dist- Malkangiri	11252300018 Dt-28.01.2023	5.00	28.01.2023	27.01.2028	SEIAA 1700/05/2021 DT-28.09.2021	Latitudes-18°14'12.06"N to 18°14'19.05" N and Longitudes 81°58'58.04"E to 81°59'07.00"E	Open Cast	GR-941360.4	MR-559397.7	1.8 km	0.3 km	0.2 km	0.6 km	193.8 km	Non-Forest	NA	Feasible	YES

KALIMELA

5	Kalimela	1	Mangipalli Stone Quarry	Operational	Chava Venugopal	304, E-111, Road No-78, Jublee Hills, Hyderabad, AP-500033	11242200260 Dt- 25.11.2022	3.52	25.11.2022	24.11.2027	251860/219-MINB2/01-2022 Dt-04.04.2022	Latitudes-18°06'37.20413"N to 18°06'41.86407" N and Longitudes 81°45'36.32778"E to 81°45'45.56199"E	Open Cast	GR-131076	MR-99450	1.5 km	6.8 KM	1 km	1.7 km	219 km	Non-Forest	NA	Feasible	NO
6	Kalimela	2	Anantapalli Stone Quarry	Operational	Chava Venugopal	304, E-111, Road No-78, Jublee Hills, Hyderabad, AP-500034	11242200258 Dt- 25.11.2022	5.00	25.11.2022	24.11.2027	244298/112-MINB2/12-2021 Dt-18.02.2022	Latitudes-17°51'56.73"N to 17°51'53.59"N and Longitudes 81°34'24.57"E to 81°34'25.59"E	Open Cast	GR-520937.3	MR-306686.6	0.51 km	2.2 KM	0.3 km	0.9 km	252.5 km	Non-Forest	NA	Feasible	NO
7	Kalimela	3	Patakonda Stone Quarry	Operational	Suraj Masid	At/Po-Kalimela, Dist.-Malkangiri, Odisha	27.04.2022 Regd.no-11242200078	4.50	27.04.2022	26.04.2027	238693/74-MINB2/11-2021 Dt-18.02.2022	Latitudes-18°08'14.98"N to 18°08'11.48"N and Longitudes 81°50'03.92"E to 81°50'06.96"E	Open Cast	GR-112440	MR-68085	4.3 km	0.51 km	0.4 km	0.9 km	211.8 km	Non-Forest	NA	Feasible	NO
8	Kalimela	4	Idikonda Stone Quarry	Operational	Sunil Somani	At-Chidananda Street, Main Road, At/Po-Malkangiri, Dist.-Malkangiri, Odisha	29.03.2022 Regd.no-112442200073	4.25	29.03.2022	28.03.2027	238667/73-MINB2/11-2021 Dt-18.02.2022	Latitudes-17°59'33.26873"N to 17°59'42.41430"N and Longitudes 81°44'06.69324"E to 81°44'11.85857"E	Open Cast	GR-1199984	MR-650997	3 km	3.2 km	0.8 km	1.2 km	231 km	Non-Forest	NA	Feasible	NO
9	Kalimela	5	Bhejangiwada Stone Quarry	Operational	Mesak Rabi Madri	At/Po/PS-Podia, Dist.-Malkangiri, Odisha	23.02.2022 Regd.no-11242200046	4.50	23.02.2022	22.02.2027	239028/81-MINB2/11-2021 Dt-01.02.2022	Latitudes-18°07'35.20768"N to 18°07'42.43954"N and Longitudes 81°53'35.68292"E to 81°53'46.02410"E	Open Cast	GR-1027292	MR-324934.2	1.1 km	6.1 km	0.4 km	1 km	209.2 km	Non-Forest	NA	Feasible	NO

MATHILI

10	Mathili	1	Challanguda Stone Quarry	Operational	Sunil Dey	At/Po-Kalimela, Dist.-Malkangiri, Odisha	11232200113 Dt.-29.01.2022	0.47	29.01.2022	28.01.2027	SEIAA-1369/02-2021 Dt.-19.08.2021	Latitudes-8°29'31.28251"N to 18°29'34.06819"N and Longitudes 82°06'32.33810"E to 82°06'34.82568"E.	Open Cast	NA	NA	2.9 km	9 km	0.2 km	1.3 km	163 km	Non-Forest	NA	Feasible	NO
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11	Mathili	2	Sardapat stone quarry	Operational	Puja Gupta	At-Chandilli, PO-Kotpad, Dist-Koraput	11232100637 dt.18.06.21	2.29	18.06.21	17.06.26	SEIAA-310/07-2020 Dt.08.07.2020	Latitudes-18°35'38.36377"N to 18°35'34.11961"N and Longitudes 82°09'5.69259"E to 82°09'11.41559"E.	Open Cast	206425	117835	0.2 km	1 km	0.2 km	1.8 km	143 km	Forest	Feasible	NO	
KUDUMULUGUMMA																								
12	Kudumuluguma	1	Bhutajhola Stone Quarry	Operational	Jitendra Mohanty	At-DNK, PO-Malkangiri, Dist-Malkangiri	11252100150Dt-26.11.2021	1.16	26.11.2021	25.11.2025	SEIAA 1143/01/2021 DT-24.05.2021	Latitudes-18°12'50.51976"N to 18°12'54.21387" N and Longitudes 82°06'37.40618"E to 82°06'44.96572"E	Open Cast	GR-113821.06	MR-71595.2	5.7 km	7.6 km	0.4 km	0.9 km	188.6 km	Non-Forest	NA	Feasible	NO
13	Kudumuluguma	2	Rampur Stone Quarry	Operational	Himansu Mohapatra	At/PO-Jeypore, Dist-Koraput	11252200108 Dt-29.07.2022	2.03	29.07.2022	28.07.2027	242726/194-MINB2/01/2022 2 DT-31.03.2022	Latitudes-18°20'42.54645"N to 18°20'38.96363" N and Longitudes 82°09'22.36936"E to 82°09'15.95339"E	Open Cast	GR-494052.3	MR-271850.4	1.1 km	2.9 km	0.5 km	1.0 km	173.6 km	Non-Forest	NA	Feasible	NO
MALKANGIRI																								
14	Malkangiri	1	Malkangiri Stone Quarry -B	Operational	Sri Abani Nayak	At-Chidananda Street, PO/PS-Malkangiri, Dist-Malkangiri	11232300900 Dt-16.09.2023	2.00	16.09.2023	15.09.2028	270096/292-MINB2/06-2022 Dt-17.08.2022	Latitudes-18°21'30.85"N to 18°21'34.80" N and Longitudes 81°54'39.09"E to 81°54'44.98"E	Open Cast	GR-619814.2	MR-209946.2	1 km	0.6 km	0.4 km	1.8 km	187.5 km	Non-Forest	NA	Feasible	NO
15	Malkangiri	2	Kichivelly Stone Quarry	Operational	Pradeep Kumar Das	At/PO/PS-Nayapalli, Bhubaneswar, Dist-Khorda	11232200496 Dt-09.05.2022	3.10	09.05.2022	08.05.2027	226117/37-MINB2/08-2021 Dt-31.12.2021	Latitudes-18°16'24.34"N to 18°16'32.20" N and Longitudes 81°57'3.99"E to 81°57'09.89"E	Open Cast	GR-504754	MR-121558.7	1.4 km	2.8 km	0.4 km	0.9 km	192.6 km	Non-Forest	NA	Feasible	NO
16	Malkangiri	1	Mariwada Stone Quarry	Operational	Lalit Somani	At-Chidananda Street Malkangiri, PO- Malkangiri, Dist-Malkangiri	11232400127 Dt-07.02.2024	2.00	07.02.2024	06.02.2029	274878/1203-MINB2/10-2022 07.02.2023	Latitudes-18°14'15.66801"N to 18°14'23.28864" N and Longitudes 81°59'08.71203"E to 81°59'16.12167"E	Open Cast	GR-193914	MR-85058.3	1.2 km	0.3 km	0.1 km	0.9 km	193.5 km	Non-Forest	NA	Feasible	YES
17	Malkangiri	2	Malkangiri Stone Quarry -A	Operational	Sindhri Parmeswar Rao	At-Chidananda Street Malkangiri, PO- Malkangiri, Dist-Malkangiri	11232200264 Dt-10.03.2022	3.00	10.03.2022	09.03.2027	237867/63-MINB2/11-2021 09.11.2021	Latitudes-18°21'11.68"N to 18°21'23.45" N and Longitudes 81°54'31.55"E to 81°54'48.99"E	Open Cast	GR-732076.7	MR-249933.6	0.7 km	0.6 km	0.2 km	1.5 km	188.1 km	Non-Forest	NA	Feasible	NO
18	Malkangiri	3	Dudameta Stone Quarry	Operational	Simanchal Sabat	At/PO/PS-Malkangiri, Dist-Malkangiri	11232100644 Dt-21.06.2021	2.88	21.06.2021	20.06.2026	SEIAA-308/07-2020 Dt-19.01.2021	Latitudes-18°14'33.82"N to 18°14'39.31" N and Longitudes 81°55'49.72"E to 81°55'59.24"E	Open Cast	GR-464003.8	MR-251061.3	1.9 km	3.9 km	0.1 km	1.1 km	196.3 km	Non-Forest	NA	Feasible	NO
19	Malkangiri	4	Korukunda Stone Quarry-B	Operational	Simanchal Sabat	At/PO/PS-Malkangiri, Dist-Malkangiri	11232100282 Dt-10.03.2021	2.00	10.03.2021	09.03.2026	SEIAA-299/07-2020 Dt-15.01.2021	Latitudes-18°16'19.19"N to 18°16'21.96" N and Longitudes 81°58'38.00"E to 81°58'35.94"E	Open Cast	GR-301738.1	MR-158549.3	0.8 km	2.8 km	0.3 km	1.2 km	190.9 km	Non-Forest	NA	Feasible	NO
MOTU																								
20	Motu	1	Parsanpalli Stone Quarry	Operational	Pooja Gupta	At-Civil Line Lal Bag Jagdapur Dist Baster Chhatisgarh-494001	11242200113 Dt-22.06.2022	5	22.06.2022	21.06.2027	238688/146-MINB2/12-2021 Dt-08.03.2022	Latitudes-18°16'01.14403"N to 18°16'08.71643" N and Longitudes 81°35'32.93122"E to 81°35'40.29803"E	Open Cast	GR-737651.3	MR-421173.0	3.6 km	24.8 km	0.2 km	1.7 km	217.5 km	Non-Forest	NA	Feasible	NO

