



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

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



As per Notification No. S.O. 3611(E) New Delhi,
25th July, 2018
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE
(MoEF & CC)

COLLECTORATE, NAYAGARH

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PREFACE

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

1. INTRODUCTION

The Nayagarh district is located towards the west of Puri district surrounded by Cuttack district in the North, Phulbani district in the West, Ganjam district in the South and Khurda district in the East. It lies between 19°54' to 20°32' North latitude and between 84° 29' to 85° 27' East longitude. It has an average elevation of 178 meters (583 feet). This town has Rukhi mountain to the South and Balaram mountain in North. These mountains mitigated the effects of the 1999 Odisha Cyclone on Nayagarh. This district is situated in the hilly ranges in the West and its North Eastern part has formed a small well cultivated fertile valleys intersected by small streams. It's in the higher altitude than the sea level and above flood level. The River Mahanadi flows in the Eastern boundary.

From the history of Nayagarh district it reveals that the district was founded by Suryamani of Baghela dynasty who had come to Puri on a pilgrimage from "Rewa" of Madhya Pradesh. He had built his fort here and adopted Tiger Head as a state symbol. Ninth king of this dynasty "Bagel Singh" (1480-1510) shifted his capital to the district. As per his name this place was known as "Baghua Nayagarh". He was a Vaishnavite and is known to have made small

Aena July
27/7/19

Collector & Dist. Magistrate
NAYAGARH

Divisional Forest Officer
Mahanadi Wildlife Division
Nayagarh

Sub-Collector
Nayagarh

Asst. Conservator of Forest
Nayagarh Division

icons of Shree Vighraha Chaturdha Murty and installed the deities in a mudaltar on the foot hill of Balarama for the first time in the history of Nayagarh district.

During the rule of 12th King of Nayagarh District, Raghunath Singh (1565–1595) had already captured Odisha and the king Mukunda Dev (1565) was defeated in Gohritikira and died. Taking advantage of the flaccid political situation, Raghunath Singh attacked Ranapur and captured Odgaon, Sarankul and Baunsiapara area from Ranapur estate and took control of the Nayagarh–Daspalla border area from the King of Boudh and Sunamuhin area of Odgaon from the King of Ghumusar. He also captured a portion from Banpur.

Just before his death, the King Ragunath Singh divided his estate between his three sons. Harihar Singh got Nayagarh and Jadunath Singh got four Khandagrams (large area of land) which was known as Khandapara later. It was his heirs from here on that ruled Nayagarh until it was captured by the Britishers.

2. OVERVIEW OF MINING ACTIVITIES IN THE DISTRICT.

As per Schedule-IV of OMMC Rules'2016, the Mining Officer, Cuttack is the competent authority of Specified Minor Minerals of the district. In Nayagarh district, there is existence of Decorative Stone from the Specified Minor Minerals. There are 2 nos. of Decorative Stone Mining Leases (ML) and one no. of Prospecting License (PL) of Decorative Stone. Out of the said 2 nos. of Mining Leases, one Mining Lease is in village Dimiritadi under Dasapalla Tahasil of Nayagarh district which has been executed in favour of Maa Chandeswari Granites over an area of 5.504 hec. for a period of 30 years i.e. from 29.01.2018 to 28.01.2048 which has started its operation since January'2019 .

Another Mining Lease is in village Bhatagada under Dasapalla Tahasil of Nayagarh district which has been executed in favour of Maa Chandeswari Granites over an area of 15.766 hecets. for a period of 30 years i.e. from 13.11.2018 to 12.11.2048 in which mining operation has not been commenced till date.

There is also a Prospecting license in this district which is located at Kudabadi village over an area of 38.077 hecets granted in favour of SGS Mines & Industries Pvt. Ltd. for a period of 2 years i.e. from 14.02.2019 to 13.02.2021. The said Prospecting License is in active condition.

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

3. GENERAL PROFILE

a. Administrative set up:

SI No	Item	Unit	Magnitude
1	Location		
	Longitude	Degree	84°29' to 85°27' East
	Latitude	Degree	19° 54' to 20°32' North
2	Geographical area	Sq.Km.	3890
3	Sub-division	Numbers	1
4	Tahasils	Numbers	8
5	C D Blocks	Numbers	8
6	Municipalities	Numbers	1
7	NACs	Numbers	4
8	Police Stations	Numbers	14
9	Gram Panchayats	Numbers	194
10	Villages	Numbers	1692
	Inhabited	Numbers	1541
	Uninhabited	Numbers	151
11	Assembly constituencies	Numbers	4

b. Area and Population:

The district has an area 3890 Sq. Km and 9.63 lakh of population as per 2011 Census. The district accounts for 2.50 percent of the State's territory and shares 2.29 percent of the State population. The density of population in this district is 248 person Per Sq. Km as against 270 person Per Sq. km of the State. As per 2011 Census the Schedule Caste population was 136399 (14.20 %) and Schedule Tribe population was 58691 (6.10 %). The literacy percentage of the district covers 80.42 against 72.90 of the State. The decennial growth rate as per 2001-2011 was 11.40% as against 14.00% of the State.

c. Climate :

The climate condition of the district is generally hot and high humidity during April to May and cold during November to December. The monsoon generally breaks during the month of July, Average annual rainfall of the district was 5249.64 mm during last four years, which is much higher than the normal rainfall 1354.3 mm.

d. Agriculture:

During the year 2017-18 the net area sown was 119 thousand hectares against 5356 thousand hectares of the state. The production of was as below:

Name	Pad dy	Whe at	Maiz e	Mun g	Biri	Kulth i	TiLL	Grou ndnu t	Musta rd	Potato es	Jute	Suga rcan e
Producti on in 000 MT	189.56	0.19	12.85	24.50	6.89	2.87	0.64	1.70	0.71	2.40	0.00	106.04

During 2017-18, the total fertilizers used in the district was about

Type of fertiliser	Nitrogenous	Phosphatic	Pottasic	Total	Consumption per Ha
Quantity in MT	5684	2307	1184	9175	44.48

e. Transport & Communication:

Railway route length (14-15) km	-
No of Rly stations and PH(14-15)	-
Forest road (17-18) km	370.11
National Highway (16-17) km	98.93
State Highway (17-18) km	92.62
Major district road (17-18) km	40.33
Other dist road (17-18) km	555.74
Rural road(17-18) km	648.71
Inter village road (16-17) km	2596.92
Intra village road (16-17) km	1784.83

f. Health:

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

Sub divisional hospitals including mobile	0 No
Beds facilities	650 No
Homoeopathic dispensaries	15 No
Ayurvedic dispensaries	20 No

g. Tourist places:

There are 8 nos. of tourist centres such as Nilamadhava (Kantilo), Baramul, Tarabalo, Raghunath Jew (Odagaon), Ladubaba (Sarankul), Nayagarh, Jamupatna, Maa Maninaga Devi (Ranapur), Deer Park (Near Kuanria Dam, Dasapalla), Kuturi, Udayapur, Gokulananda Ashram, Sidhamula Panchupalli pragana and Jogi-jogiani. During 2015 the numbers of Domestic tourists were 1371035 who visited the tourist spots of the district.

h. Forest areas:

Category of forest	Area in sq km
Reserve Forest	1301.99
Unclassified Forest	0.25
Demarcated Protected Forest (DRF)	188.03
Undemarcated Protected Forest	135.58
Other forest under Revenue Dept	455.12
Total	2080.97

i. Education:

Primary School (2017-18)	No. of Schools	762
	Enrolment (No)	71025
	Pupil Teacher Ratio	16.44
Upper Primary School 2017-18	No. of Schools	477
	Enrolment (No)	43867
	Pupil Teacher Ratio	16.87
General College 2017-18	Junior	41
	Degree	26
Secondary School	No. of Schools	245
	Enrolment (No)	30345
	Pupil Teacher Ratio	23.41
Literacy Rate, 2011	Male	88.2
	Female	72.0
	Total	80.4

j. Culture & Heritage:

The culture of Nayagarh is a composite culture of heterogeneous faiths, with the presence of a good number of Semitic and Islamic followers. The aboriginal 'Savaras' and Kandhas are the indigenous people of Nayagarh District. The Aryans came later. The Brahmins are mostly the outsiders, invited by the Khatriya rulers to be engaged as priests in the temples and for other holy rites. The archeological remains with their inscriptions, temples, churches, mosques, forts, folk dances, art, sculptures, handicrafts and festivals of this district displays its rich cultural heritage. In 2003, seven copper plates dating back to early 9th and 10th Century A.D were discovered while excavating an old well in the village Dhanchengada in Bhapur Block of Khandapara

Assembly Constituency and they have inscriptions on them. The Somanth Temple complex at Govindpur near Nayagarh has also stone inscriptions.

The right side entrance door of Kaunri Thakurani and the front entrance door (inner side) of Beleswar Mahadev, have two inscriptions which are yet to be deciphered. Another inscription is found on the foot-post of Goddess Sita in Raghunath Temple at Odagaon that reads "Shakabda Saramangalya Rutusya Odanayak".

Buddhist shrine at Anala Patta, Nilamadhava Temple at Kantilo, Raghunath and Jagannath Temples throughout the District and other Vaishnavite, Shaiva and Shakta shrines are also the symbols of the art and culture of the District. Also are present many forts and buildings in this District that symbolizes its rich art and cultural heritage. The important folk dances of this District are Ghantakalasa (Similisahi, Nayagarh), Danda Nritya (Itamati), Dhena Koila (Similisahi), Khanjani (Balugaon), Singi Baza (Daspalla), Dhumpa (Khandapara), Ghuduki (Ranapur), Dholamahuri (Lathipada), Paika Akhada (Lathipada, Olasa), Adivasi-Nritya (Banigochha) and Janu-Ghanta. Kantilo is famous for its brass works. It is to mention here that, Millennium Talent Cup, the first of this kind in the world has the distinction of becoming the world's tallest cup and was made by the Kansaries of Kantilo for Odisha Institute of Educational Research, Bhubaneswar. Kantilo is also famous for brass works.

