



सत्यमेव जयते

राज्य स्तरीय पर्यावरण समाघात निर्धारण प्राधिकरण, झारखण्ड

State Level Environment Impact Assessment Authority, Jharkhand

पौधशाला परिसर, धुर्वा, बस स्टैण्ड, के समीप, पो0+थाना-धुर्वा, राँची झारखण्ड 834004

ई-मेल: chr-seiaajhr@gov.in एवं msseiaa.jhk@gmail.com; वेबसाइट: www.jseiaa.in

पत्रांक:- 480

दिनांक:- 05.11.2025

प्रेषक:

सदस्य सचिव,
राज्य स्तरीय पर्यावरण समाघात निर्धारण
प्राधिकरण (SEIAA), झारखण्ड।

सेवा में,

उपायुक्त,
जिला : लातेहार,
झारखण्ड।

विषय : लातेहार जिला का पत्थर खनिज से संबंधित (other than Sand Mining or River-Bed Mining) हेतु निर्मित अद्यतन (Updated) DSR के अनुमोदन के संबंध में।

प्रसंग : आपका कार्यालय का पत्रांक-1087/एम0, दि0-26.09.2025।

महाशय,

उपर्युक्त विषयक आपके कार्यालय के प्रासंगिक पत्र दिनांक 26.09.2025 द्वारा लातेहार, जिला का पत्थर खनिज से संबंधित (other than Sand Mining or River-Bed Mining) हेतु निर्मित अद्यतन (Updated) DSR की एक प्रति अनुमोदन हेतु दिनांक 03.10.2025 को SEIAA कार्यालय में समर्पित किया गया।

तदनुसार SEAC, झारखण्ड की 127वीं बैठक दिनांक 09.10.2025 से दिनांक 13.10.2025 में संबंधित DSR का आकलन किया गया तथा निम्नवत बिन्दुओं पर आपकी सहमति प्राप्त करते हुए DSR अनुमोदन हेतु SEIAA को अनुशंसा भेजा गया :

1. The updated DSR had been placed in the public domain for 21 days from the 02.07.2025. As per the Sub Divisional Committee no comments / observations were received.
2. The DSR has been prepared as per the format provided in the notification no SO 3611 (E), dated-25.07.2018 issued by MoEF & CC Govt. of India. The DSR submitted has been **prepared** by the Sub-Divisional Committee for final approval. All the aspects of the notification dated 25.07.2018 are incorporated in the DSR and found to be satisfactory.

तदालोक में SEIAA, झारखण्ड की 127वीं बैठक दिनांक 04.11.2025 एवं दिनांक 05.11.2025 में विचार किया गया तथा सामुहिक निर्णयोंपरांत लातेहार, जिला का पत्थर खनिज

से संबंधित (other than Sand Mining or River- Bed Mining) हेतु निर्मित अद्यतन (Updated) DSR का अनुमोदन किया गया।

लातेहार, जिला का पत्थर खनिज से संबंधित (other than Sand Mining or River- Bed Mining) हेतु निर्मित अद्यतन (Updated) अनुमोदित DSR की एक मूल प्रति अत्र-सह-संलग्न कर आपको अग्रेतर कार्रवाई हेतु भेजा जा रहा है।

अनु० यथोक्त।

विश्वासभाजन,



सदस्य सचिव,

राज्य स्तरीय पर्यावरण समाघात निर्धारण



प्राधिकरण (SEIAA), झारखण्ड।





DISTRICT SURVEY REPORT

FOR

MINOR MINERAL – STONE

[OTHER THAN SAND MINING OR RIVER-BED MINING]

IN

LATEHAR DISTRICT OF JHARKHAND STATE

PREPARED AS PER

Gazette Notification No. - S.O. - 3611 (E), 25th July 2018 by 'MoEF & CC'

PREPARED BY:

SUB-DIVISIONAL COMMITTEE

LATEHAR DISTRICT, JHARKHAND



-143-

**DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND
MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND**



TABLE OF CONTENT

Chapter No.	Description	Page No.
A	Index	1-6
B	Recommended by Sub-Divisional Committee and Deputy Commissioner, Latehar	7-7
	Preface	8-8
1	Introduction	9-13
	1.1 Statutory framework	9-10
	1.2 Methodology of DSR preparation	10-13
2	Overview of mining activity in the District	14-16
	2.1 Overview of mining activity	14-14
	2.2 Details of Expired Mining Leases in the District	15-16
3	General Profile of the District	17-28
	3.1 General Information	17-19
	3.2 Climatic Condition	19-20
	3.3 Rainfall	20-20
	3.4 Topography & Terrain	21-21
	3.5 Drainage System	21-21
	3.6 Demography	22-22
	3.7 Connectivity in Latehar District	22-23
	3.8 Flora & Fauna	23-25
	3.9 General Landforms	26-26
	3.10 Soil	27-27
	3.11 Geomorphology	27-28
4	Geology & Mineral Wealth of the District	29-32
	4.1 Geology	29-30
	4.2 Overview of Mineral Resources	31-32
5	Drainage System & Irrigation Pattern	33-34
	5.1 Drainage System with description of main River	33-33
	5.2 Salient features of important Rivers & Streams	33-33
	5.3 Drainage System	34-34
6	Land Utilization Pattern of the District	35-39