N.B. Geological resource and Mineable reserve is as per approved mining plan

List of Non-Operational Road Metal Sources in Malkangiri District

Sl no	Name of the Tahasil	Sl. No.	Name of the Quarry Lease	Name of the lessee	Address & Contact number of the Lessee	Mining Lease Grant order No & Date	Area of Mining Lease in (Hc)	Period for Mining Lease		Period of Mining Lease 1st/ 2nd renewal		Date of Commence of Mining Operation	Status (working /Non working/te mp. Working for dispatch etc	Obtained Environmental Clearance (yes/No). If yes Letter No with Date of grant of EC	Location of the Minor lease(Longitude/Latitude)	Method of Mining (open cast /Under ground)	Geological Reserve (MT/Cums)	Mineable Reserve (MT/Cums)	
								From	To	From	To								
1		2						9	10	11	12	13	14	15	16	17	18	19	20

CHITRAKONDA

1	Chitrakonda	1	Malguda Stone Quarry	NA	NA	NA	Khata No-68 Plot No-720 Kissam-Parbata, Ha- 0.810	NA	NA	NA	NA	NA	Non-operational	NA	Latitudes-18°07'31.73631"N to 18°07'36.10841"N and Longitudes 82°06'13.26108"E to 82°06'15.74292"E	Open Cast	GR-89299.8	MR-43351.2
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KALIMELA

2	Kalimela	1	Kuasiguda Stone Quarry-I	NA	NA	NA	Khata-103 (AAA), Plot-725/3, Kisa m-Parbat, Ha-3.690	NA	NA	NA	NA	NA	Non-operational	NA	Latitudes-18°03'38.13229"N to 18°03'42.01676"N and Longitudes 81°43'18.56643"E to 81°43'23.20506"E	Open Cast	GR-628425	MR-357264
3	Kalimela	2	Kuasiguda Stone Quarry-II	NA	NA	NA	Khata-103 (AAA), Plot-725/2, Kisa m-Parbat, Ha-0.81	NA	NA	NA	NA	NA	Non-operational	NA	Latitudes-18°03'37.92368"N to 18°03'42.00545"N and Longitudes 81°43'23.18590"E to 81°43'26.20031"E	Open Cast	GR-75600	MR-27075.6

MALKANGIRI

4	Malkangiri	1	Dhariguda Stone Quarry A	NA	Latitudes- 18°16'21.731"N to 18°16'23.31" N and Longitudes 81°50'42.54"E to 81°50'.43.14"E	Open Cast	GR- 297976.5	MR- 242100										
5	Malkangiri	2	Dhariguda Stone Quarry B	NA	Latitudes- 18°16'43.15"N to 18°16'50.82" N and Longitudes 81°50'21.82"E to 81°50'.28.34"E	Open Cast	GR- 707162.9	MR- 438247.4										
6	Malkangiri	3	Pedawada Stone Quarry	NA	Latitudes- 18°22'49.81940"N to 18°22'42.08424" N and Longitudes 82°05'45.70623"E to 82°05'.38.58013"E	Open Cast	GR- 649417.5	MR- 291060										
7	Malkangiri	4	Rengabandha Stone Quarry	NA	Latitudes- 18°22'36.17843"N to 18°22'41.71633" N and Longitudes 81°48'03.71844"E to 81°48'.10.11267"E	Open Cast	NA	NA										
8	Malkangiri	5	Pedakonda Stone Quarry	NA	Latitudes- 18°28'24.76533"N to 18°28'29.21968" N and Longitudes 81°56'35.24777"E to 81°56'.42.47753"E	Open Cast	NA	NA										

9	Malakangiri	6	Gandhipalli- Stone Quarry-B	NA	Non- operationa l		NA	Latitudes- 18°22'46.66736"N to 18°22'26.55070" N and Longitudes 81°51'07.25923"E to 81°51'14.35193"E	Open Cast	GR- 739527.5	MR-66766								
10	Malakangiri	7	Gandhipalli Stone Quarry- A	NA	Non- operationa l		NA	Latitudes- 18°22'41.15188"N to 18°22'49.33247" N and Longitudes 81°50'58.76656"E to 81°51'04.25787"E	Open Cast	GR- 590406	MR-96083								

N.B: The Geological resource and Mineable reserve is as per approved mining plan by Authorized officers.