Odagaon is famous for stone sculptures. It may be noted here that all most all the temple architects of Odisha hail from Odagaon. Govind Chandra Sur Deo of Nayagarh was an eminent mural painter. All the mural and wall paintings in the temple of Lord Jagannath at Nayagarh is his works. Khandapara is famous for jute handicrafts and Situlia communities of Gania are eminent sculptors of Terracotta. Ravanapodi at Daspalla, festival of Dakhinakali at Nayagarh, Shivaratri of Ladukeswar at Saranakul, Sriram Navamai at Odagaon, Pana Sanakranti, , Kantilo Mela and Car Festival at Nayagarh, Khandapara, Daspalla and Ranpur are the important festivals celebrated in this District. It needs special mention here that the Chariots of

Lord Jagannath, Balabhadra and Subhadra of Ranpur are 2nd in height only next to the Chariots of Puri Car Festival.

4. GEOLOGY

In the district, the oldest rocks are represented by Eastern Ghat Supergroup of Archaean age. The Eastern Ghat Supergroup comprises of khondalites and charnockites (acid, intermediate and basic). Khondalites and charnockites occur as isolated residual hills throughout the district. Khondalite group of rocks comprise garnet-quartz-feldspar-graphite schist, gneiss, granetiferous and sillimanite quartzite and leptynite. Granite gneiss and biotite granite of Archaean age represent major country rock of the district. In the eastern part of the district, residual soil is widespread, while laterite occurs as patches in the southern part. A shear zone trending WNW-ESE, identified by the presence of mylonite and crushed zone stretches for 24 Km. along the southern bank of Mahanadi.

STRATIGRAPHY:

The geological succession in the district is as follows:

Age	Supergroup	Group	Litho
Pleistocene to Recent			Residual Soil
Cainozoic			Laterite
			Granite Gneiss/ Biotite Granite
	Eastern Ghat		Quartz Vein
Archaean		Charnockite	Charnockite (Acid & Intermediate)
			Charnockite (Basic)
		Khondalite	Quartz-Garnet-Sillimanite Gneiss/ Schist
			Leptynite

Minerals:

Graphite: Graphite deposits are located around Sanaperi, Gochhabari(Dungiastaila), Gochhabari(Makastaila) and Sanasilinga, Takara and Narachipara area of the district. The Fixed Carbon in these graphite deposits ranges from 7.83% to 16.4%.

Semiprecious stone: Occurrences of semiprecious stone are reported around Dimiripat, Malaspadar and Sagarbhanga area of the district.

Dimension and Decorative stone: Occurrences of Decorative & Dimension stone around Chaupalli, Mardarajpur, Khunta bandh, Singhpada, Khandapada, Sunamundhi, Kantilo, Laxmiprasad, Bebartapur, Malisahi, Bhandarparbat, Damasahi, Kabti hill and Kailama etc. are note worthy. A total resource of 2.2836 million cubic meter has been estimated in the district. Apart from this, Berhampur blue (Granetiferous granite gneiss) at Bhalumundia with recoverable reserve of 0.9 million cubic meter and multi colour granite (Granetiferous granite gneiss) at Bedangi with recoverable reserve of 0.108 million cubic meter has been reported in the district.

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

5. DRAINAGE AND IRRIGATION PATTERN.

The Mahanadi, Burtanga, Kaunria, Kamai, Budha nadi constitute the major drainage system of the district. The drainage is mainly dendritic, radial & centripetal in nature. Hot springs have been reported at Tarabalo near the village Nilakantha prasad. At Tarabalo, the patches of warm water (mud pool) in an elevated area cover about 1,500 Sq.m through which hot water oozes out. The temperature is about 57 degree centigrade and has a feebly sulphurous odour. The discharge is found to be 0.3 lps.

6. LANDUSE PATTERN

SI No	Landuse	Area in '000Ha
1	Forest Area	208
2	Misc. trees & Grooves	6
3	Permanent Pasture	4
4	Culturable Waste	5
5	Land put to Non Agril Use	25
6	Barren & Unculturable Land	5
7	Current Fallow	15
8	Other Fallow	1
9	Net Area Sown	119
10	Mining	1
	Geographical Area	389

7. SURFACE WATER & GROUND WATER SCENARIO

This district comes under eastern ghats climate and type of terrain is mostly undulating. As the terrain is undulated most of the rainfall flows as Surface run off to the river or nallas. Hence it is highly essential to promote extension activities relating to water harvesting and water management. Similarly, steps have to be taken for creation of major and medium Irrigation projects to make optimum utilisation of surface water.

The drainage systems i.e. rivers of the district gets filled with water during the monsoon and the gradually it decreases from the month of January to June of each year. In the summer season all rivers become almost dry excepting narrow flow of water within the basin.

The variation of ground water table in the district is as follows:

Depth of water level (mbgl)/ Period	April	August	November	January
Minimum	1.08	0.5	0.7	1.0
Maximum	10.4	6.5	7.0	8.5

8. RAINFALL & CLIMATIC CONDITION

The district is generally hot with high humidity during April and May and cold during December and January. The monsoon generally breaks during the month of July and continues till end of October. The temperature goes as high as up to 45°C in the summer and up to 7^o-8^o C during peak winter.

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

Year/ Month	April	May	June	July	August	September	October	November	December	January	February	March	Total
2015-16	627.2	343	1248.7	1594.9	2141	2029.1	298.66	43.5	261.76	82.4	129.6	133.2	8932.97
2016-17	76.7	869.5	1158.4	2193.9	1859.8	2004.3	686.56	22.2	0	2	0	476.4	9349.68
2017-18	67.2	246.9	1063.5	2539.5	2038	1465	1453.2	395.71	9.8	0	0	0	9278.79
2018-19	483.3	852.8	809.85	3182.4	1505.4	2102.4	1875.9	0	394.1	37.1	238.3	0	11481.61
Average	156.80	578	535.05	1188.8	943.04	930.11	539.29	115.36	125.73	15.19	45.99	76.2	5249.64

9. DETAILS OF MINING LEASES

Attached as Annexure I

10. DETAILS OF ROYALTY COLLECTED

Year-wise Calculation of Royalty (Rs)

Sl.No	Name Of Tahasil	2015-16	2016-17	2017-18	2018-19
1	Bhapur	0	0	0	0
2	Gania	0	0	0	0
3	Khandapada	810223	1250484	163362	0
4	Nayagarh	0	0	0	0
5	Dasapalla	0	910204	1233987	1302391
6	Nuagaon	0	0	221850	241425
7	Odagaon	0	0	233730	250992
8	Ranpur	1795681	1899811	2373842	2820682
	TOTAL	2605904	4060499	4226771	4615490

11. DETAILS OF PRODUCTION OF MINOR MINERAL

Yearwise Production of Road metal in cum

Sl.No	Name of Tahasil	2015-16	2016-17	2017-18	2018-19
1	Bhapur	0	0	0	0
2	Gania	0	0	0	0
3	Khandapada	2614	2900	6510	10600
4	Nayagarh	0	0	0	0
5	Dasapalla	5076	108057	9061	9151
6	Ranpur	17719.5	19857.5	24669	32300
7	Nuagaon	0	0	1530	1665
8	Odagaon	1512	1638	1827	2016
TOTAL		26921.5	132452.5	43597	55732

12. MINERAL MAP OF THE DISTRICT

Attached as Plate No 4.

13. LIST OF LOI HOLDERS ALONG WITH VALIDITY

Attached as Annexure II

14. TOTAL MINERAL RESERVE AVAILABLE IN THE DISTRICT

Total mineral reserve of road metal/buildingstone/blackstone/granite stone is 68,15,230 cum which may increase after detail investigation.

Details of the potential areas submitted as Annexure III.

15. QUALITY/GRADE OF MINERAL

Road metal/building metal of the district is very much suitable for various construction purposes after its crushing and screening. The in-situ rocks are fractured making these unsuitable for decorative purpose.

16. USE OF MINERAL

Road metal/building metal of the district is used mainly for various construction purposes like road making, concrete making, dams etc.

17. DEMAND & SUPPLY OF THE MINERAL

The tentative annual demand is to the tune of 3,00,000 cum of road metal and is mainly supplied from different tahasils of the district and adjoining districts of Ganjam and Khordha.

18. MINING LEASES MARKED ON THE MAP OF THE DISTRICT.

Attached as Plate No 5.

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

The below mentioned sources have been considered under cluster approach.

Sl. No	Name of the Tahasil	Name of the Sources	G.P Name	Khata No.	Plot No.	Total Area(in Ac)	Kissam	Cluster Name
1	Bhapur	Kanakutuli Khesara Stone	Baghuapalli	2	18	32.25	Parbat_II	Kanakutuli-Purusottamprasad
		Purusottamprasad Stone	Baghuapalli	542	555	21.88	Parbat_II	
2	Odagaon	Tangara Stone Quarry	Sikharpur	2	21/1	26.81	Parbat_II	Tangara
		Tangara Stone quarry	Sikharpur	2	22	22.5	Parbat_II	
3	Khandapada	Singhamundia-i		51	170	33.43	Parbat	Singhamundia-Kusumunda
		Singhamunida-II		51	170/1	33.43	Parbat	
		Kusumuda Stone Quarry-I		25	178	11.78	patharbani	
		Kusumuda Stone Quarry-II		25	178/1	11.78	patharbani	

20. DETAILS OF ECO-SENSITIVE AREA

Nayagarh Forest Division is lying adjacent to Mahanadi Wildlife and Baisipalli Wildlife Division as a part of Satakosia Tiger Reserve, south of Mahanadi. Hence, there is huge presence of wildlife. But the eco-sensitive zone around the STR is not notified yet. Hence, 10 km is presumed to be the eco-sensitive zone.

21. IMPACT ON THE ENVIRONMENT (AIR, WATER, NOISE, SOIL FLORA & FAUNAL , LAND USE , AGRICULTURE, FOREST ETC.) DUE TO MINING

Activities attributed to Mining:-

Generally, the environment impact can be categorized as either primary or secondary. Primary Impacts are those, which are attributed directly by the project. Secondary impacts are those which are indirectly induced and typically include the associated investment and changed pattern of social and economic activities by the proposed action.