-142-

**DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND
MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND**



	6.1 Forest	35-36
	6.2 Agriculture & Irrigation	36-39
7	Ground Water Scenario of the District	40-45
8	Rainfall & Climate of the District	46-47
9	Details of Existing/Working Mining Leases in the District	48-51
10	Details of Royalty or Revenue received in last three years	52-52
11	Details of Production of Minor mineral in last three years	53-53
12	Mineral Map of the District	54-55
13	List of Letter of Intent (LoI) Holders in the District along with its validity	56-56
14	Total Mineral Reserve available in the District	57-83
15	Quality/Grade of mineral available in the District	84-84
16	Use of mineral	85-88
17	Demand and Supply of the mineral in the last three years	89-89
18	Mining Leases marked on the map of the District	90-90
19	Details of the area of where there is a cluster of mining leases viz. number of mining leases, location (Latitude and Longitude)	91-91
20	Details of Eco-Sensitive area, if any, in the District	92-123
21	Impact on the Environment (Air, Water, Noise, Soil, Flora & Fauna, Land use, Agriculture, Forest etc.) due to mining activity	124-130
22	Remedial measures to mitigate the impact of mining on the environment	131-132
23	Reclamation of mined-out area (best practice already implemented in the District, requirement as per rules and regulation, proposed Reclamation Plan)	133-133
24	Risk Assessment & Disaster Management Plan	134-135
25	Details of the Occupational Health issues in the District. (Last five-year data of number of patients of Silicosis & Tuberculosis is also needs to be submitted)	136-137
26	Plantation and Green Belt development in respect of leases already granted in the District	138-140
27	Additional Information	141-142
28	Reference	142-142

DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



LIST OF FIGURES:

Figure No.	Description	Page No.
Figure No. 3.1	Representative location of Latehar District	17
Figure No. 3.2	Block Map of Latehar District	19
Figure No. 3.4	Major Rivers of Latehar District	21
Figure No. 3.5	Route Map of Latehar District	23
Figure No. 3.6	Map Showing Elevation Profile of Latehar District	26
Figure No. 3.7	Soil Map of Latehar District	27
Figure No. 3.8	Geomorphology Map of Latehar District	28
Figure No. 3.9	Geomorphological Map of Latehar District	28
Figure No. 4.1	Geological Map of Latehar District	30
Figure No. 4.2	Mineral Map of Latehar District	31
Figure No. 4.3	Map Showing Rocks & Mineral types of Latehar District	32
Figure No. 5.1	Drainage Map of District	34
Figure No. 6.1	Forest Cover Map of Jharkhand	35
Figure No. 6.2	Land Use/Land Cover of Latehar District	37
Figure No. 6.3	Pie Chart Representation of Land Use/Land Cover of Latehar District	38
Figure No. 6.4	Map Showing Major Waterbodies of Latehar District	39
Figure No. 7.1	Hydrogeological Map of Latehar District, Jharkhand	40
Figure No. 7.2	Map Showing Depth of Water Level of Latehar District	42
Figure No. 8.1	Average Annual Temperature Graph of Latehar District	46
Figure No. 12.1	Mineral Map of Latehar District	54
Figure No. 12.2	Map Showing Rocks & Mineral types of Latehar District	55
Figure No. 20.1	Map of Palamau Wildlife Sanctuary, Betla National Park and Mahuadanr Wolf Sanctuary, Jharkhand along with Eco-Sensitive Zone	92
Figure No. 20.2	Map showing villages fall within Eco-Sensitive Zone	98
Figure No. 20.3	Map Showing Lawalong Wildlife Sanctuary	110
Figure No. 20.4	Eco-Sensitive Zone of Lawalong Wildlife Sanctuary	111
Figure No. 20.5	Eco-Sensitive Zone of Palamau Wildlife Sanctuary, Betla National Park & Mahuadanr Wolf Sanctuary	120
Figure No. 20.6	Catchment of 3 major Rivers in Palamau Tiger Reserve & Revised Eco-Sensitive Zones; Palamau Wildlife Sanctuary, Betla National Park & Mahuadanr Wolf Sanctuary	121



DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



Figure No. 20.7	Boundary Points of Eco-Sensitive Zone & Protected Areas	122
Figure No. 20.8	Boundary Description of Eco-Sensitive Zone	123

LIST OF TABLES:

Table No.	Description	Page No.
Table No. 1.1	Requirement of District Survey Report and its year-wise modification	09-10
Table No. 1.2	Pictorial Descriptions of Physiographic Classification	11-12
Table No. 2.1	Minor mineral's Mining Leases in Latehar District	14-14
Table No. 2.1.1	Major mineral's Mining Leases in Latehar District	14-14
Table No. 2.2	Details of Expired Mining leases in the District	15-15
Table No. 3.1	Latehar District at A Glance	17-18
Table No. 3.2	Monthly Average Temperature of Latehar District	20-20
Table No. 3.3	Month-wise Rainfall	20-20
Table No. 3.4	Population Data of 2021 Census	22-22
Table No. 5.1	Drainage System with description of main Rivers	33-33
Table No. 5.2	Salient features of important River & Streams	33-33
Table No. 6.1	District wise Forest Cover Area in Jharkhand	36-36
Table No. 6.2	Land Use/Land Cover Classes	37-37
Table No. 7.1	Depth to Water Level of Hydrograph Network Stations Located in Latehar District (2012-13)	41-41
Table No. 8.1	Month-wise Rainfall	46-46
Table No. 8.2	Monthly average temperature of Latehar District	47-47
Table No. 9.1	Details of Existing/Working Mining Leases in the District	48-51
Table No. 10.1	Details of Royalty/Revenue received in last three years	52-52
Table No. 11.1	Details of Production of Minor minerals in last three years	53-53
Table No. 13.1	List of Letter of Intent (LoI) Holders in the District	56-56
Table No. 20.1	List of Geo-Coordinates of Boundary of Protected Area	93-93
Table No. 20.2	List of Geo-coordinates of Palamu Wildlife Sanctuary, Betla National Park and Mahuadanr Wolf Sanctuary	93-93
Table No. 20.3	List of Prohibited & Regulated Activities in the Eco-Sensitive Zone	94-97
Table No. 20.4	List of Villages fall within ESZ of PWLS, BNP, MWS	98-109





DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND

Table No. 20.5	Geo-coordinates of Eco-Sensitive Zone Boundary within Latehar District	111-111
Table No. 20.6	List of villages in Latehar District falling within Lawalong Eco-Sensitive Zone	111-115
Table No. 20.7	Geo Co-ordinates of Lawalong Wildlife Sanctuary	115-115
Table No. 20.8	Geo-coordinates of Eco-Sensitive Zone Boundary	115-116
Table No. 20.9	List of Prohibited & Regulated Activities in Lawalong Eco-Sensitive Zone	116-119





DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND

LIST OF DOCUMENTS:

Sl. No.	Description	Page No.
1	Report from Circle Officers & Divisional Forest Officers against issued Letter of Intent (LoI)	
2.	Letter from DMO regarding Advertisement in NIC Portal	

LIST OF MAPS:

Sl. No.	Description	Map No.
1	Existing/Working Mining Leases marked on map of Latehar District	A
2	Map showing Mining Leases with Issued Letter of Intent (LOI) marked on Map of Latehar District	B
3	Map showing Identified Potential Stone Deposits	C



[Handwritten signature]



**DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND
MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND**

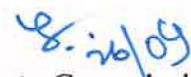
Recommended by Sub-Divisional Committee and Deputy Commissioner, Latehar


District Mining Officer
Latehar


Assistant Director, Geology
Latehar


Executive Engineer
Minor irrigation, Latehar


Divisional Forest Officer
Latehar


Deputy Commissioner
Latehar

Approved By


Chairman
State Level Environment Impact
Assessment Authority, Jharkhand


SEIAA, Jharkhand
Member Secretary
State Level Environment
Impact Assessment Authority
Jharkhand


Member
State Level Environment Impact
Assessment Authority, Jharkhand

-136-

DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



PREFACE

The need for District Survey Report (DSR) have been necessitated by Ministry of Environment, Forest and Climate Change (MoEF & CC) vide their Notification No. - 125 (Extraordinary, Part II Section 3, Sub-section ii), S.O. - 141 (E), dated 15th January 2016. The notification was addressed to bring certain amendments with respect to the EIA notification 2006 and in order to have a better control over the legislation, District level committees have been introduced in the system. As a part of this notification, preparation of District Survey Report has been emphasized. Subsequently, MoEF & CC has published Notification No. - 3611 (E), dated 25th July 2018 regarding inclusion of the format of District Survey Report (DSR) for "Minor minerals other than Sand Mining or River-bed Mining". This DSR has been prepared in conformity with the Notification No. - S.O. - 141 (E), S.O. - 3611 (E) and other Sand mining guidelines published by MoEF & CC time to time as well as the requirement specified in Jharkhand Minor Mineral Concession Rules.

The main purpose of DSR is to identify the mineral potential areas to develop the mining activities along with relevant current geological data of the district where mining can be allowed; and also to distinguish the areas where mining will not be allowed due to proximity to infrastructural structures and installations. The District Survey Report shall guide for systematic and scientific utilization of natural resources, so that present and future generation may be benefitted at large.

Latehar district is one among the 24 district of Jharkhand State. It lies in the north-west corner of Jharkhand State. Latehar is a town, which is also administrative headquarters of Latehar district. It is located at a distance of 110 km north-west from the State Capital Ranchi. Latehar is known for its natural environment, forest, forest products and mineral deposits. Latehar remained a part of Palamau district as a sub division since 1924. It was elevated from sub divisional status to a district on 4th April 2001, vide Govt. Jharkhand Notification No. - 946 dated 04.04.2001. Latehar is located on the north-west corner of Jharkhand in the Palamau Commissionary. It is surrounded by Ranchi, Lohardaga and Gumla district in the east to south east; Chatra, Palamau and Garhwa district in the north to north-west and Jashpur, Balrampur district of Chhattisgarh State is in the west. District headquarter is situated at 84.51198 East Longitude and 23.741988 North Latitude. Elevation/Altitude of the district varies between 515-295 meters above sea level.

It's a predominantly tribal district with almost 45.54% of the population belonging to the schedule tribes and more than 21.31% of total population comprises SCs and STs. As of 2011 India Census, Latehar district has a population of 7,26,978. Males constitute 51% of the population and females 49%. Latehar has an average literacy rate of 59.51 Male literacy is 69.97, and female literacy is 48.68. In Latehar, 18.94% of the population is under 6 years of age and sex ratio is 967 females per 1000 male. It is the 20th largest district in the State by population. The total area of the district is 3651.59 km² having population density of 169. Latehar district is comprised of 7 Blocks, 118 Panchayats & 811 Villages. Garu block is the smallest block having population of 30,274. Latehar block is the biggest block by population with 1,44,495.

The drainage of the district is mainly controlled by the River North Koel and its tributaries viz the Auranga and Amanat. The general line of drain is from south to north towards River Sone.

The occurrence of Minor minerals in the district have been established by Department of Mines and Geology, Government of Jharkhand and others in previous instances. It requires further systematic and scientific approach to quantify the resource along with their grade assessment. This report also recommends to undertake detail exploration program to assess the Minor mineral occurrences in the district and should have a proper development and production plan for the specified minerals so as to satisfy the demand and supply gap of Minor minerals in the district.



DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



1. INTRODUCTION

The District Survey Report of Latehar district has been prepared as per the guidelines of Ministry of Environment, Forest & Climate Change (MoEF & CC), Government of India vide Notification S.O. - 1533(E) dated 14th Sept. 2006 and subsequent MoEF & CC Notification S.O. - 141(E) dated 15th Jan. 2016. This report shall guide systematic and scientific utilization of natural resources, so that present and future generation may be benefitted at large. Further, MoEF & CC published a notification S.O. - 3611(E), dated 25th July, 2018 and recommended the format for District Survey Report for Minor minerals other than Sand Mining or River-bed Mining.

The Objectives of the District Survey Report are as following:

1. Identification and Quantification of mineral resource and its optimal utilization.
2. To regulate the Minor mineral's mining in the Country, identification of site specific end-use consumers and reduction in demand & supply gaps.
3. Use of information technology (IT) & latest scientific method of mining for surveillance of the Minor mineral's mining at each step.
4. District Survey Report shall enable Environmental Clearance for cluster of Minor mineral. It shall assist concerned Department during post environmental clearance monitoring.
5. To control the instance of illegal mining.
6. To maintain the livelihood of nearby village's peoples.
7. To keep accumulated data records viz. Details of Mineral Resource, Potential area, Lease, Approved Mining Plan, Co-ordinates of a District at one place.
8. To maintain the records of Royalty/Revenue generation.
9. A concise guideline can be framed considering the point discussed in the DSR for Minor mineral's mining in the district.