ADDITIONAL INFORMATION AS SOUGHT FOR VIDE LETTER NO. 4605 /SEIAA DT. 25.05.2022 ON DISTRICT SURVEY REPORT OF NON OPERATIONAL ROAD METALSOURCES

Annexure - I (B-a)

Sl. no	Name of the Tahasil	Sl. No.	Name of the Quarry Lease	Status	Name of the lessee	Address & Contact number of the Lessee	Mining Lease Grant order No & Date	Area of Mining Lease in (Hc)	Period for Mining Lease	Obtained Environmental Clearance(Yes/No). if yes Letter No with Date of grant of EC	Location of the Minor lease (Longitude/Latitude)	Method of Mining/open cast /under ground)	Geological Reserve (MT/Cums)	Mineable Reserve (MT/Cums)	Distance from Nearest Road/Rail way Bridge	Distance from Nearest Stone Mining Source	Distance from village Road	Distance from School, Temple etc.	Distance from nearest Eco Sensitive Zone/Wild life Sanctuary	Whether the site is nonforest land for any forest Kissam	DLC status of the Source	Presently feasible or needs extinction	Whether there is any cluster situation		
1		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25

CHITRAKONDA

1	Chittrakonda	1	Malguda Stone Quarry	non operational				0.81			Latitudes-18°07'36.13585"N to 18°07'31.73631" N and Longitudes 82°06'13.38410"E to 82°06'13.26108"E	Open Cast	89299.8	43351.2	1.0 km	12 km	0.175 km	1.2 km	201 km	Non-Forest	NA	Feasible	NO
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KALIMELA

2	Kalimela	1	Kuasiguda Stone Quarry-I	non operational				3.69			Latitudes-18°03'38.13229"N to 18°03'42.01676"N and Longitudes 81°43'18.56643"E to 81°43'23.20506"E	Open Cast	NA	NA	1.5 km	0.1 km	0.1 km	1 km	225.8 km	Non-Forest	NA	Feasible	YES
3	Kalimela	2	Kuasiguda Stone Quarry-II	non operational				0.81			Latitudes-18°03'37.92368"N to 18°03'42.00545"N and Longitudes 81°43'23.18590"E to 81°43'26.20031"E	Open Cast	GR-75600	MR-27075.6	1.4 km	0.1 km	0.1 km	0.9 km	225.8 km	Non-Forest	NA	Feasible	YES

MALKANGIRI

4	Malkangiri	1	Dhariguda Stone Quarry A	non operational				4.534			Latitudes-18°16'21.731"N to 18°16'23.31" N and Longitudes 81°50'42.54"E to 81°50'43.14"E	Open Cast	GR-297976.5	MR-242100	1.4 km	0.9 km	0.2 km	1.3 km	199.3 km	Non-Forest	NA	Feasible	NO
5	Malkangiri	2	Dhariguda Stone Quarry B	non operational				4.219			Latitudes-18°16'43.15"N to 18°16'50.82" N and Longitudes 81°50'21.82"E to 81°50'28.34"E	Open Cast	GR-707162.9	MR-438247.4	1.7 km	0.9 km	0.1 km	1.2 km	199.2 km	Non-Forest	NA	Feasible	NO
6	Malkangiri	3	Pedawada Stone Quarry	non operational				4.300			Latitudes-18°22'49.81940"N to 18°22'42.08424" N and Longitudes 82°05'45.70623"E to 82°05'38.58013"E	Open Cast	GR-649417.5	MR-291060	1.8 km	3.2 km	0.4 km	0.7 km	173.9 km	Non-Forest	NA	Feasible	NO
7	Malkangiri	4	Rengabandha Stone Quarry	non operational				2.505			Latitudes-18°22'36.17843"N to 18°22'41.71633" N and Longitudes 81°48'03.71844"E to 81°48'10.11267"E	Open Cast	NA	NA	2 km	5.1 km	0.9 km	2.6 km	193.6 km	Non-Forest	NA	Feasible	NO
8	Malkangiri	5	Pedakonda Stone Quarry	non operational				2.836			Latitudes-18°28'24.76533"N to 18°28'29.21968" N and Longitudes 81°56'35.24777"E to 81°56'42.47753"E	Open Cast	NA	NA	1.7 km	8.9 km	1 km	1.5 km	175.6 km	Non-Forest	NA	Feasible	NO
9	Malkangiri	6	Gandhipalli-B Stone Quarry	non operational				5.000			Latitudes-18°22'46.66736"N to 18°22'26.55070" N and Longitudes 81°51'07.25923"E to 81°51'14.35193"E	Open Cast	NA	NA	0.51 km	0.3 km	0.3 km	0.8 km	189.7 km	Non-Forest	NA	Feasible	YES
10	Malkangiri	7	Gandhipalli Stone Quarry-A	non operational				3.983			Latitudes-18°22'41.15188"N to 18°22'49.33247" N and Longitudes 81°50'58.76656"E to 81°51'04.25787"E	Open Cast	NA	NA	0.5 km	0.3 km	0.2 km	0.7 km	190 km	Non-Forest	NA	Feasible	YES

N.B. Geological resource & Mineable reserve is as per approved mining plan

DETAIL INFORMATION ON NEW SOURCE OF ROAD METAL (STONE) IN RESPECT OF MALKANGIRI DISTRICT

ANNEXURE - I (C)

LIST OF NEW SOURCE OF MINOR MINERALS (ROAD METAL)

Sl no	Name of the Tahasil	Sl. No.	Name of the Quarry Lease	Name of the lessee	Address & Contact number of the Lessee	Mining Lease Grant order No & Date	Area of Mining Lease in (Hc)	Period for Mining Lease		Period of Mining Lease 1st/ 2nd renewal		Date of Commencement of Mining Operation	Status (working /Non working/tem p. Working for dispatch etc	captive/ Non captive	Obtained Environmental Clearance(yes/ No). If yes Letter No with Date of grant of EC	Location of the Minor lease(Longitude/Latitude)	Method of Mining(open cast /under ground)	Geologic Reserve (MT/Cum s)	Mineable Reserve (MT/Ccums)
								From	To	From	To								
1		2	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	Malkangiri	1	Dudimetla Stone Quarry	NA	NA	NA	Khata-163 Plot-1486, Kism-Pahada, Ha -5.00	NA	NA	NA	NA	NA	NA	NA	NA	Latitudes- 18°10'59.45980"N to 18°11'07.74734" N and Longitudes 81°52'28.32968"E to 81°52'36.22373"E	Open Cast	NA	NA
2	Malkangiri	2	Mauliguda Stone Quarry	NA	NA	NA	Khata-34 Plot-302, Kism- Patharabani, Ha -5.00	NA	NA	NA	NA	NA	NA	NA	NA	Latitudes- 18°27'39.68879"N to 18°27'49.27564" N and Longitudes 81°56'32.12769"E to 81°56'44.91253"E	Open Cast	NA	NA
3	Kudumuluguma	3	Parakanmala Stone Quarry	NA	NA	NA	Khata-335, Plot-2058, Kism-Pahada, Ha -2.400	NA	NA	NA	NA	NA	NA	NA	NA	Latitudes- 18°21'44.73512"N to 18°21'52.46728" N and Longitudes 82°07'11.42273"E to 82°07'18.00575"E	Open Cast	NA	NA
4	Kudumuluguma	4	Tekaguda Stone Quarry	NA	NA	NA	Khata-86, Plot-313, Kism-Pahada, Ha -1.126	NA	NA	NA	NA	NA	NA	NA	NA	Latitudes- 18°22'10.54852"N to 18°22'14.95490" N and Longitudes 82°08'46.31306"E to 82°08'50.66033"E	Open Cast	NA	NA
5	Motu	5	Peta Stone Quarry-I	NA	NA	NA	Khata-119, Plot-177, Kism- Patharabani, Ha -4.300	NA	NA	NA	NA	NA	NA	NA	NA	Latitudes- 17°55'03.29859"N to 17°55'10.61401" N and Longitudes 81°27'44.96854"E to 81°27'53.51404"E	Open Cast	NA	NA
6	Motu	6	Peta Stone Quarry-II	NA	NA	NA	Khata-119, Plot-327, Kism- Patharabani, Ha -5.00	NA	NA	NA	NA	NA	NA	NA	NA	Latitudes- 17°54'47.94554"N to 17°54'57.64382" N and Longitudes 81°28'21.30865"E to 81°28'27.17084"E	Open Cast	NA	NA
7	Kalimela	7	Jakalgandhi Stone Quarry	Binay Ray	At/Po- Kalimela, Malkangiri, PIN764047, Odisha	NA	Khata-135, Plot-550, Kism- Pattharabani, AC-9.711, Ha-3.93	NA	NA	NA	NA	NA	NA	NA	NA	Latitudes- 18°00'51.96225"N to 18°00'59.20571" N and Longitudes 81°42'57.41154"E to 81°43'08.58168"E	Open Cast	GR-426520	MR-342657