The impact has been ascertained for the project assuming that the pollution due to mining activity has been completely spelled out under the base line

environmental status for the entire ROM which is proposed to be exploited from the mines.

Impact on Ambient Air

Mining operation are carried out by opencast manual, semi mechanized/ mechanized methods generating dust particles due to various activities likes, excavation, loading, handling of mineral and transportation. The air quality in the mining areas depends upon the nature and concentration of emissions and meteorological conditions.

The major air pollutants due to mining activities include:-

- Particulate matter (dust) of various sizes.
- Gases, such as sulphur dioxide, oxides of nitrogen, carbon monoxide etc from machine & vehicular exhaust.

Dust is the single air pollutant observed in the open cast mines. Diesel operating drilling machines, blasting and movement of machineries/ vehicles produce NO_x , SO₂ and CO emissions, usually at low levels. Dust can be of significant nuance surrounding land user and potential health risk in some circumstances.

Water Impact

Sometimes the mining operation leads to intersect the water table causing ground water depletion. Due to the interference with surface water sources like river, nallah etc drainage pattern of the area is altered.

Noise Impact

Noise pollution mainly due to operation of machineries and occasional plying of machineries. These actives will create noise pollution in the surrounding area.

Impact on Land environment

The topography of the area will change certain changes due to mining activity which may cause some alteration to the entire eco system.

Impact on Flora & Fauna

The impact on biodiversity is difficult to quantify because of its diverse and dynamic characteristics.

Mining activities generally result in the deforestation, land degradation, water, air and noise pollution which directly or indirectly affect the faunal and flora status of the project area.

However, occurrence and magnitude of these impacts are entirely dependent upon the project location, mode of operation and technology involved.

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

Air

Mitigation measures suggested for air pollution controls are to be based on the baseline ambient air quality of the project/cluster area and would include measures such as:

- Dust generation shall be reduced by using sharp teeth of shovels.
- Wet drilling shall be carried out to contain the dust particles.
- Controlled blasting techniques shall be adopted.
- Water spraying on haul roads, service roads and overburden dumps will help in reducing considerable dust pollution.
- Proper and regular maintenance of mining equipment's have to be undertaken.
- Transport of materials in trucks are to be covered with tarpaulin.
- The mine pit water can be utilized for dust suppression in and around mine area.
- Information on wind direction and meteorology are to be considered during planning, so that pollutants, which cannot be fully suppressed by

engineering techniques, will be prevented from reaching the nearby agricultural land, if any.

- Comprehensive greenbelt around overburden dumps and periphery of the mining projects/clusters has to be carried out to reduce to fugitive dust transmission from the project area in order to create clean & healthy environment.

Water

- Construction of garland drains and settling tanks to divert surface run-off of the mining area to the natural drainage.
- Construction of checks dams/ gully plugs at strategic places to arrest silt wash off from broken up area.
- Retaining walls with weep hole are to be constructed around the mine boundaries to arrest silt wash off.
- The mined out pits shall be converted in to the water reservoir at the end of mine life. This will help in recharging ground water table by acting as a water harvesting structure.
- Periodic analysis of mine pit water and ground water quality in nearby villages are to be undertaken.
- Domestic sewage from site office & urinals/latrines provided within ML/QL areas is to be discharged in septic tank followed by soak pits.

NOISE

- Periodic maintenance of machineries, equipments shall be ensured to keep the noise generated within acceptable limit.

- Development of thick green belt around mining/cluster area, haul roads to reduce the noise.
- Provision of earplugs to workers exposed to high noise generating activities like blasting, excavation site etc. Worker and operators at work sites will be provided with earmuffs.
- Conducting periodical medical checkup of all workers for any noise related health problems.
- Proper training to personnel to create awareness about adverse noise related effects.
- Periodic noise monitoring at locations within the mining area and nearby habitations to assess efficacy of adopted control measures.
- During blasting optimum spacing, burden and charging of holes will be made under the supervision of competent qualified mines foreman, mate etc.

Biological Environment

- Development of green belt/gap filling saplings in the safety barrier left around the quarry area/ cluster area.
- Carrying out thick greenbelt with local flora species predominantly with long canopy laves on the inactive mined out upper benches.
- Development of dense poly culture plantation using local floral species in the mining areas at conceptual stage if the mine is not continued much below the general ground level.
- Adoption of suitable air pollution control measures as suggested above.
- Transport of materials in trucks covered with tarpaulin.

23. RECLAMATION OF MINED OUT AREA (BEST PRACTICE ALREADY IMPLEMENTED IN THE DISTRICT, REQUIREMENT AS PER RULES AND REGULATION, PROPOSED RECLAMATION PLAN) :-

As per statute all mines/quarries are to be properly reclaimed before final closure of the mine. Reclamation of exhausted mines are planned to be undertaken in below three possible means:

1. If, substantial amount of waste is there, the exhausted quarry can be fully or partly backfilled using the stored waste. The backfilled areas are to be brought under plantation of local species.
2. If the generation of waste is much less as in the case of minor mineral mining, the exhausted quarries can be reclaimed by
 - a. Plantation on the broken up surface if the depth of quarry is not much below the surrounding surface level.
 - b. Converted to water reservoir after stabilization of the slopes if the exhausted quarry continues much below the surrounding surface level. It is preferred to cordon the water reservoir either through wire fencing or retaining wall with plantation from the safety point of view.

Most of the quarry/mining lease areas are yet to be exhausted from ore point of view. Hence, reclamation would be taken up only after exhaustion of the ore/mineral content from these areas. The exhausted minor mineral quarries of the district have been converted to water reservoirs.

24. RISK ASSESSMENT & DISASTER MANAGEMENT PLAN

The only risk involved related to mining of minor mineral excepting natural calamities is slope failure and probable accidents due to high and ill maintained bench walls. This can only be addressed through making of regular benches and undertaking mining in benching pattern.

The disaster management plan (DMP) is supposed to be a dynamic, changing, document focusing on continual improvement of emergency response planning and arrangements.

The disaster management plan is to be aimed to ensure safety of life, protection of environment, protection of installation, restoration of production and salvage operations in this same order of priorities. For effective implementation of the disaster management plan, it should be widely circulated through rehearsal/induction conducted by the respective department from time to time.

General responsibilities of employees' during an emergency:

During an emergency, it becomes more enhanced and pronounced when an emergency warning is raised, the worker in charge, should adopt safe and emergency shut down and attend to any prescribed duty. If no such responsibility is assigned, the workers should adopt a safe course to assembly point and wait instructions. He should not resort to spread panic. On the other hand, he must assist emergency personnel towards objectives of DMP.

Co-ordination with local authorities:

The Mine Manager who is responsible for emergency will always keep a jeep ready at site. In case of any eventuality, the victim will be taken to the nearby hospitals after carrying out the first aid at the site. The Manager should collect and have adequate information of the nearby hospitals, fire station, police station, village panchayat heads, taxi stands, medical shops, district revenue authorities etc. and use them efficiently during the case of emergency.

25. DETAILS OF THE OCCUPATION HEALTH ISSUES IN THE DISTRICT. (LAST FIVE- YEAR DATA OF NUMBER OF PATIENTS OF SILICOSIS & TUBERCULOSIS IS ALSO NEEDS TO BE SUBMITTED):-

As per the guidelines of the Mine Rules 1995, occupational health safety has been stipulated by the ILO/WHO. The proponent's will take necessary precautions to fulfil the stipulations. Normal sanitary facilities have to be provided within the lease area. The management will carry out periodic health checkup of workers.

Occupational hazards involved in mines are related to dust pollution, noise pollution, blasting and injuries from moving machineries & equipment and fall from high places. DGMS has given necessary guidelines for safety against these occupational hazards. The management has to strictly follow these guidelines.

All necessary first aid and medical facilities are to be provided to the workers. The mine shall be well equipped with personal protective equipment (PPE). Further, all the necessary ported equipments such as helmet, safety goggles, earplugs, earmuffs etc are to be provided to mine workers as per Mines Rules.

All operators and mechanics are to be trained to handle fire fighting equipments.

Details of occupational health issues in the district since last 5 years.

There is no case of Silicosis found in the district within the last five years.

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

As most of the minor mineral mines/quarries of the district are yet to be exhausted of their mineral content no sort of reclamation measures including plantation has been undertaken excluding gap plantation of local species in the peripheral safety zones of the quarries/ clusters and in some of the haul roads.

27. ANY OTHER INFORMATION

Nil

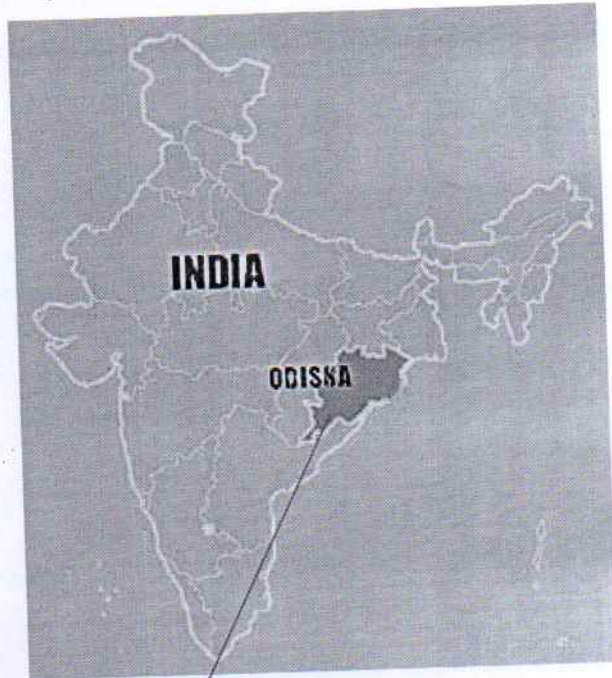
12/11/19
Sub-Collector
Nayagarah

M. W. M.
Asst.
Asst. Conservator of Forest
Nayagarah Division

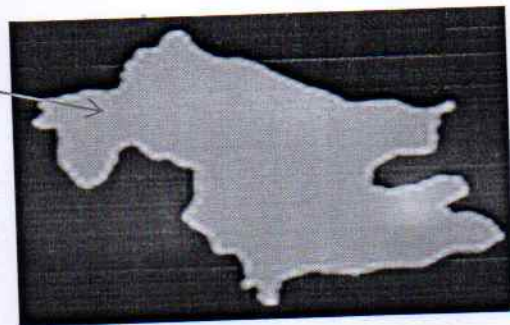
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Divisional Forests Officer
Maitradu Wildlife Division
Nayagarah