The District Survey report (DSR) is comprised of secondary data published and endorsed by various Departments and websites about Geology of the area, Mineral resources, Climate, Topography, Landforms, Forest, Rivers, Soil, Agriculture, Road, Transportation, Irrigation etc. Data on lease and mining activities in the district, revenue etc. are collected from concerned District Mining Office.

1.1 Statutory Framework:

The below table has mentioned the requirement of District Survey Report and its year wise modification;

Table 1.1: Requirement of District Survey Report & its year wise modification

Year	Particulars
1994	The Ministry of Environment, Forest & Climate Change (MoEF & CC) published Environmental Impact Assessment Notification 1994 which is only applicable for the Major minerals having mining lease area more than 5 Ha.
2006	In order to cover the minor minerals also into the preview of EIA, the MoEF & CC issued EIA Notification S.O. - 1533 (E), dated 14 th September 2006, made mandatory to obtain Environmental Clearance for both Major & Minor mineral having mining lease area more than 5 Ha.
2012	Further, Hon'ble Supreme Court wide order dated 27 th February 2012 in I.A. No. - 12-13 of 2011 in Special Leave Petition (C) No. - 19628-19629 of 2009, in the matter of Deepak Kumar etc. Vs. State of Haryana and Others etc., ordered that "leases of minor minerals including their renewal for an area of less than five hectares be granted by the States/Union Territories only after getting environmental clearance from MoEF & CC"; and Hon'ble National Green Tribunal, order dated 13 th January, 2015 in the matter regarding Sand

DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



	mining has directed for making a policy on Environmental Clearance for mining leases in cluster for Minor minerals.
2016	The MoEF & CC in compliance of above Hon'ble Supreme Court's and NGT's order has prepared "Sustainable Sand Mining Guidelines (SSMG), 2016" in consultation with State Governments, detailing the provisions on Environmental Clearance (EC) for cluster, creation of District Environment Impact Assessment Authority, preparation of District Survey Report and for proper monitoring of minor mineral. Thereby issued notification dated 15.01.2016 for making certain amendments in the EIA Notification, 2006, and made mandatory to obtain EC for all minor minerals. Provisions have been made for the preparation of District Survey Report (DSR) of River-bed material and other minor minerals.
2018	MoEF & CC published a notification S.O. - 3611(E) Dated 25 th July 2018 and recommended the format for District Survey Report for Minor minerals other than Sand mining or River-bed mining. The notification stated about the objective of DSR, i.e. "identification of the mineral potential areas to develop the mining activities along with relevant current geological data of the District where mining can be allowed; and also to distinguish the areas where mining will not be allowed due to proximity to infrastructural structures and installations."

➤ The Ministry of Environment Forest & Climate Change formulated the format of District Survey Report for Minor minerals other than Sand Mining or River-bed Mining which focuses on the management of Minor mineral's mining in the country. But in the recent past, it has been observed that apart from management and systematic mining practices there is an urgent need to have a guideline for effective enforcement of regulatory provision and their monitoring. Section 23 C of MMDR 1957 empowered the State Government to make rules for preventing illegal mining, transportation and storage of minerals but in the recent past, it has been observed that there was large number of illegal mining cases in the Country and in some cases, many of the officers lost their lives while executing their duties for curbing illegal mining incidence. The illegal and uncontrolled illegal mining leads to loss of revenue to the State and degradation of the environment.

1.2 Methodology of DSR Preparation:

The data related to district profile, geology, mineralization, mining activity are sketchy and disjointed. There are multiple data sources, which are in the public domain, as well as in government website. To prepare District Survey Report, need to collate all the available databases on these regards. A comprehensive and a meaningful interpretable database created, which would be necessary to demonstrate the district overview. Workflow for the DSR job is as follows.



Data source Identification: District Survey Report has been prepared based on the primary data base collected from different sources. The data sources which are used in DSR are mostly based on Government published data or the published report in reputed journal. District profile



DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND

has been prepared based on the District Census 2021. Potential mineral resources have been described based on GSI or any other Govt. agencies work done. Mining lease details and the revenue generated from Minor minerals has been prepared based on available data from District Mining Office of the district. Satellite image has been used for map preparation related to physiography and land utilization pattern of the district.

Data Analysis and Map Preparation: Dataset which are captured during the report preparation are gone through detail analysis work. District Survey Report involves the analytical implication of captured dataset to prepare relevant maps. Methodology adopted for preparation of relevant maps is explained below.

Land Use and Land Cover Map:

Land Use and Land Cover classification is a complex process and requires consideration of many factors. The major steps of image classification may include determination of a suitable classification system via Visual Image Interpretation, selection of training samples, Satellite image (FCC - False Color Composition) pre-processing, selection of suitable classification approaches, post-classification processing and accuracy assessment.

Here, LISS-III Satellite imagery has been taken for Supervised Classification as supervised classification can be much more accurate than unsupervised classification, but depends heavily on the training sites, the skill of the individual processing the image and the spectral distinctness of the classes in broader scale.

According to the Visual Image Interpretation (Tone, Texture, Colour etc.) training set of the pixel has been taken.

Table 1.2: Pictorial Descriptions of Physiographic Classification

	
Agricultural Land - Based on their Geometrical shape, Red and Pink color tone, Agricultural Land has been identified.	Vegetation Covered Area - Based on their continuous Red color tone, Vegetation Covered Area has been identified.
	
Agricultural Fallow Land - Based on their Geometrical shape, Light and dark Cyan with light Pink color tone, Agricultural Fallow Land has been identified.	Bad Land Topography - Light Yellowish mixed with Cyan color has been identified as Bad Land Topography.

[Handwritten signature]



DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



	
Settlement – Area with Cyan color including geometrical shape has been recognized as Settlement Area.	Water Bodies – Dark Blue color has been classified as Water Bodies.