8	Kalimela	8	Dopenkonda Stone Quarry	Sindiri Sandeep	At/Po- Malkangiri, Odisha	NA	Khata-36, Plot-381, Kisam-Patharbani, Ha -4.080	NA	Open Cast	GR- 349380	MIR- 276165										
9	Kalimela	9	Nalagunthi Stone Quarry	NA	NA	NA	Khata-354, Plot-298, Kisam-Patharbani, Ha -2.005	NA	Open Cast	NA	NA										
10	Kalimela	10	Bhejangiwada Stone Quarry- B	NA	NA	NA	Khata-629, Plot-43, Kisam-Patharbani, Ha -0.49	NA	Open Cast	NA	NA										
11	Mathili	11	Sandhimunda Stone Quarry	NA	NA	NA	Khata-10, Plot-66/1, Kisam-Patita, Ha -5.00	NA	Open Cast	NA	NA										
12	Mathili	12	Sindhabela Stone Quarry	NA	NA	NA	Khata-290, Plot-370/1, Kisam-Patita, Ha -5.00	NA	Open Cast	NA	NA										
13	Chitrakonda	13	Nilakhamar Stone Quarry	NA	NA	NA	Khata-471, Plot-2794, Kisam-Pahada, Ha -2.00	NA	Open Cast	NA	NA										
14	Chitrakonda	14	Potrel Stone Quarry	NA	NA	NA	Khata-420, Plot-1384, Kisam-Parbat, Ha -5.00	NA	Open Cast	NA	NA										
15	Chitrakonda	15	Kamwda Stone Quarry- B	NA	NA	NA	Khata-402, Plot-1642, Kisam-Pahada, Ha -5.00	NA	Open Cast	NA	NA										

N.B: The Geological resource and Mineable reserve is tentative. The final geological resource and mineable reserve will be determined after boundary fixation by DGPS survey and approval of Mining Plan.

DETAIL INFORMATION ON SPECIFIED MINOR MIENRALS IN RESPECT OF MALKANGIRI DISTRICT

1	2	3	4	5	6	7	8	9	10	13	14	15	16	17	18	19	20	21	22
SL NO	NAME OF SOURCE	MOUZA	STATUS	Khata No.	Plot No.	kisam	Name Of The Tentant	AREA IN AC	AREA IN HA	NAME OF MINOR MINERAL	NAME OF LESSEE	ADDRESS & CONTACT NO OF LESSEE	DATE AND REGISTRATION NO	PERIOD OF LEASE	NO & DATE OF GRANT OF ENV	NAME OF SUCCESSFUL BIDDER	ADDRESS & CONTACT NO OF SUCCESSFUL BIDDER	Location of the Mining Lease (Latitude/Longitude)	RESERVE IN E IN CUM AS PER MINING
1	Peta Decorative Stone Mines-1	Peta	Running	119	4/P, 7/P	NA	Ch. Venugopal	48	19.425	Decorative Stone	Ch Venugopal	HIG-1, Phase-1, BDA Colony, Pokhariput, Bhubaneswar-751020	NA	07.06.2018 to 20.06.2048	NA	Ch Venugopal	HIG-1, Phase-1, BDA Colony, Pokhariput, Bhubaneswar-751020	Peta Latitude-17°55'00" to 17°52'30"N Longitude-81°25'00" to 81°30'00" E	NA
2	Peta Decorative Stone Mines-2	Peta	Running	119	4/P	NA	K Srinivas Rao	24.66	9.981	Decorative Stone	K Srinivas Rao	Plot No-19, At-Nutan Colony, New Bowenpally, Secunderabad (Telengana)	NA	02.04.2019 to 02.04.2049	NA	K Srinivas Rao	Plot No-19, At-Nutan Colony, New Bowenpally, Secunderabad (Telengana)	Peta Latitude-18°54'48" to 18°54'54"N Longitude-81°27'28.10" to 81°27'44"E	NA
3	Peta Decorative Stone Mines-3	Peta	Non-operational	119, 199	77,116/20	NA	Sri P Vengal Rao	12.15	4.917	Decorative Stone	Sri P Vengal Rao	16-2-836/3, Madhavnagar, Saidabad, Hyderabad	NA	01.01.2004 to 31.12.2014	NA	Sri P Vengal Rao	16-2-836/3, Madhavnagar, Saidabad, Hyderabad	Latitude-17°55'27" to 17°55'51"N Longitude-81°27'36" to 81°27'46"	NA
4	Poranguda Decorative Stone Mines	Poranguda	Non-operational	130	111/P, 245/P, 276/P	NA	M/s Karunei Granites	22.57	9.134	Decorative Stone	M/s Karunei Granites	No-08, 2nd Block, Koramangala, (Hosur Main Road), Madivala Post., Bangalore-560068	NA	27.07.2004 to 26.07.2014	NA	M/s Karunei Granites	No-08, 2nd Block, Koramangala, (Hosur Main Road), Madivala Post., Bangalore-560068	Latitude-18°20'00" to 18°15'00" Longitude-81°45'00" to 81°50'00"	NA
5	Jagannathpalli Decorative Stone Mines	Jagannathpalli	Non-operational	118	362/P, 498/P, 523/P, 524/P	NA	M/s Karunei Granites	19.77	8.000	Decorative Stone	M/s Karunei Granites	No-08, 2nd Block, Koramangala, (Hosur Main Road), Madivala Post., Bangalore-560069	NA	27.07.2004 to 26.07.2014	NA	M/s Karunei Granites	No-08, 2nd Block, Koramangala, (Hosur Main Road), Madivala Post., Bangalore-560068	Latitude-18°20'00" to 18°15'00" Longitude-81°45'00" to 81°50'00"	NA
6	Potteru Decorative Stone Mines	Potteru	Non-operational	213	319/P	NA	M/s. Aakash Stone Industries Ltd.	7.31	2.958	Decorative Stone	M/s. Aakash Stone Industries Ltd.	Santacruz Airport Side, Marble Market, WE Highway, Ville Parle (East), Mumbai-400099	NA	20.12.2006 to 19.12.2008	NA	M/s. Aakash Stone Industries Ltd.	Santacruz Airport Side, Marble Market, WE Highway, Ville Parle (East), Mumbai-400099	Latitude-17°56'56" to 17°57'02" Longitude-81°01'20" to 81°01'27"	NA
7	Potteru Decorative Stone	Potteru	Non-operational	213	2377	NA	M/s Oriental Trimex Ltd.	12.259	4.961	Decorative Stone	M/s Oriental Trimex Ltd.	26/25, Bazar Marg, Old Rajendra Nagar, New Delhi-110060	NA	07.05.2007 to 06.05.2009	NA	M/s Oriental Trimex Ltd.	26/25, Bazar Marg, Old Rajendra Nagar, New Delhi-110060	Latitude-17°56'35.8" to 17°56'38.5"N Longitude-81°40'03.3" to 81°40'05.0" E	NA
8	Majhiguda Decorative Stone-1	Majhiguda	Non-operational	65	401/789 /P & 401/790 /P	NA	M/s KPK Granites	34.63	14.016	Decorative Stone	M/s KPK Granites	H.No.39-47/D, Old Bypass Road, Near vermicompost sheds, Nandigama, dist-Krishna(AP)	NA	23.08.2016 to 22.08.2018	NA	M/s KPK Granites	H.No.39-47/D, Old Bypass Road, Near vermicompost sheds, Nandigama, dist-Krishna(AP)	Latitude-18°28'18.7" to 18°28'28.5"N Longitude-82°15'00.6" to 82°15'22.7"E	NA
9	Majhiguda Decorative Stone-2	Majhiguda	Non-operational	65	401/P	NA	M/s Sri Bhubaneswari Grinites	26.00	10.522	Decorative Stone	M/s Sri Bhubaneswari Grinites	Fiat No-528, 'C' Block, Rajendra Vihar Apartment, Forest Park, Bhubaneswar	NA	23.08.2016 to 22.08.2018	NA	M/s Sri Bhubaneswari Grinites	Fiat No-528, 'C' Block, Rajendra Vihar Apartment, Forest Park, Bhubaneswar	Latitude-18°28'28.5" to 18°28'36.5"N Longitude-82°15'00.9" to 82°15'23.32"E	NA
10	Niakhamar Decorative Stone	Niakhamar	Non-operational	471	2687/P	NA	Jay Minerals	11.713	4.740	Decorative Stone	Sri Ajay Agrawal, Prop.-Jay Minerals	Plot No-24, VIP Colony, IRC Village, Nayapally, Bhubaneswar-751015	NA	18.12.2020 to 17.12.2022	NA	Sri Ajay Agrawal, Prop.-Jay Minerals	Plot No-24, VIP Colony, IRC Village, Nayapally, Bhubaneswar-751015	Latitude-18°13'10.35" to 18°13'19.68"N Longitude-82°02'10.93" to 82°02'20.23"	NA
11	Gagammetla Decorative Stone	Gagammetla	Non-operational	912	129	NA	Sri Alok Jadhav	14.579	5.900	Decorative Stone	Sri Alok Jadhav	Marathapara, Dhamtari (C.G.)	NA	07.01.2009 to 06.01.2011	NA	Sri Alok Jadhav	Marathapara, Dhamtari (C.G.)	Latitude-18°07'29" to 18°07'37"N Longitude-81°48'27" to 81°48'44"	NA