Ama
[Signature]
Collector & Dist. Magistrate
NAYAGARH

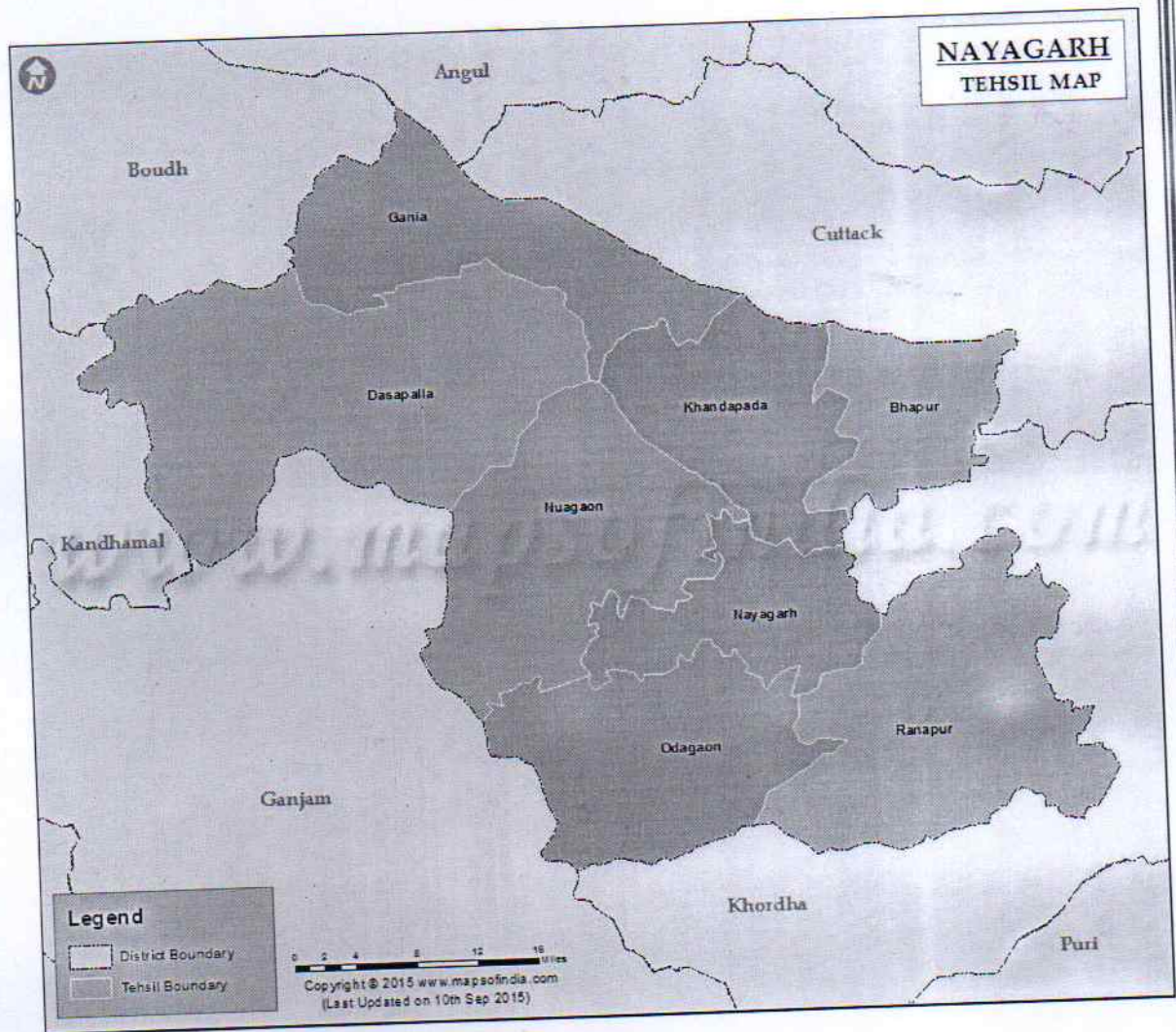
INDEX MAP



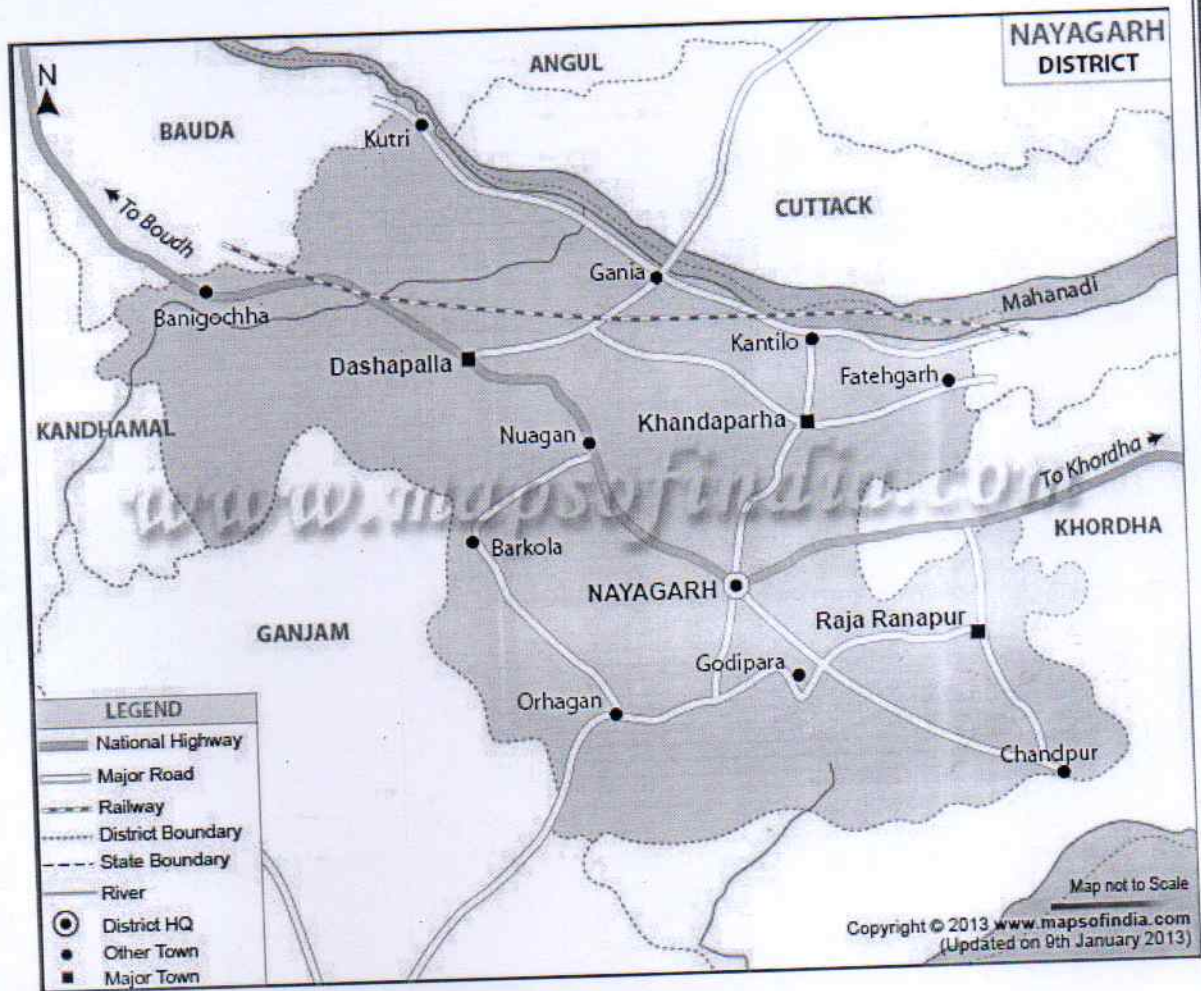
NAYAGARH



MAP SHOWING THE TAHASILS OF NAYAGARH DISTRICT



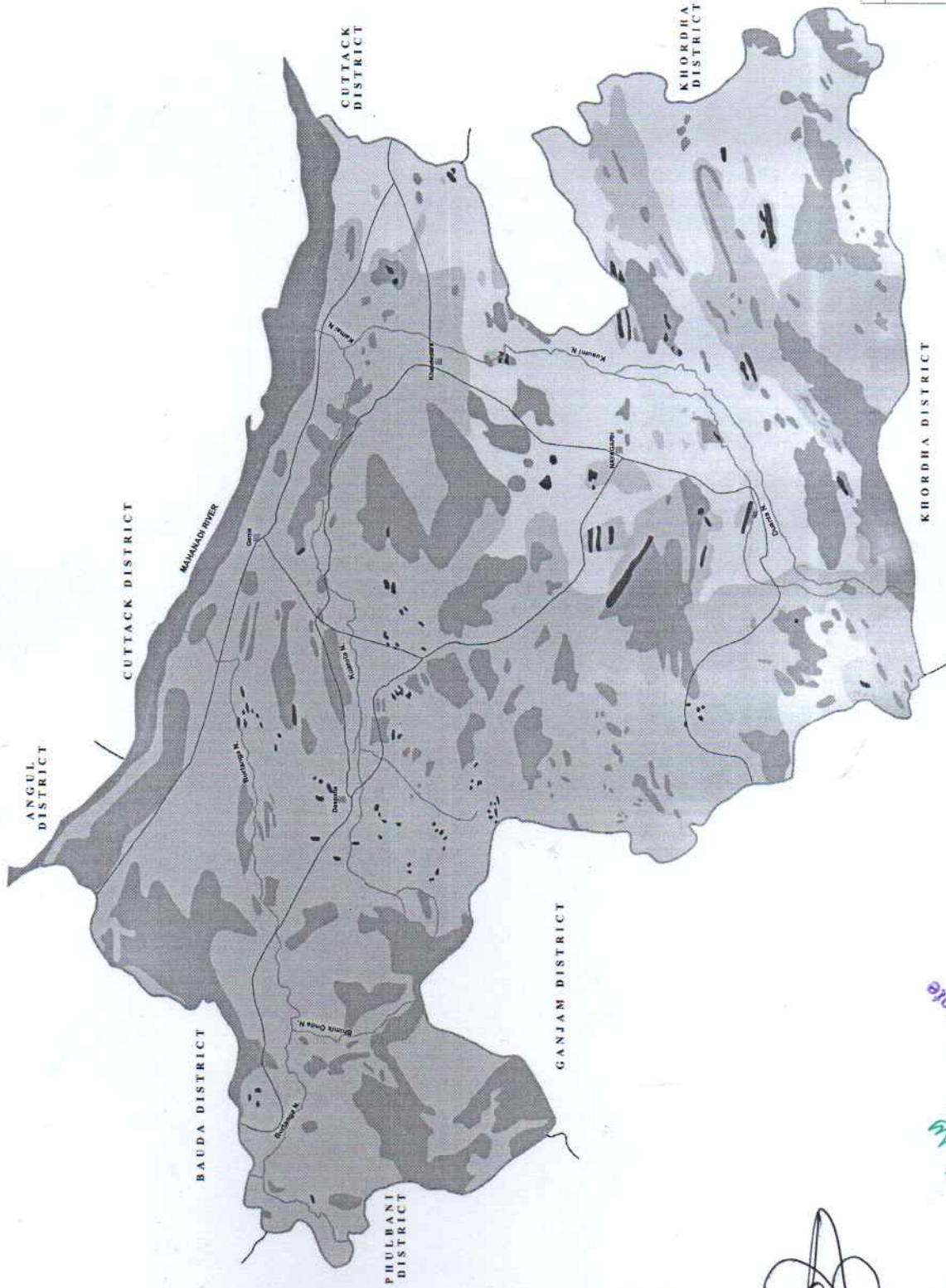
MAP SHOWING THE MAJOR ROADS OF NAYAGARH DISTRICT



MINERAL MAP OF NAYAGARH DISTRICT

SCALE - 1:125,000

PLATE NO-4



Legend

- Block Headquarter
- District Boundary
- NH Road / SH Road/Major District Road
- River/Lake/Waterbody
- Residual soil
- Latalite
- Granite gneiss/biotite granite
- Quartz vein
- Charnockite (acid & intermediate)
- Charnockite (basic)
- Quartz garnet sillimanite gneiss/schist
- Lepnylle

Sub-Collector Nayagarh

*Divisional Forests Officer
Mahanadi Wildlife Division
Nayagarh.*

*Collector & Dist. Magistrate
NAYAGARH*

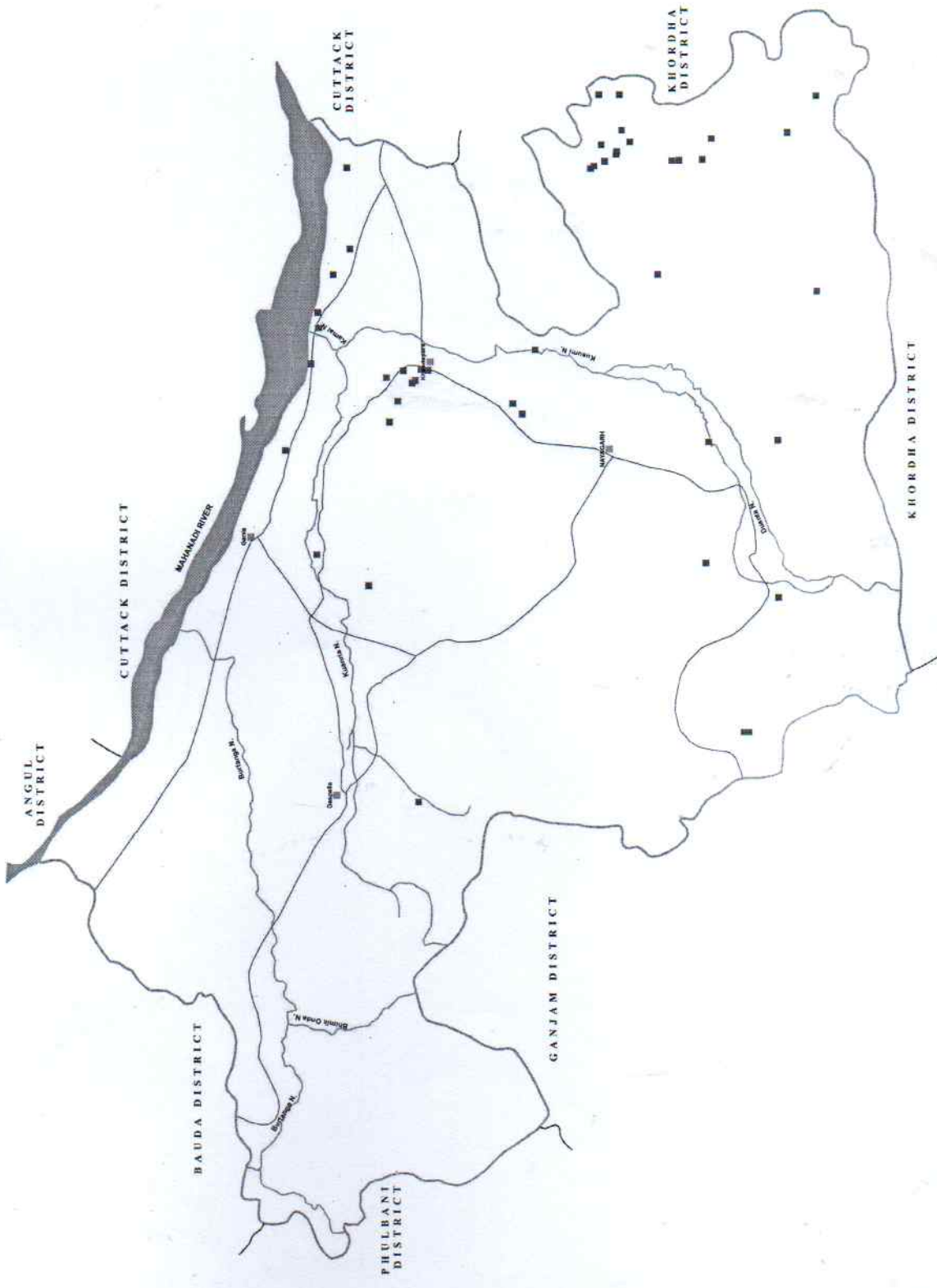
*Am. Conservator of Forest
Nayagarh Division*

LEASE/POTENTIAL MAP OF ROAD METAL/BUILDING STONE/BLACK STONE/WHITE STONE
IN NAYAGARH DISTRICT

SCALE: 1:120,000



PLATE NO-3



Legend

- Block Headquarter
- District Boundary
- NH Road / SH Road/Major District Road
- River/Lake/Waterbody
- Lease/Potential Areas for Road/Building Stone/Black Stone/White Stone

N.21.02 N.21.02 N.21.02 N.21.02

80°50' 80°50' 80°50' 80°50'

80°50' 80°50' 80°50' 80°50'

80°50' 80°50' 80°50' 80°50'