Geomorphological Map:

The major steps of preparing Geomorphological Map is identifying features like – Alluvial Fan, Alluvial Plain, Hilly region etc. from Satellite imagery (FCC - False Color Composition) via Visual Image Interpretation and then digitization has been taken into the consideration to prepare map including all the Geomorphological features according to their location.

Physiographical Map:

The major step of preparing Physiographical Map is generating contour at a specific interval to show the elevation of the area using CARTOSAT DEM.

Block Map:

- Raw Data collected from **National Informatics Centre (NIC Website)** during March 2022 and October 2022.
- Data has been geo-referenced using GIS software.
- Digitization of Block boundary, District Boundary, State Boundary, International Boundary and District Headquarter, sub-district Headquarter, Places, Road, Railway, River, Nala etc.
- Road name, River name, Railway name has been filled in attribute table of the Layers.
- Final layout has been prepared by giving scale, legend, north arrow, etc.

Transportation Map:

- Raw Data collected from **National Informatics Centre (NIC Website)** during March 2022 and October 2022.
- Data has been geo-referenced using GIS software.
- Digitization of Block boundary, District Boundary, State Boundary, International Boundary and District Headquarter, sub-district Headquarter, Places, Road, Railway, River, Nala etc.
- Road name, River name, Railway name has been filled in attribute table of the Layers.
- Final layout has been prepared by giving scale, legend, north arrow, etc.

Drainage Map:

- Raw Data collected from **National Informatics Centre (NIC Website)** during March 2022 and October 2022.
- Data has been geo-referenced using GIS software.
- Block boundary, District Boundary, State Boundary, International Boundary & District Headquarter, sub-district Headquarter, Places, Road, Railway, River, Nala etc.
- Road name, River name, Railway name has been filled in attribute table of the Layers.
- Final layout has been prepared by giving scale, legend, north arrow, etc.



- 131 -

DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



Earthquake Map:

- Raw data collected from **Ministry of Earth Science.**
- Data has been geo-referenced using GIS software.
- Digitization of Earthquake zone and superimposed it over Block Boundary.
- Zone name has been filled in attribute table of the Layers.
- Final layout has been prepared by giving scale, legend, north arrow, etc.

Soil Map:

- Raw data collected from **National Bureau of Soil Survey and Land Use Planning.**
- Data has been geo-referenced using GIS software.
- Digitization of Soil classification zone and superimposed it over District Boundary.
- Soil classification has been filled in attribute table of the Layers.
- Final layout has been prepared by giving scale, legend, north arrow, etc.

Wildlife Sanctuary and National Park Location Map:

- Raw data collected from **ENVIS Centre on Wildlife & Protected Areas** during August 2022.
- Data has been geo-referenced using GIS software.
- Digitization of Wildlife Sanctuary & National Park and superimposed it over Block Boundary.
- Wildlife Sanctuary & National Park name has been filled in attribute table of the Layers.
- Final layout has been prepared by giving scale, legend, north arrow, etc.

Primary Data Collection: Field data collection is an integral part of DSR preparation. This report has been prepared with the holistic approach and data provided by District Mining Office. The DSR with all updated data has been prepared.

Report Preparation: District Survey Report has been prepared to fulfil the purpose of identification of mining area for Minor mineral and their impact on environment. Report provides details of the mineral potential zones. Assessing mining prospect with respect to minor minerals, List of Letter of Intent (LOI) incorporated in this report. Report also provides the socio environmental study for establishing mines of Minor minerals in the district.





2. OVERVIEW OF MINING ACTIVITY IN THE DISRICT

2.1 Overview of mining Activity:

The State stretches over 79,714 km² geographical areas with 29.61% forest area and owns about 40% of total mineral resources of India. The State occupies 1st position in Coal reserves, 2nd position in Iron, 3rd position in Copper ore reserve and 7th position in Bauxite reserve and is the sole producer of prime coking Coal. Limestone, Dolomite, Manganese, Mica, China Clay, Graphite, Soap stone, Fire Clay, Coal Bed Methane, Uranium, Phosphorite, Apatite, Quartz, Feldspar, Gold and Pyroxenite are the other important minerals available in huge quantities in State. Latehar came into existence as a district on 1st April, 1991. Prior to this, it formed part of Dhanbad & Giridih district. Latehar district is famous for steel manufacturing unit. The Latehar district is rich in Coal minerals and other Major minerals are Limestone & Coal Bed Methane (CBM). Other mineral like Stone, Sand, Limestone, Quartz, Soil/Clay etc. are also available in the district. Jharkhand is known for its rich mineral resources. The main mineral resources found in Latehar district are Coal, Limestone, CBM and Stone Chips, building & road construction Stones, Quartzite, Soil/Clay etc. The mining in these leases is regulated as per different mineral concession rules of Jharkhand. At present, 04 leases of Stone are operational in the Latehar district.

Table 2.1: Minor mineral's Mining Leases in Latehar District

Sl. No.	Name of Mineral	Total No. of Leases in Latehar District
1	Stone	Working Leases – 17
		Non-Working Leases - 04
		Expired Leases - 08

Table 2.1.1: Major mineral's Mining Leases in Latehar District

Sl. No.	Name of Mineral	Total No. of Leases in Latehar District
1	Coal	Working Leases - 04



[Handwritten signature]



**DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR
LATEHAR DISTRICT OF JHARKHAND**

2.2 Details of Expired Mining Leases in the District:

Sl. No.	Name of the Mineral	Name of the Lessee	Address of the Lessee	Area of Mining Lease (Acres/Ha.)	Location of the Mining Lease	Period of Mining Lease
1	2	3	4	5	6	7
1	Marble	Saiyad Md. Naiyar S/o Saiyad Saud Ahmed	Village – Rerma P.O. – G.L.A. College P.S. – Daltonganj Dist. – Medininagar	1.00/0.40	Mouza – Sadhwadhi P.S. – Manika Khata No. – 32 & 22 Plot No. – 325 & 312(P)	02.12.2010 01.12.2020
2	Stone	Shri Vishnu Deo Prasad S/o Shri Suraj Do Prasad	Village – Baariyaatu P.O. – Baarikhap Dist. – Latehar	2.50/1.01	Mouza – Vaarikhap P.S. – Balumath Khata No. – 01 Plot No. – 1360	16.04.2010 15.04.2020
3	Stone & Morrum	Md. Junaid Anwar S/o Anwar Hussain	Village + P.O. – Balumath P.S. – Balumath Dist. – Latehar	1.85/0.74	P.S. – Birbir P.S. – Balumath Khata No. – 04 & 27 Plot No. – 198, 199 & 200	16.12.2004 15.12.2014 Lease period extend from 17.10.2017 up to 31.03.2020. Lease period re-extend from 01.04.2020 up to 31.03.2022.
4	Stone	Shri Jitendra Prasad S/o Shri Devnandan Prasad	Village – Gari P.O. – Baarikhap P.S. – Balumath Dist. – Latehar	2.08/0.842	P.S. – Gari P.S. – Balumath Khata No. – 92 Plot No. – 137	12.01.2009 11.01.2019 Lease period extend from 05.01.2019 up to 31.03.2020. Lease period re-extend from 01.04.2020 up to 31.03.2022.



[Handwritten signature]



**DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR
LATEHAR DISTRICT OF JHARKHAND**

5	Stone & Morrum	M/s Priya Stone Mines Proprietor: Shri Sitaram Prasad	Village – Semarbudhni P.O. – Aksi P.S. – Mahuadand Dist. - Latehar	7.58/2.89	Mouza – Kurund P.S. – Mahuadand Khata No. – 73, 15 & 87 Plot No. – 213, 162 & 214	22.10.2014	21.10.2019
6	Marble	Shri Ashok Kumar S/o Shri Shiv Nath Prasad	Village – Manika P.O. – Manika P.S. – Manika Dist. - Latehar	1.00/0.40	Mouza – Sadhwadih P.S. – Manika Khata No. – 07 & 13 Plot No. – 876 & 870(P)	19.12.2016	18.12.2021
7	Stone	Shri Ram Nath Gupta S/o Late Dwarika Sahu	Village – Chandwa P.O. – Chandwa P.S. – Chandwa Dist. - Latehar	4.29/1.73	Mouza – Itke P.S. – Balumath Khata No. – 114 Plot No. – 1562(P), 1565, 1577 & 1585	17.10.2017	16.10.2027
8	Stone	Shri Rajat Kapoor S/o Late Ravi Dutt Kapoor	Village – Belwatikar P.O. – Daltonganj P.S. – Daltonganj Dist. - Palamau	6.90/2.79	Mouza – Sadhwadih P.S. – Manika Khata No. – 17 & 39 Plot No. – 1215 & 1239	25.04.2020	24.04.2030 The Lease has been liquidated on 03.05.2023



[Handwritten signature]



3. GENERAL PROFILE OF THE DISTRICT

3.1 General Information:

Latehar district is one among the 24 district of Jharkhand state. It lies in the north-west corner of Jharkhand State. Latehar is a town, which is also administrative headquarters of Latehar district. It is located at a distance of 110 km North-West from the state capital Ranchi. Latehar is known for its natural environment, forest, forest products and mineral deposits. Latehar remained a part of Palamau District as a sub division since 1924. It was elevated from sub divisional status to a district on 4th April 2001, vide Jharkhand Govt. Notification No. – 946, dated 04.04.2001. Latehar is located on the north-west corner of Jharkhand in the Palamau Commissioner's area. It is surrounded by Ranchi, Lohardaga and Gumla district in the east to south east; Chatra, Palamau and Garhwa district in the North to North West and Jashpur, Balrampur district of Chhattisgarh state is in the west. District headquarter is situated at 84.51198 East Longitude and 23.741988 North Latitude. Elevation/Altitude of the district varies between 515-295 meters above sea level.

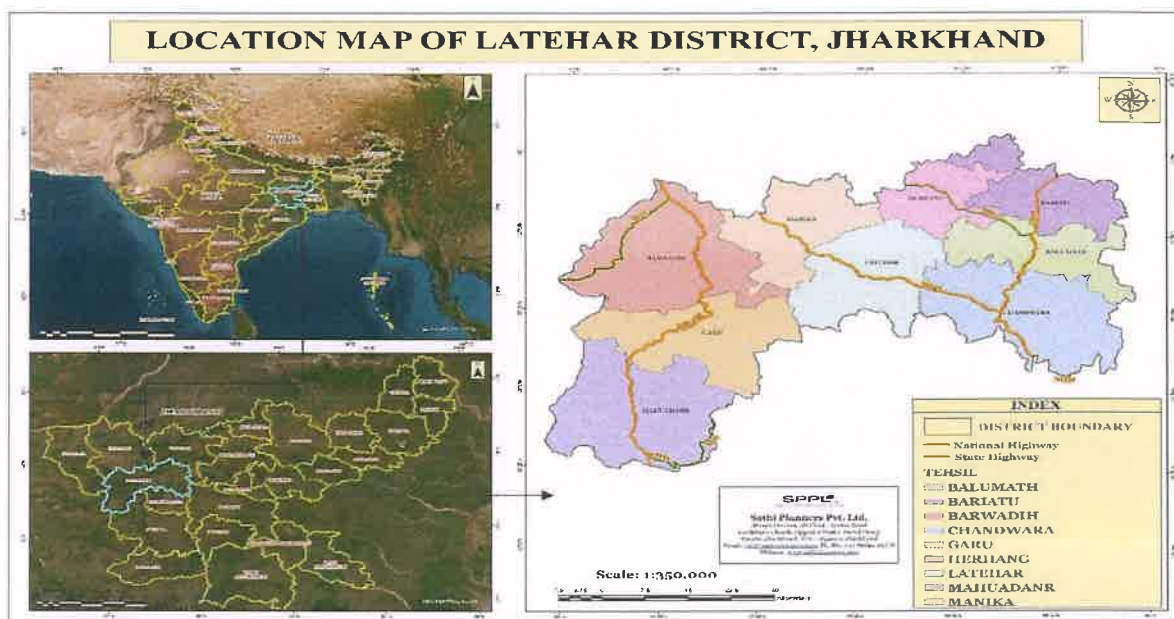


Fig. 3.1: Representative location of Latehar District

It's a predominantly tribal district with almost 45.54% of the population belonging to the schedule tribes and more than 21.31% of total population comprises SCs and STs. As of 2011 India Census, Latehar district has a population of 7,26,978. Males constitute 51% of the population and females 49%. Latehar has an average literacy rate of 59.51 Male literacy is 69.97, and female literacy is 48.68. In Latehar, 18.94% of the population is under 6 years of age and sex ratio 967. It is the 20th largest district in the state by population. The total area of the district is 3651.59 km² having population density of 169. Latehar district is comprised of 7 blocks 118 panchyets 811 villages. Garu block is the smallest block having population of 30,274. Latehar block is the biggest block by population with 1,44,495.