12	Gangla Decorative Stone	Gangla	Non-operational	223, 225, 226	100, 101, 372, 302, 203, 304, 305, 306, 734, 735, 738/P, 272/P	NA	M/s U Ganapati Exports	16.371	6.625	Decorative Stone	M/s U Ganapati Exports	NKT Road, Opp-Govt High School, Jeyppore, Dist.-Koraput	NA	NA	NA	NA	NA	M/s U Ganapati Exports	NKT Road, Opp-Govt High School, Jeyppore, Dist.-Koraput	Latitude-18°7'00" Longitude-81°4'1"	NA
13	Poluru Quartz Mines	Poluru	NA	55	383/P	NA	M/s Global Trading Co.	10.107	4.090	Quartz	M/s Global Trading Co.	Suit:5, 3rd Floor, Rosy Tower, No.7, Nungambakkam High Road, Chennai-600034 (T.N.)	NA	NA	NA	NA	NA	M/s Global Trading Co.	Suit:5, 3rd Floor, Rosy Tower, No.7, Nungambakkam High Road, Chennai-600034 (T.N.)	Latitude-17°52'32.43" to 17°52'43.02" Longitude-81°39'5.10" to 81°39'12.45"	NA

SUMMARY OF STONE SOURCES OF MALKANGIRI DISTRICT

SUB-DIVISION	NAME OF THE TAHASIL	NO. OF OPERATIONAL ROAD METAL SOURCES	NO. OF NON-OPERATIONAL ROAD METAL SOURCES	NO. OF NEW ROAD METAL SOURCES	TAHASIL WISE TOTAL ROAD METAL SOURCES	NO. OF SPECIFIED MINOR MINERAL SOURCES
MALKANGIRI	CHITRAKONDA	4	1	2	7	1
	KALIMELA	5	2	5	12	3
	KHAIRPUT	0	0	0	0	2
	KUDUMULUGUMMA	2	0	2	4	0
	MALKANGIRI	6	7	2	15	3
	MATHILI	2	0	2	4	0
	MOTU	1	0	2	3	4
Total		20	10	15	45	13

Annexure-II

List of Potential Mining Lease (existing & Proposed) Stone

Tahasil	SLNo	Quarrydetail	Lease detail	Area (in Ha.)	Distance (in K.M) from PA/BR/WC	Distance From forest area (in K.M)	Mining lease within 500 metres (if yes cluster	Total excavation in Tonnes/ Annum considering digging depth max as 6	Mineral to be mined (Stone/Bajri/RBMetc.)	Existing/ proposed
1	2	3	4	5	6	7	8	9	1	11
Chittrakonda Tahasil										
Chittrakonda	1	Chitapari Stone Quarry	Khata-134 Plot-1175/2 Kisam-Patharabani	5.00	WC-189.4 km BR-2.6 km	Karlapat Wildlife Sanctuary-189.4 km	NO	4076cum	Stone	Existing
Chittrakonda	2	Kamwada Stone Quarry	Khata-402 Plot-1717 Kisam-Pahad	5.00	WC-193.8 km BR-1.8 km	Karlapat Wildlife Sanctuary-193.8 km	NO	4000cum	Stone	Existing
Chittrakonda	3	Arnabhata Stone Quarry	Khata-87 Plot-88,89 Kisam-Parbat	1.81	WC-188.9 km BR-4.7 km	Karlapat Wildlife Sanctuary-188.9 km	NO	4000cum	Stone	Existing
Chittrakonda	4	Antalguda Stone Quarry	Khata-31 Plot-1 Kisam-Parbat	3.00	WC-180.9 km BR-5.4 km	Karlapat Wildlife Sanctuary-180.9 km	NO	6000cum	Stone	Existing
Chittrakonda	5	Malguda Stone Quarry	Khata No-68 Plot No- 720 Kisam- Parbata	0.810	WC-201 km	Karlapat Wildlife Sanctuary-201 km	NO	1755cum	Stone	Existing
Chittrakonda	6	Nilakhamar Stone Quarry	Khata-402 Plot-1717 Kisam-Pahad	2.00	WC-192.0 km BR-2.1 km	Karlapat Wildlife Sanctuary-192 km	NO	NA	Stone	New
Chittrakonda	7	Potrel Stone Quarry	Khata-420, Plot-1384, Kisam-Parbat	5.00	WC-188.6 km BR-1.9 km	Karlapat Wildlife Sanctuary-188.6 km	NO	NA	Stone	New
Chittrakonda	8	Kamwada Stone Quarry B	Khata-402, Plot-1642, Kisam-Pahada	5.00	WC-188.6 km	Karlapat Wildlife Sanctuary-188.6 km	NO	NA	Stone	New