ANNEXURE I

ROAD METAL/ BLACKSTONE/WHITESTONESAIRATS ALREADY LEASED OUT AND EXECUTED

Sl. No.	Name of Tahasil	Name of Mineral	Name of village/Dat of registration of lease deed	Name of lessee	Address & contact No of lessee	Mining lease grant order No & date	Period of QL		Date of commencement of mining operation	Status (working / non working / Temp working for dept)	Capitve or Non capitve	Lt No & date of grant of EC	Location of Resource (GPS coordinates or Khata & Plot No)	Latitude			Longitude			Method of mining	Area leased for mineral concs sion (in Ha.)	Mineable mineral potential as per approved mining plan (in cum)		
							From	To						Degree	Minute	Second	Degree	Minute	Second					
1	Khandapada	Stone	Kotapokhari / 19.10.2015	Nirama Das	Kotapokhari / 94371 46362	1188/ 24.04.2015	2015-16	2019-20	31.10.2015	Working	Non Capitve	4040/SEIAA, 17.08.2015	14	15	16	17	18	19	20	21	22	23		
2	Khandapada	Stone	Tangisahi/NU agao n/ 26.08.2016	Jugal Kishore Pradhan	Krushnaprasad/ 93373 41775	1262/ 01.05.2015	2015-16	2019-20	30.08.2016	Working	NC	44/DEIAA, 01.08.2016	20	21	22	23	24	25	26	27	28	29	30	103335
3	Khandapada	Stone	Kusumada / 07.10.2016	BiswanjanPradhan	Jaganath prasad/ 99372 22549	1269/ 01.05.2015	2015-16	2019-20	22.10.2016	Working	NC	50/DEIAA, 27.09.2016	20	21	22	23	24	25	26	27	28	29	30	15912

4	Khandapada	Stone	Tentuli apalli / 02.02.2018	Laxmi dharalabehera	Jogiapalli/ 93376 40345	2772/ 05.07.2017	2017-18	2021-22	14.03.2018	Working	NC	550/DEI AA, 26.09.2017	Khat a No. 81 Plot No.7 4	20 1	1 45.2	85 8	25.2	OC	0.809	46900
5	Khandapada	Stone	Jaganath prasad/ 31.03.2018	Lilip Kumar Jena	Bara mund a, BBSR/ 96586 89408	2762/ 04.07.2017	2017-18	2021-22	31.03.2018	Working	NC	134/DEI AA, 17.03.2018	Khat a No. 855 Plot No.3 401,3 449	20 1	1 7.93	85 11	24.7 4	OC	0.202	8200
6	Khandapada	Stone	Singh amundia/ 11.04.2018	Pramod Kumar Debita	Khalisahi/ 99379 00305	2571/ 23.06.2017	2017-18	2021-22	20.04.2018	Working	NC	130/DEI AA, 17.03.2018	Khat a No. 51 Plot No. 170	20 1	1 55.2	85 9	52.5	OC	0.809	17680
7	Khandapada		Singh amundia/ 28.10.2019	Amit Kumar Mishra	Kanli a/ 87639 78577	3206/ 30.07.2018	2018-19	2022-23	29.10.2019	Working	NC	122/DEI AA, 30.05.2019	Khat a No.5 1 Plot No.1 70	20 1	1 46.0	85 9	59	OC	0.809	36523
8	Ranpur	Nagajhar Granite Stone	Nagajhar 18.11.16	Surya Kant Behra	Surya Kant Behra S/o - Agad hu At - Madh upur P.S.- Ranpur	Order No. 3432 Dtd 09.12.16	2015-16	2019-20	12/9/2016	Working	Non Cap five	Letter No.-38 Dtd 11.07.16	Khata No-132 Plot No.-73 Lat-19°59' 19.2" N to 19° 59' 25.3"	19 5	19.2	85 29	33.5	OC	8090	76680

11	Ranpur	Chhapa rikailam Gra nite Stone	Chhaparik oilima 26.03.16	LingarajPradhan S/o-Kanh eiPradhan	At - Lothachu P.O. Lothachu, P.S. - Ranpur	Order No.-1206 Dtd 18.05.2016	2015-16	2019-20	5/18/2016	Working	Non - Cap five	Letter No.-114 Dtd 30.05.2019	to 85° 23' 38.7"E	207	9.2	85	20	41.6	OC	8090	75447
12	Ranpur	Chhapa rikailam Gra nite Stone	Chhaparik oilima 13.05.16	Trilochan Swain S/o-Lingaraj Swain	Trilochan Swain At/P.O. - Saran gadh arpur P.S. - Ranpur	Order No.-1189 Dtd 07.04.2017	2015-16	2019-20	4/7/2017	Working	Non - Cap five	Letter No.-19 Dtd 27.04.2016	to 85° 23' 38.7"E	207	16.3	85	20	40.3	OC	8090	90450

13	Ranpur	Kotaghar Granite Stone	Sujit Kumar Sahoo S/o Prasan Kumar S/o Prasan Kumar S/o Prasan Kumar	Kotaghar 13.05.16	Bhaskar Ray Pritam S/o	Order No.-63 Dtd 22.07.2016	2015-16	2019-20	7/22/2016	Non - Working	Non - Cap five	Letter No.-11 Dtd 27.04.2016	20 ⁰⁹ 11.9" N Lag - 85° 19' 56.1"E to 85° 20' 1.1"E	20 ⁰⁹ 9.1"N to 20 ⁰⁹ 11.9" N	20 ⁰⁹ 9.1 19 85 31.4 20 ⁰⁸ 33.8" N	20 ⁰⁹ 56.1 19 85 31.4 20 ⁰⁸ 33.8" N	OC	8090	144000
14	Ranpur	Kotaghar Granite Stone	Bibhutibhusan Pradhan S/o Pradhan At - Kuanripatana P.S. Bolgarh Dist. Khurda	Kotaghar 13.05.16	Bhaskar Ray Pritam S/o	Order No.-61 Dtd 05.10.2016	2015-16	2019-20	05/10/2016	Non - Working	Non - Cap five	Letter No.-13 Dtd 27.04.2016	20 ⁰⁸ 31.4" N Lag - 85° 19' 52.9"E to 85° 19' 57.8"E	20 ⁰⁸ 31.4 19 85 31.4 20 ⁰⁸ 33.8" N	20 ⁰⁸ 52.9 19 85 31.4 20 ⁰⁸ 33.8" N	OC	8090	82215	
15	Ranpur	Kotaghar Granite Stone	Bhaskar Ray Pritam S/o	Kotaghar 13.05.16	Bhaskar Ray Pritam S/o	Order No.-62 Dtd 13.07.2016	2015-16	2019-20	13.07.2016	Non - Working	Non - Cap five	Letter No.-21 Dtd 27.04.2020	20 ⁰⁹ 13 20 85 31.4 20 ⁰⁸ 33.8" N	20 ⁰⁹ 40.9 20 85 31.4 20 ⁰⁸ 33.8" N	OC	8090	92610		

20	Das apa lla	Sub alay a Ston e	Subal aya	B.P.Be hera	At. Patap urpat ana P.S Dasp alla, 98610 72102	No.1737/ dt. 17.3.15	2015- 16	2019- 20	27.9.1 6	Wor king	NC	33/DEIA A DT.27.4. 16	Mouza - Subal aya Khata No.28 5 Plot - 1561 Area- 4.34	2 0 1 8 84 42.3 8	55	0.45	OC	1.75 hect.	5265 m3
21	Das apa lla	Ston e	Poiba di	Kheir abasi Pradh an	At. Kaim a P.S Dasp alla, 96929 45127	No.2269/ dt. 30.3.15	2015- 16	2019- 20	6.8.16	Wor king	NC	17/DEIA A DT.27.4. 16	Mouza - Poiba di Khata No.38 1 Plot - 1089 Area- 2.50	2 0 1 6 84 42.4	50	17.7	OC	1.01 hect.	6800 m3
22	Das apa lla	Ston e Qua rry	Baran ala	K.Pari da	At. Ghola handi P.S Dasp alla,	No.1710/ dt..16.3.1 6	2015- 16	2019- 20	6.8.16	Wor king	NC	31/DEIA A DT.27.4. 16	Mouza - Baran ala Khata No.27 192 Area- 2.50	2 0 2 1 84 26.3	57	19	OC	1.01 hect.	2934 m3

23	Das apa lla	Poib adis fone Qua rry	Poiba di	P.C Day	C/O- Y.F.C. Projec t PVT LTD.D aspall a, 88478 61513	No.12087 / dt.28.8.15	2015- 16	2019- 20	6.8.16	Wor king	NC	677/SEI AA DT.30.1. 16	Mouza a- Poiba di Khata No.38 1 Plot - 1090/ 2992 Area- 2.50	2 0 6 1 50.1 84 50 1.2 OC 1.01 hect. 196200 m3
24	Das apa lla	Stone Qua rry	Gunth apaju	Anjan Kuma r Pradh an	S. Gond evPvt. Ltd. Gunth apaju 99370 69056	No.1626/ dt.13.3.15	2015- 16	2019- 20	6.8.16	Wor king	NC	15/DEIA A DT.27.4. 16	Mouza a- Gunth hapaj u Khata No.40 1 Area- 2.50	2 0 5 1 54.1 84 49 31.3 7 OC 1.01 hect. 28000 m3
25	Nua gao n	Stone Qua rry	Jhara na	Fakira Saho o	S/o- Khali Saho o At- Kiriala ngi Po- Durd ura Dist- Naya garh	No.3714 dt.17.06.2 017	2017- 18	2021- 22	Dt.11. 10.201 7	Wor king	Non cap tive	No.548 dt.26.09 .2017	Ma.- Jhara naKh ata No.48 Plot No.14 9 Ac.3. 50	2 0 8 26 85 2 43 OC 1.4161 9315cu m
26	Od aga on	(Ro ad Met al) Gra nite stone	Dhab alei/ 20.11. 2017	Hadib andh uBeh era	At- Jadu pur P.O Goud aput P.S Odag aon Dist. Naya	Order No. 1477/dt. 6.7.2015	2015- 16	2019- 20	6.3.20 18	Wor king	NC	367/DEI AA DT.17.6. 2017	MZ. Dhab aleik hata No. 90, Plot no.5/ 1281 Area 3.58	1 9 5 49.7 84 59 49.5 OC 0.015 89775 cum

27	Nua gao n	Road metal gra nite ston e	Boda beran a	Road Metal (Stone) Area0.809	At/Po- Tinimu hani, P.S/Dis t- Kendra pada	1845/26.08 .2016	2015- 16	2019- 20	11.10. 2017	wor king	NC	548/26.0 9.2017	Mz- Badab erana Khata No.102 Plot No.455	8 4 5 8	5 8 5	54.5 5	20 18 3	50.3 3	oc	0.809	20003c um
28	Bha pur	Ston e	Kasia/ 10.06. 2016	Prava siniBar ad	At Bauns habat iPs Fateg arh	2617 dtd.10.08. 2016	2015- 16	2019- 20	10.08. 2016	Wori ng	NC	-	MzKa siakh ata No.3 plot No.17 9	2 0 1 3	56.5 0	85 16	41.4 0	Oc	5.665	8600	
29	Bha pur	Ston e	Mara da/30 .10.20 15	Dhan eswar Saho o	At Alasu a(Ban ki) Dist Cufka ck	2619 dtd. 10.08.201 6	2015- 16	2019- 20	10.08. 016	not Wor king	NC	-	Mz- Mara daKh ata No.42 7 plot No.53 8,843	1 9 2 0	59- 09	85 15	29.7 0	Oc	8.91	3000	