Kalimela Tahasil

Kalimela	1	Jakalgandhi Stone Quarry	Khata-135, Plot-550, Kisam-Patharbarani	3.93	WC-230.3 km BR-0.5 km	Karlapat Wildlife Sanctuary-231.1km	NO	NA	Stone	New Auctioned
Kalimela	2	Dopenkonda Stone Quarry	Khata-36, Plot-381, Kisam-Patharbarani	4.08	WC- 250.6km BR-1.1 km	Karlapat Wildlife Sanctuary-250.6km	NO	NA	Stone	New Auctioned
Kalimela	3	Bhejangiwada Stone Quarry B	Khata-629, Plot-43, Kisam-Patharbarani	0.49	WC- 209.2km	Karlapat Wildlife Sanctuary-209.2km	NO	NA	Stone	New
Kalimela	4	Nalagunthi Stone Quarry	, Khata-354, Plot-298, Kisam-Patharbarani	2.005	WC-231.3 km BR-2.1 km	Karlapat Wildlife Sanctuary-231.3km	NO	NA	Stone	New
Kalimela	5	Mangipalli Stone Quarry	Khata-287, Plot-2331, Kisam-Parbat	3.52	WC- 219.0km BR-1.5 km	Karlapat Wildlife Sanctuary-219.0km	NO	5040cum	Stone	Existing
Kalimela	6	Anantapalli Stone Quarry	Khata-226, Plot-252/2, Kisam-Pahada	5.00	WC-252.5 km BR-0.51 km	Karlapat Wildlife Sanctuary-252.5km	NO	7011cum	Stone	Existing
Kalimela	7	Patakonda Stone Quarry	Khata-76, Plot-304, Kisam-Patharbarani	4.50	WC-211.8 km BR-4.3 km	Karlapat Wildlife Sanctuary-211.8km	NO	3456cum	Stone	Existing
Kalimela	8	Idikonda Stone Quarry	Khata-54, Plot-350/1, Kisam-Pahada	4.25	WC-231.0km BR-3.0 km	Karlapat Wildlife Sanctuary-231.0km	NO	6026.8cum	Stone	Existing
Kalimela	9	Bhejangiwada Stone Quarry	Khata-629, Plot-43/1, Kisam-Patharbarani	4.50	WC- 209.2km BR-1.1 km	Karlapat Wildlife Sanctuary-209.2km	NO	7011cum	Stone	Existing

Kalimela	10	Kuasiguda Stone Quarry-I	Khata-103 (AAA), Plot-725/3, Kisam-Parbat	3.690	WC-225.8 km BR-1.5 km	Karlapat Wildlife Sanctuary-225.8km	YES	NA	Stone	Existing
Kalimela	11	Kuasiguda Stone Quarry-II	Khata-103 (AAA), Plot-725/2, Kisam-Parbat	0.81	WC-225.8 km BR-1.4 km	Karlapat Wildlife Sanctuary-225.8km	YES	NA	Stone	Existing

Mathili Tahasil

Mathili	1	Challanguda Stone Quarry	Khata-70, Plot-21, Kisam- Patharbarani	0.465	WC- 163.0 km BR-2.9 km	Karlapat Wildlife Sanctuary-163.0 km	NO	1000cum	Stone	Existing
Mathili	2	Sardapat Stone Quarry	Khata-98, Plot-1004, Kisam-Gramya Jangal	2.292	WC-143.0 km	Karlapat Wildlife Sanctuary-143.0 km	NO	10080cum	Stone	Existing
Mathili	3	Sandhimunda Stone Quarry	Khata-10, Plot-66/1, Kisam-Patita,	5.00	WC-168.2 km BR-3.7 km	Karlapat Wildlife Sanctuary-168.2 km	NO	NA	Stone	New
Mathili	4	Sindhabela Stone Quarry	Khata-290, Plot-370/1, Kisam-Patita,	5.00	WC-152.6 km BR-4.1 km	Karlapat Wildlife Sanctuary-152.6 km	NO	NA	Stone	New

Kudumulgumma Tahasil

Kudumulgumma	1	Bhutajhola Stone Quarry	Khata-10, Plot-52, Kisam-Patharbarani	1.16	WC- 188.6 km BR- 5.7 km	Karlapat Wildlife Sanctuary-188.6 km	NO	1200cum	Stone	Existing
Kudumulgumma	2	Rampur Stone Quarry	Khata-6, Plot-71, Kisam-Parbat	2.025	WC-173.6 km BR-1.0 km	Karlapat Wildlife Sanctuary-173.6 km	NO	2016cum	Stone	Existing

Kudumulugu mma	3	Parakanmala Stone Quarry	Khata-335, Plot-2058, Kisam-Pahada	2.40	WC-174.1 km BR-3.7 km	Karlapat Wildlife Sanctuary-174.1 km	NO	NA	Stone	New
Kudumulugu mma	4	Tekaguda Stone Quarry	Khata-86, Plot-313, Kisam-Pahada	1.126	WC-171.9 km BR-0.9 km	Karlapat Wildlife Sanctuary-171.9 km	NO	NA	Stone	New

Malkangiri Tahasil

Malkangiri	1	Malkangiri Stone Quarry -B	Khata-1005, Plot-5448, Kisam-PATITA, Ac-9.8, Ha-2.0	2.00	WC-187.5 km BR-1.0 km	Karlapat Wildlife Sanctuary-187.5 km	NO	1026cum	Stone	Existing
Malkangiri	2	Kichivelly Stone Quarry	Khata-178, Plot-545, Kisam-Patharabani, Ha-3.10	3.10	WC-192.6 km BR-1.4 km	Karlapat Wildlife Sanctuary-192.6 km	NO	4018.5cum	Stone	Existing
Malkangiri	3	Dhariguda Stone Quarry A	Khata-199 AAA, Plot-580, Kisam-Patharabani	4.534	WC-199.3 km BR-1.4 km	Karlapat Wildlife Sanctuary-199.3 km	NO	NA	Stone	Existing
Malkangiri	4	Dhariguda Stone Quarry-B	Khata-199AAA, Plot-438, Kisam-Patharabani	4.219	WC-199.2 km BR-1.7 km	Karlapat Wildlife Sanctuary-199.2 km	NO	NA	Stone	Existing
Malkangiri	5	Pedawada Stone Quarry	Khata-145, Plot-1376, Kisam-Patharabani	4.300	WC-173.9 km BR-1.8 km	Karlapat Wildlife Sanctuary-173.9 km	NO	NA	Stone	Existing
Malkangiri	6	Mariwada Stone Quarry	Khata-570, Plot-1311, Kisam-Parbata	2.00	WC-193.5 km BR-1.2 km	Karlapat Wildlife Sanctuary-193.5 km	YES	906.3cum	Stone	Existing
Malkangiri	7	Malkangiri Stone Quarry -A	Khata-1005, Plot-5446, 5447, Kisam-Patita	3.00	WC-188.1 km BR-0.7 km	Karlapat Wildlife Sanctuary-188.1 km	NO	6053.4cum	Stone	Existing