ANNEXURE II

ROADMETAL/ BLACK STONE/ GRANITE STONE SOURCES ALREADY AUCTIONED BUT NOT EXECUTED (LOI ISSUED) IN THE DISTRICT

Sl. No.	Name of Tahasil	village/District of Registration of lease deed	Name of Minor Mineral	Name of the Successful auction holder	Address & Contact No of Letter of Intent Holder	Letter of Intent Grant Order No. & date	Validity of Lol	Use (Captive/ Non-Captive)	Latitude				Longitude			Area of the mineral potential patch (in sq m)	Mineable mineral potential (in cum)
									De gree	Minut e	Sec ond	De gree	Minut e	Sec ond			
1	Dasapalla	Poibadi	Poibadi Stone Quarry-X	S.R,Samantarya ,P.A	Rohan Das Jayadev,Bihar, Nayagarh ,BBSR 9776056565	No. 1142 dt- 31.8.18	2018-19 to 2022-23	NC	11	12	13	14	15	16	17	18	
2	Odagaon	Tangara	Road Metal (Granite Stone) , Area - 0.708 Ha	Santosh Kumar Patra	At/PO,P.S Sarankul Dist. Nayagarh Mob. 9438205028	4724/1 3.12.20 18	2018-19 to 2022-23	NC	20	1	22	84	53	31	0.708	6060	
3	Odagaon	Panchu Pandab	Road Metal (Granite Stone) , Area - 3.642 Ha	Bichitra Kumar Behera	At- Dandore Po-Paik Pantikhari, P.S Odagaon Dist. Nayagarh Mob 9438485941	1011/6. 3.2019	2018-19 to 2022-23	NC	20	3	12	85	1	27	3.642 Hec.	6951	
4	Odagaon	Saradhapur	Road Metal (Granite Stone) , Area - 1.214 Ha	JyotiRanj anParida	At/ Po-Gotisahi, P.S Safankul Dist. Nayagarh Mob 9437271568		2018-19 to 2022-23	NC	19	59	49	84	0	39	1.214	145680	
5	Odagaon	Gothaban	Road Metal (Granite Stone) , Area - 0.809 Ha	Basudeb Nayak	At/ Po/ P.S Odagaon Dist. Nayagarh Mob 9437287212		2015-16 to 2019-20	NC	19	59	49	84	0	39	0.809	131058	

6	Bhapur	Hanumanta Prasad	Stone quarry	Rajesh Kumar Pradhan	At/Po Ps Fategarh Dist Nayagarh		2018-19-2022-23	NC	Mz- Hanumantprasad Khata No.205 Plot No. 1595,1596,1597	20	34	55.00	85	25	92.00	5.24	
7	Bhapur	Khaparmalla	Stone	Krushna Chandra Sahoo	At Dhanchangada Ps Fategarh Dist Nayagarh		2015-16-2019-20	NC	Mz- Khaparmalla Khata NO.3 Plot No.20,20/35	20	20	47.08	85	13	0.60	2.36	3000
8	Bhapur	Bhokilapada	Stone quarry	Biswaranjan Pradhan	At Jagannathprasad Ps- Fategarh Dist Nayagarh	2183 dtd.02.08.2018	2018-19 to 2022-23	NC	Mz- Bhokilapada Khata No.212 Plot No.36	20	13	70.80	85	11	22.80	0.308	5760
9	Bhapur	Kasia	Stone	Rajesh Kumar Pradhan	At/Po Ps Fategarh Dist Nayagarh	2182 dtd 02.08.2018	2018-19 to 2022-23	NC	Mz- Kasia Khata No.3 Plot No.180	20	13	5.00	85	16	58.10	3.23	17000

ANNEXURE III

POTENTIAL OF ROAD METAL/ BLACKSTONE/WHITESTONE IN THE DISTRICT

Sl. No.	Name of Tahasil	Name of village/ Date of registration of lease deed	Status	Name of Minor Mineral	Location of the Source (Total Hillock) recommended for mineral concession (Khata & Plot No)	Latitude			Longitude			Area of the mineral potential patch (in sq m)	Mineable mineral potential (in cum)
						De gree	Min ute	Seco nd	De gree	Min ute	Seco nd		
1	2	3	4	5	6	7	9	10	11	12	13	14	15
1	Khandapada	Ramchandiprasad	New	Stone/ 0.809	Khata No. 26 Plot No. 1/134	20	32	7.642	85	16.0	6.683		48540
2	Khandapada	Raghunathpur	New	Stone/ 0.28	Khata No. 120 Plot No. 307	20	19	47.38	85	16	8.82	8090	
3	Khandapada	Barabankhesara	New	Stone/ 0.202	Khata No. 23 Plot No. 09	20	21	16.58	85	13	9.498	2800	20160
4	Khandapada	Baraganada	New	Stone/ 0.809	Khata No. 156 Plot No. 472	20	17	58.108	85	8	2.571	2020	18180 101934
5	Khandapada	Kumbharapada	New	Stone/ 1.07	Khata No. 625 Plot No. 2664	20	21	22.95	85	1	51.81	10700	173340
6	Khandapada	Baragumundia	New	Stone/ 1.21	Khata No. 156 Plot No. 472	20	22	49.79	85	6	43.606	12100	101640
7	Khandapada	Kantilo	New	Stone/ 0.809	Khata No. 1402 Plot No. 3097	20	21	14.986	85	12	26.55	8090	111642

8	Khandapada	Kantilo	New	Stone/ 0.404	Khata No.1402 Plot No.3097	20	16	8.239	85	10	27.63 6	4040	43632
9	Khandapada	Kantilo	New	Stone/ 0.404	Khata No. 1402 Plot No. 3080	20	21	37.71 8	85	10	46.06 5	4040	36360
10	Khandapada	Khandapada	New	Stone/ 1.06	Khata No.2097 Plot No.2809	20	16	29.69	85	10	29.96 8	10600	127200
11	Khandapada	Khandapada	New	Stone/ 1.61	Khata No.2097 Plot No.2799	20	17	19.06 2	85	10	26.40 0	16100	96600
12	Khandapada	Kotapokhari	New	Stone/ 0.809	Khata No. 941 Plot No. 1230	20	18	6	85	10	7	8090	82518
13	Khandapada	Ostia	New	Stone/ 1.21	Khata No. 48 Plot No. 2	20	17	35.1	85	9	1	12100	152460
14	Khandapada	Kotapokhari	Running	Stone/ 1.417	Khata No. 941 Plot No. 93	20	17	35.1	85	9	1.0	14170	238056
15	Khandapada	Tangisa hinuaga on	Running	Stone/ 1.530	Khata No. 44 Plot No.249	20	12	12.2	85	8	54.6	15300	220320
16	Khandapada	Kusumada I & Kusumada II	Running	Stone/	Khata No.25 Plot No. 178 & 178/1	20	18	59.00	85	00	25.50	16187	72720
17	Khandapada	Tentulia palli	Running	Stone/ 0.809	Khata No. 81 Plot No.74	20	11	45.2	85	8	25.2	8090	140766
18	Khandapada	Jagannathprasad	Running	Stone/ 0.202	Khata No. 855 Plot No.3401,3449	20	11	7.93	85	11	24.74	2020	36360
19	Khandapada	Singhamundia-1	Running	Stone/ 0.809	Khata No. 51 Plot No. 170	20	16	55.20	85	9	52.5	8090	116496
20	Khandapada	Singhamundia-2	Running	Stone/ 0.809	Khata No.51 Plot No.170	20	16	46.02	85	9	59.00	8090	126204
21	Ranpur	Nillapalli	Running	G.S.	Khata No.207 Plot No.869/3	20	07	50.6	85	20	14.1	8090	97080

22	Ranpur	Nillapalli	Running	G.S.	Khata No.207 Plot No.	20	08	07	85	23	21.8	8090	82518
23	Ranpur	Chhapa rikoilam a	Running	G.S.	Khata No.129 Plot No.201/2	20	07	09.2	85	23	21.8	8090	
24	Ranpur	Chhapa rikoilam a	Running	G.S.	Khata No.129 Plot No.201	20	07	16.3	85	20	40.3	8090	121350
25	Ranpur	Chhapa rikoilam a	Running	G.S.	Khata No- 129 Plot No.-201/01 to 85° 20' 33.7"E	20	07	19.13	85	20	33.7	8090	111642
26	Ranpur	Kotaga da	Running	G.S 0.809Ha	Khata No.455 Plot No.1331	20	19.9	1	85	19	56.1	4050	46170
27	Ranpur	Kotaga da	Running	G.S 0.809Ha	Khata No.455 Plot No.1	20	08	31.4	85	19	52.9	8090	131058
28	Ranpur	Kotagar h	Running	G.S 0.809Ha	Khata No.455 Plot No.523	20	08	20.9	85	19	59.4	8090	135912
29	Ranpur	Kotaga da	Running	G.S 0.809Ha	Khata No.455 Plot No.1331	20	08	20.9	85	19	59.4	8090	126204
30	Ranpur	Nagajh ar	Running	G.S.	Khata No.132 Plot No.73	19	59	19.9	85	21	33.5	2090	23826
31	Ranpur	Chhanc hunia	Running	G.S. 0.607Ha	Khata No.02 Plot No.45/72	20	05	22.2	85	14	56.3	6070	87408
32	Ranpur	Katanisil a	New	G.S 0.101Ha	Kh No.287 PI No.1473	20	14	94.50	85	307	139		18786
33	Ranpur	Jalahari	New	G.S 0.202Ha	Kh No.179 PI No. 537	20	14	94	85	30	71.39	1010	
34	Ranpur	Ramabil o	New	G.S 0.202Ha	Khata No.- 662 Plot No.- 1806	20	16	91.96	85	31	63.52	2020	32724
35	Ranpur	Rajsuna khela	New	G.S 0.202Ha	Khata No.- 1099 Plot No. 2428	19	58	00.20	85	23	17.50	2020	31512
												2020	29088