Malkangiri	8	Dudameta Stone Quarry	Khata-110, Plot-493, 5447, KISSAM-Pahada Nandapahad	2.88	WC-196.3 km BR-1.9 km	Karlapat Wildlife Sanctuary-196.3 km	NO	1026cum	Stone	Existing
Malkangiri	9	Korukunda Stone Quarry-B	Khata-623(AAA), Plot-1,918, KISSAM-Pahada	2.00	WC-190.9 km BR-0.8 km	Kotgarh Wildlife Sanctuary-190.9 km	NO	1031cum	Stone	Existing
Malkangiri	10	Rengabandha Stone Quarry	Khata-23, Plot-97, KISSAM-Parbata	2.505	WC-193.6 km BR-2.0 km	Kotgarh Wildlife Sanctuary-193.6 km	NO	NA	Stone	Existing
Malkangiri	11	Pedakonda Stone Quarry	Khata-288, Plot-762, KISSAM-Patharabani	2.836	WC-175.6 km BR-1.7 km	Karlapat Wildlife Sanctuary-175.6 km	NO	NA	Stone	Existing
Malkangiri	12	Gandhipalli Stone Quarry B	Khata-167(AAA), Plot-141, 142, KISSAM-Patharabani	5.000	WC-189.7 km BR-0.51 km	Karlapat Wildlife Sanctuary-189.7 km	YES	NA	Stone	Existing
Malkangiri	13	Gandhipalli Stone Quarry A	Khata-167(AAA), Plot-126, 139, KISSAM-Patharabani, Ha-3.983	3.983	WC-190.0 km BR-0.5 km	Karlapat Wildlife Sanctuary-190.0 km	YES	NA	Stone	Existing
Malkangiri	14	Dudimeta Stone Quarry	Khata-163 Plot-1486, KISSAM-Pahada	5.00	WC-205.2 km BR-2.6 km	Karlapat Wildlife Sanctuary-205.2 km	NO	NA	Stone	New
Malkangiri	15	Mauliguda Stone Quarry	Khata-34 Plot-302, KISSAM-Patharabani	5.00	WC-170 km	Karlapat Wildlife Sanctuary-170 km	NO	NA	Stone	New
Motu Tahasil										
Motu	1	Parsanpalli Stone Quarry	Khata-147 A.A-A, Plot-147 (A.A.A), KISSAM-Patharabani	5.00	WC-217.5 km BR-3.6 km	Karlapat Wildlife Sanctuary-217.5 km	NO	3040cum	Stone	Existing

Motu	2	Peta Stone Quarry-I	Khata-119, Plot-177, Kisam-Patharbarani	4.30	WC-255.4 km BR-1.2 km	Karlapat Wildlife Sanctuary-255.4 km	NO	NA	Stone	New
Motu	3	Peta Stone Quarry-II	Khata-119, Plot-327, Kisam-Patharbarani	5.00	WC-255.1 km BR-0.5 km	Karlapat Wildlife Sanctuary-255.1 km	NO	NA	Stone	New

Cluster & Contiguous Cluster details
Cluster:

Stone SourceName	Tahasil	Cluster No	Lease No.	Location (Patharchatan, Chatan, Dangari, Dunguri, Parbata)	Village	Area (in Hectares)	Total Excavation (Cum)
Kuasiguda Stone Quarry-I	Kalimela	Cluster-1	NA	Parbata	Kuasiguda	3.690	NA
Kuasiguda Stone Quarry-II		Cluster-1	NA	Parbata	Kuasiguda	0.81	2050
Gandhipalli Stone Quarry A	Malkangiri	Cluster-2	NA	Patharabani	Gandhipalli	3.983	NA
Gandhipalli Stone Quarry B		Cluster-2	NA	Patharabani	Gandhipalli	5.00	NA
Bhejangiwada Stone Quarry	Kalimela	Cluster-3	11242200046	Patharabani	Bhejangiwada	4.50	7011
Bhejangiwada Stone Quarry-B		Cluster-3	NA	Patharabani	Bhejangiwada	0.49	NA

Contiguous Cluster Details

Stone Source Name	Contiguous Cluster No.	Cluster No.	Number of leases in the cluster	Location (Pathara Chatana, Chatana, Dangari, Dungri, Parbata)	Distance between clusters	Village	Area of cluster (in Ha.)	Total excavation (Tonne)
No contiguous Cluster Situation available in respect of Malkangiri District								

Annexure-IV

Transportation Routes for individual leases and leases in Cluster.

Name of The Tahasil	Name of the Stone source	Lease No.	Transportation Route number	Whether runs on Govt. or Private Land	Details of village/Forest area/Agricultural land through which the approach road runs if any	Number of tippers/day of lease	Number of tippers/day of all the lease on route	Length of Route in KM	Type of Road (Black Topped/Unpaved)	Recommendation for road (Black Topped/Unpaved)	The road will be constructed by Government/Lease Owner	Route map and location
1	2	3	4	5	6	7	8	9	10	11	12	13
Chittrakonda Tahasil												
Chittrakonda	Chitapari Stone Quarry	11252100156	Village Road	Govt. Land	Chitapari	5	9	7	Unpaved	Unpaved	Lease Owner	
Chittrakonda	Kamwada Stone Quarry	11252300018	Village Road	Govt. Land	Kamwada	3	6	7	Unpaved	Unpaved	Lease Owner	
Chittrakonda	Arnabhata Stone Quarry	11252200117	Village Road	Govt. Land	Arnabhata	6	9	10	Unpaved	Unpaved	Lease Owner	
Chittrakonda	Antalguda Stone Quarry	11252100125	Village Road	Govt. Land	Antalguda	6	10	11	Unpaved	Unpaved	Lease Owner	
Chittrakonda	Maliguda Stone Quarry	NA	Village Road	Govt. Land	Maliguda	4	6	1	Unpaved	Unpaved	NA	
Chittrakonda	Nilakhamar Stone Quarry	NA	Village Road	Govt. Land	Nilakhamar	2	2	5	Unpaved	Unpaved	NA	
Chittrakonda	Potrel Stone Quarry	NA	Village Road	Govt. Land	Potrel	2	3	6	Unpaved	Unpaved	NA	
Chittrakonda	Kamwada Stone Quarry-B	NA	Village Road	Govt. Land	Kamwada	2	3	2	Unpaved	Unpaved	NA	
Kalimela Tahasil												
Kalimela	Jakalgandhi Stone Quarry	NA	Village Road	Govt. Land	Jakalgandhi	4	7	9	Unpaved	Unpaved	NA	
Kalimela	Dopenkonda Stone Quarry	NA	Village Road	Govt. Land	Dopenkonda	5	9	5	Unpaved	Unpaved	NA	
Kalimela	Mangipalli Stone Quarry	11242200260	Village Road	Govt. Land	Mangipalli	5	8	3	Unpaved	Unpaved	Lease Owner	