36	Ranpur	Kotansila	New	G.S 0.101Ha	Khata No.- 287 Plot No. 368	20	15	14.51	85	31	12.44	1010	16362
37	Ranpur	Kotansila	New	G.S 0.202Ha	Khata No.- 287 Plot No. 1473	20	14	9.48	85	31	13.92	2020	30300
38	Ranpur	Talakani	New	G.S	Khata No.-607 Plot No. 704	20	08	0.18	85	21	0.19	31360	338688
39	Ranpur	Addala	New	G.S	Khata No.-448 Plot No. 279/1	20	07	03.05	85	21	40.50	2020	20604
40	Ranpur	Nillapalli	New	G.S	Khata No.-207 Plot No. 869/2	19	58	00.20	85	14	07.30	1610	28014
41	Ranpur	Pampada	New	G.S	Khata No.-512 Plot No. 534	20	02	52.20	85	21	17.08	2023.43	25495.22
42	Ranpur	Kerandatanggi	New	G.S	Khata No.-258 Plot No. 07	19	58	00.20	85	23	17.50	2000	30000
43	Ranpur	Chhaparikollima	Running	G.S	Khata No. 129 Plot No. 201/1								2000
44	Nuagaon	Ameimuhin	New	Stone Quarry (Area - Ac2.00de c.)	Mz- Ameimuhin Khata No.162 (AAA) Plot No.498 Area - Ac.2.00dec. Kisam - Parbat-I							8090	126204
45	Nuagaon	Sorada	New	Stone Quarry (Area - Ac1.50de c.)	Mz- Sorada Khata No.318 Plot No.1616 Area - Ac.1.50dec. Kisam - Parbat-III							6070	91050
46	Nuagaon	Badaberana	Running	Stone quarry area.Ac2. 00	Mz- Badaberana Khata No. 102 Plot No. 455 area Ac.2.00	20	18	50.33	84	58	54.55	0.0674	20003

47	Nuagaon	Jharana	Running	stone	Mz-JharanaKhata No.48 Plot No.149 Area AC 3.50	20	08	26.3	85	02	47.2	1.416	9315
48	Nuagaon	Khalamada											20000
49	Odagoon		Running	Road metal (Granite stone), Area 1.448 Ha. ,	Mz-Dhabalei, Khata No. 90, Plot No. 5/1281	19	59	49.7	84	59	49.5	14480	260640
50	Odagoon	Dhabalei	New	Road Metal (Granite Stone), Area 2.024 Ha.	Mz-PanchuPandab, Khata No.1, Plot No. 17,	20	01	22.28-90	84	53	31.91	20240	340032
51	Odagoon	PanchuPandab	New	Road Metal (Granite Stone), Area 1.214 Ha	Mz-PanchuPandab, Khata No.1, Plot No. 4,							12140	203952
52	Odagoon	Belaragadi	New	Road Metal (Granite Stone), Area 0.202 Ha.	Mz-Belaragadi, Khata No.163, Plot No. 240,							2020	36360
53	Odagoon	Tangara	New	Road Metal (Granite Stone), Area 1.012 Ha.	Mz-Tangara, Khata No.2, Plot No. 22,	20	3	3	85	07	05.80	10120	127512

61	Dasapalla	Poibadi	Running	Stone	Mouza - Poibadi Khata No.381 Plot -1089 Area-2.50	20	16	42.4	84	50	17.7	10117	109263.6
62	Dasapalla	Baranada	Running	Stone Quarry	Mouza - Baranada Khata No.27 Plot -192 Area-2.50	20	21	26.3	84	57	19	10117	163895.4
63	Dasapalla	Poibadi	Running	Poibadi Stone Quarry	Mouza - Poibadi Khata No.381 Plot -1090/2992 Area-2.50	20	16	50.1	84	50	1.2	10117	182106
64	Dasapalla	Gunthapaju	Running	Stone Quarry	Mouza - Gunthapaju Khata No.40 Plot -1 Area-2.50	20	15	54.13	84	49	31.37	10117	115333.8
65	Bhapur	Kasia-1	Running	Stone	Mz- KasisaKhata No.3 Plot No.179 Area ac 14.00	20	13	56.50	85	16	41.46	56657.2 2	509915
66	Bhapur	Marada	Running	Stone	Khata No.427 Plot No. 838.843 Area 8.91 hec	20	19- 20	57-9	85	15	29.70	89100	748440
67	Bhapur	Khapara malla	LOI	Stone	Khata No. 03 Plot no. 20,20/35, area AC 2.36	20	20	47.08	85	13	0.60	9550.78 9	74496.15
68	Bhapur	Bhokilapada	LOI	Stone	Khata No.212 plot no.36	20	13	70-80	85	11	22.80	20000	144000

69	Bhapur	Kasia-2	LOI	Stone	Khata No. 3 Plot No.180 area 3.23	20	13	05.00	85	16	58.10	13071.6	3	109801.7
70	Bhapur	Kanakut <ulikhesar< td=""> <td>New</td> <td>Stone</td> <td>Mzkanakutulikhe sara Khata No.02 Plot No.18 Area 13.00</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>52610.2</td> <td>8</td> <td>347227.8</td> </ulikhesar<>	New	Stone	Mzkanakutulikhe sara Khata No.02 Plot No.18 Area 13.00							52610.2	8	347227.8
71	Bhapur	Hanumanta Prasad	LOI	Stone	Mz-Hanumantaprasad Khata No. 205 Plot No. 1595,1596,1597 AreaAc 12.96 or 5.24 Ha	20	34	55.00	85	25	92.00	52448.4		472035.6
72	Bhapur	Chakra dharprasad	New	stone	MouzaChakradharprasadKhata No.589 Plot No. 3592 Area AC.2.74	20	14	58.6	85	17	39.1	11088.6	3	93144.48
73	Bhapur	Gobardhan Prasad	New	Stone	Mz-GobardhanprasadKhata No. 589 Plot No. 1017 Area 4.3							17401.8	6	135734.5
74	Bhapur	Dhalabandaha	New	stone	Khata 148 Plot No. 445 area AC12.37	10	14	52.6	85	16	06.4			
75	Bhapur	Kanakut <ulikhesar< td=""> <td>New</td> <td>Stone</td> <td>Mz-PurusottamprasadKhata no. 542, Plot No. 130, area AC 1.21</td> <td>20</td> <td>13</td> <td>55</td> <td>85</td> <td>12</td> <td>13</td> <td>50060.7</td> <td></td> <td>300364.2</td> </ulikhesar<>	New	Stone	Mz-PurusottamprasadKhata no. 542, Plot No. 130, area AC 1.21	20	13	55	85	12	13	50060.7		300364.2
												4896.80	3	41133.14

76	Bhapur	Sadhumundia	New	stone	Mz. Sadhumundia, khata No. 16 Plot No. 1,65 Area Ac.2.00	20	13-15	46-24	85	11-12	2.00-16	8093.889	58276
77	Bhapur	Kanakutuli stone-2	New	Stone	Mz. Kanakutuli Khesar, khata No. 2 plot No. 36, Area Ac.1.71							6920.275	62282.48
78	Bhapur	Boragao n Stone	New	stone	Mz. Boragaon, khata No. 1001 plot No. 2757, 2761, Area Ac.0.21	20	13	59	85	11.00-12.00	2.00-16.00	849.8584	6118.98
79	Bhapur	Pathara punji Stone	New	Stone	Mz- Patharapunji Khata No. 182 Plot No. 682,1027,1050/1085 Area.Ac.0.68	20	13	57.00	85	13.00-12.00	13.00-53.00	2751.922	23116.15
80	Bhapur	Baghua palli Stone	New	stone	Mz- Baghuapalli Khata No. 458 Plot No. 1446 Area.Ac 1.00	20	13	37	85			4046.945	31566.17
81	Bhapur	Mundab athalii Pahad-1	New	Stone	Mz- Mundubathii Khata No. 8 Plot No. 37 Area.Ac 1.00	20	14	15	85	12	12	4046.945	26709.83
82	Bhapur	Mundab athalii Pahada -2	New	stone	Mz- Mundubathii Khata No. 8 Plot No. 32 Area.Ac 0.41	20	13	36	85	11	04	1659.247	9955.484
83	Bhapur	Kanakutuli khesara-1	New	Stone	Mz- Pursoitampasad Khata No. 542 Plot No. 555 Area.Ac 0.25							1011.736	8498.584

84	Bhapur	Khanak uftuli Khesara- 2	New	stone	Mz- kanakutuliKhesar aKhata No.2 plot No.20 Area Ac2.00														8093.88 9	72845		
85	Nayagar h	Baulasa hi	Running	Stone	Khata No.430 Plot No.1348/2366	20	03	30.0	85	11	03.6	10000									102000	
86	Nayagar h	Adaban dha	Running	Stone	Khata No.224 Plot no. 382 area 0.259 ha	20	06	41.4	85	10	0.4	2590									18648	
87	Nayagar h	Baraban ka	New	Stone	Khata No.2 Plot No.22 area 1.214 ha																80124	
88	Nayagar h	Baraban ka-2	Running	Stone	Khata No. 2 Plot No. 22 area 1.214																12140	
89	Nayagar h	Pafacha ndiprasa d	New	Stone	Khata No. 145 Plot No. 216 area ac 1.00	-20	03	29	85	11	03.7	12140									109260	
90	Nayagar h	BirudaSu karmall Stone	New	Stone	Khata No. 1250 plot No. 3337 area ac 0.94																4046.94 5	33994.33
91	Nayagar h	Brundab anpur-1	Running	Stone	Khata No. 132 plot no. 416 area 0.809	20	07	51.35	85	08	19.10	8090									3804.12 8	34237.15
																						63102

92	Nayagar h	Brundab anpur - 2	Running	Stone	Khata No.132 plot No. 416 area 0.809	20	07	45.6	85	8	29.1	8090	58248
93	Nayagar h	Brundab anpur-3	New	Stone	Khata No.132 plot No.416 area 0.809							8090	53394
94	Nayagar h	Hafadw	New	Stone	Khata No.149 Plot No.110 area AC 4.32								
95	Khandap ada	Kusuma da	New	Stone	Mz- Kusumada Khata No.25 Plot No.178 Area 2 out of 11.78							17482.8	157345.2
96	Khandap ada	Singipur	New	Stone	Mz- Singipur Khata No.63 Plot No. 513 Area AC 6.25	20	19	0421	85	21	35		
97	Khandap ada	Bedaki	New	Stone	Mz- Bedaki Khata No.159 Plot No.1170 Area AC 12.08	20	17	56.19 588	85	9	13.11 12		
98	Daspalla	Poibadi	New	Stone Quarry-IV	Mz- Poibadi Khata No.381 Plot No.1145 Area 2.50								
99	Daspalla	Poibadi	New	Stone quarry -VI	Mz- Poibadi Khata No. 381 Plot No.1145 area 2.50								