Kalimela	Anantapalli Stone Quarry	11242200258	Village Road	Govt. Land	Anantapalli	3	5	4	Unpaved	Unpaved	Lease Owner
Kalimela	Patakonda Stone Quarry	11242200078	Village Road	Govt. Land	Patakonda	4	7	6	Unpaved	Unpaved	Lease Owner
Kalimela	Idikonda Stone Quarry	11242200073	Village Road	Govt. Land	Idikonda	5	9	3	Unpaved	Unpaved	Lease Owner
Kalimela	Bhejangiwada a Stone Quarry	11242200046	Village Road	Govt. Land	Bhejangiwada	3	7	4	Unpaved	Unpaved	Lease Owner
Kalimela	Kuasiguda Stone Quarry-I	NA	Village Road	Govt. Land	Kuasiguda	6	12	5	Unpaved	Unpaved	Lease Owner
Kalimela	Kuasiguda Stone Quarry-II	NA	Village Road	Govt. Land	Kuasiguda	5	9	7	Unpaved	Unpaved	Lease Owner
Kalimela	Nalagunthi Stone Quarry	NA	Village Road	Govt. Land	Nalagunthi	3	4	6	Unpaved	Unpaved	NA
Kalimela	Bhejangiwada a Stone Quarry-B	NA	Village Road	Govt. Land	Bhejangiwada	1	3	4	Unpaved	Unpaved	NA
Kudumulgumma Tahasil											
Kudumulgumma	Bhutajhola Stone Quarry	11252100150	Village Road	Govt. Land	Bhutajhola	2	5	7	Unpaved	Unpaved	Lease Owner
Kudumulgumma	Rampur Stone Quarry	11252200108	Village Road	Govt. Land	Rampur	5	9	8	Unpaved	Unpaved	Lease Owner
Kudumulgumma	Parakannala Stone Quarry	NA	Village Road	Govt. Land	Parakannala	2	4	6	Unpaved	Unpaved	NA
Kudumulgumma	Tekaguda Stone Quarry	NA	Village Road	Govt. Land	Tekaguda	3	4	9	Unpaved	Unpaved	NA
Malkangiri Tahasil											
Malkangiri	Malkangiri Stone Quarry -B	11232300900	Village Road	Govt. Land	Malkangiri	2	7	8	Unpaved	Unpaved	Lease Owner
Malkangiri	Kichivelly Stone Quarry	11232200496	Village Road	Govt. Land	Kichivelly	1	5	9	Unpaved	Unpaved	Lease Owner
Malkangiri	Mariwada Stone Quarry	11232400127	Village Road	Govt. Land	Mariwada	5	9	8	Unpaved	Unpaved	Lease Owner

Malkangiri	Malkangiri Stone Quarry -A	11232200264	Village Road	Govt. Land	Malkangiri	4	7	9	Unpaved	Unpaved	Unpaved	Lease Owner
Malkangiri	Dudameta Stone Quarry	11232100644	Village Road	Govt. Land	Dudameta	5	9	5	Unpaved	Unpaved	Unpaved	Lease Owner
Malkangiri	Korukunda Stone Quarry-B	11232100282	Village Road	Govt. Land	Korukunda	5	8	3	Unpaved	Unpaved	Unpaved	Lease Owner
Malkangiri	Dhariguda Stone Quarry A	NA	Village Road	Govt. Land	Dhariguda	3	7	6	Unpaved	Unpaved	Unpaved	Lease Owner
Malkangiri	Dhariguda Stone Quarry-B	NA	Village Road	Govt. Land	Dhariguda	3	8	5	Unpaved	Unpaved	Unpaved	Lease Owner
Malkangiri	Pedawada Stone Quarry	NA	Village Road	Govt. Land	Pedawada	2	5	7	Unpaved	Unpaved	Unpaved	Lease Owner
Malkangiri	Rengabandha Stone Quarry	NA	Village Road	Govt. Land	Rengabandha	3	5	4	Unpaved	Unpaved	Unpaved	Lease Owner
Malkangiri	Pedakonda Stone Quarry	NA	Village Road	Govt. Land	Pedakonda	4	7	6	Unpaved	Unpaved	Unpaved	Lease Owner
Malkangiri	Gandhipalli Stone Quarry- A	NA	Village Road	Govt. Land	Gandhipalli	3	7	9	Unpaved	Unpaved	Unpaved	Lease Owner
Malkangiri	Gandhipalli Stone Quarry- A	NA	Village Road	Govt. Land	Gandhipalli	6	11	10	Unpaved	Unpaved	Unpaved	Lease Owner
Malkangiri	Mauliguda Stone Quarry	NA	Village Road	Private Land	Mauliguda	4	7	0.2	Unpaved	Unpaved	Unpaved	NA
Malkangiri	Dudimetla Stone Quarry	NA	Village Road	Govt. Land	Dudimetla	2	3	6	Unpaved	Unpaved	Unpaved	NA

Mathili Tahasil

Mathili	Challanguda Stone Quarry	11232200113	Village Road	Govt. Land	Challanguda	4	9	7	Unpaved	Unpaved	Unpaved	Lease Owner
Mathili	Sardaput Stone Quarry	11232100637	Village Road	Govt. Land	Sardaput	6	11	0.2	Unpaved	Unpaved	Unpaved	Lease Owner
Mathili	Sandhimunda Stone Quarry	NA	Village Road	Govt. Land	Sandhimunda	3	3	8	Unpaved	Unpaved	Unpaved	NA

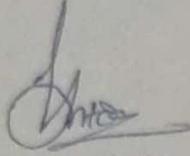
Mathili	Sindhabela Stone Quarry	NA	Village Road	Govt. Land	Sindhabela	2	4	3	Unpaved	Unpaved	NA
Motu Tahasil											
Motu	Parsanpalli Stone Quarry	11242200113	Village Road	Govt. Land	Parsanpalli	5	10	6	Unpaved	Unpaved	Lease Owner
Motu	Peta Stone Quarry-I	NA	Village Road	Govt. Land	Peta	3	4	7	Unpaved	Unpaved	NA
Motu	Peta Stone Quarry-II	NA	Village Road	Govt. Land	Peta	2	4	9	Unpaved	Unpaved	NA

Transportation Routes for individual leases and leases in Cluster .

Cluster No.	Transportation Route number	Number of tippers/day of Cluster	Number Of tippers/day of all the Cluster on route	Length of Route in K.M	Type of Road (Black/Topped/unpaved)	Recommendation for road (Black Topped/Unpaved)	The road will be constructed by Government/Lease Owner	Route map and location
Cluster-1	Quarry Road	8	15	15	Unpaved	Unpaved	Lease Owner	
Cluster-2	Quarry Road	11	21	12	Unpaved	Unpaved	Lease Owner	
Cluster-3	Quarry Road	9	18	19	Unpaved	Unpaved	Lease Owner	

Road Metal/Building Stone Mining

DSR of Malkangiri District



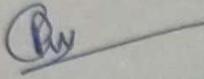
S.D.O, Irrigation Division,
Malkangiri



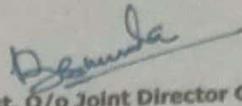
Regional Officer,
OSPCB, Koraput



Mining Officer,
Malkangiri



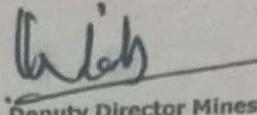
A.C.F, Malkangiri Forest Division
Malkangiri



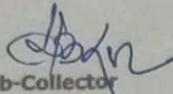
Geologist, O/o Joint Director Geology
Koraput



Deputy Director Mines
Jeypore



Deputy Director Mines,
Koraput



Sub-Collector
Sub-Divisional Committee, Malkangiri