Table 3.1: Latehar District at A Glance

Sl. No.	ITEMS	Statistics
1.	GENERAL INFORMATION	
	i) Geographical Area (km ²)	3651.59

- 125-



DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND

	Administrative Divisions (As on 2001)	
	Number of Block	9
	Number of Panchyat	115
	Number of villages	772
	(ii) Population (As on 2011 Census)	726978
	(iii) Average Annual Rainfall (mm)	1300 mm
2.	GEOMORPHOLOGY	
	Major Physiographic units	• Metamorphic rock • Sandstone, conglomerate • Lava capping having thick mantle laterite.
	Major Drainages	• Flow direction is from south to north, • rivers are the North Koel, • the Auranga and their tributaries
3.	LAND USE (In Ha.)	
	Geographical area	379.1
	Forest area:	162.2
	Net area sown	59.6
	Barren and uncultivable land	24.7
	Non agricultural use	13.6
	Cultivable area	86
	Pasture	1.124
	Cultivable wasteland	6.5
	Current fallow	45.8
	Other fallow	33.3
4.	MAJOR SOIL TYPES	
	a) Entisols	63.7%
	b) Inceptisols	28.2%
	c) Alfisols	7.2%
5.	AREA UNDER PRINCIPAL CROPS (2013)	• Paddy, Maize, Pigeonpea, Wheat, Blackgram (area- 45.1 Ha) • Horticulture crops -Fruits (Lemon, Mango, Guava), Area-605 Ha • Horticulture crops – Vegetables(Tomato, Potato, Bhindi, Brinjal, Chilli), Area-3002 Ha

1. The district is divided into two sub-divisions (Latehar and MahaudanR) and 9 administrative blocks, namely, Latehar Block, Chandwa Block, Balumath Block, Manika Block, Barwadih Block, Garu Block, Mahuadanar Block, Bariyatu Block, Herhanj Block.
2. The district comprises of 115 numbers of Panchayats and 772 number of villages.
3. The distrcet headquarter is at Latehar town.

[Handwritten signature]



DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND

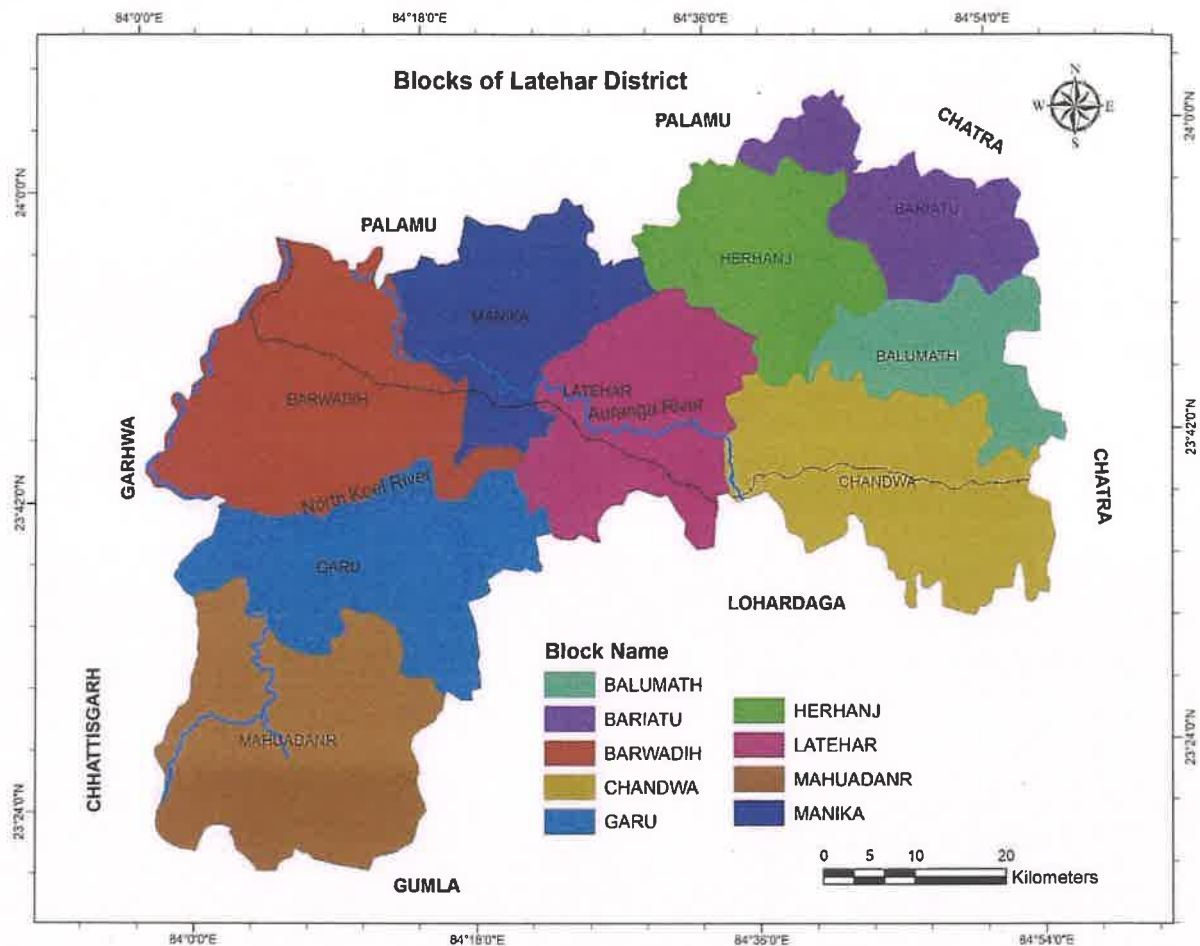


Fig. 3.2: Block Map of Latehar District

3.2 Climatic Condition:

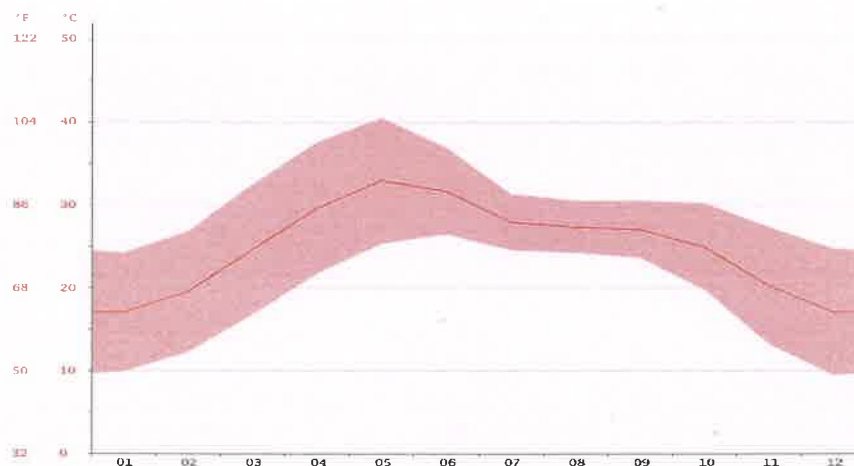


Fig. 3.3: Average Annual Temperature Graph of Latehar District



[Handwritten signature]



DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND

The district is characterized by humid and subtropical climate with three distinct seasons - hot and dry summer, cold winter and rainy season. The cold season extends from November to March; it is followed by summer season from April to middle of June and rainy season from mid June to middle of October. The climate here is mild, and generally warm and temperate. In winter, there is much less rainfall than in summer. In Latehar, the average annual temperature is 25.0°C. Precipitation here averages 1270 mm.

Table 3.2: Monthly Average Temperature of Latehar District

	Jan.	Feb	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
Avg. Temperature (°C)	17	19.5	24.6	29.6	32.9	31.6	27.9	27.3	27	24.9	20.2	17
Min. Temperature (°C)	9.8	12.2	16.7	21.7	25.3	26.4	24.5	24.2	23.6	19.7	13.1	9.4
Max. Temperature (°C)	24.2	26.8	32.5	37.6	40.5	36.9	31.3	30.5	30.5	30.2	27.3	24.7
Avg. Temperature (°F)	62.6	67.1	76.3	85.3	91.2	88.9	82.2	81.1	80.6	76.8	68.4	62.6
Min. Temperature (°F)	49.6	54.0	62.1	71.1	77.5	79.5	76.1	75.6	74.5	67.5	55.6	48.9
Max. Temperature (°F)	75.6	80.2	90.5	99.7	104.9	98.4	88.3	86.9	86.9	86.4	81.1	76.5
Precipitation /Rainfall (mm)	20	15	18	8	14	154	330	302	220	62	4	5

(Source: Indian Meteorological Department)

3.3 Rainfall:

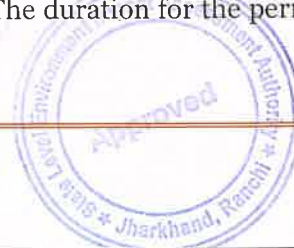
Table 3.3: Month-wise Rainfall

Latehar District Rainfall Data (mm)					
	2020	2019	2018	2017	2016
Jan	33.80	0	0	27.1	5.6
Feb	18.70	36.40	0	0	4.2
Mar	153.40	13.40	16.50	0	30
Apr	40.30	16.80	0	0	0
May	34.90	0	5.50	19.1	18.8
Jun	274.90	90.0	19.80	70.6	118.2
Jul	442.50	225.20	100.80	638.9	330.4
Aug	312.3	201.60	358.20	233.1	582.2
Sep	150.7	116.70	297.40	127.8	466.3
Oct	168.2	59.10	283.40	76.9	84.6
Nov	10.10	0	31.0	0	0
Dec	0	2.0	0	0	0

(Source: Indian Meteorological Department)

The Indian Meteorological Department, Nagpur, vide letter No. NAGPUR RMC/CS-312, dated 18th January, 2016 has provided the period of Rainy Season Viz. Normal dates of Onset and Withdrawal of South West Monsoon over India as State-wise. The duration for the period is 15th June to 15th October.

[Signature]





DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND

3.4 Topography & Terrain:

The topography of Latehar district is characterized by a hilly rugged landscape with green forest all over the area. The major part of the Latehar district is occupied by the granitic rocks of Archaen rocks, are known from the phyllites and schists of varying dimensions in the granitic mass. The inclusions are disposed along the gneissic foliation. The granite gneiss of this area is a part of the enormous intrusive mass known as Chhotanagpur Granite-Gneiss. It shows the usual wide variations from massive to highly gneissic foliation changing from NNW to NNE. Rapid changes in the strike suggesting local applications or crumpling are the common in the gneissic types. Shearing and faulting on a large scale occur at places. Among the various modifications of this rock the porphyritic types with varying coarseness and shape of the pheeocryste. It has been observed that the more massive types the rocks constitute the ridges and plateaus, whereas gneissic rocks are mostly exposed in the intervening valleys. This features are due to their comparative resistance to weathering.

3.5 Drainage System:

The drainage of the district is mainly controlled by the River North Koel and its tributaries viz the Auranga and Amanat. The Koel, Auranga and Amanat have the upper reaches characterized by high bank and rocky beds while the lower reaches by sandy beds. The general line of drain is from south to north towards River Sone.

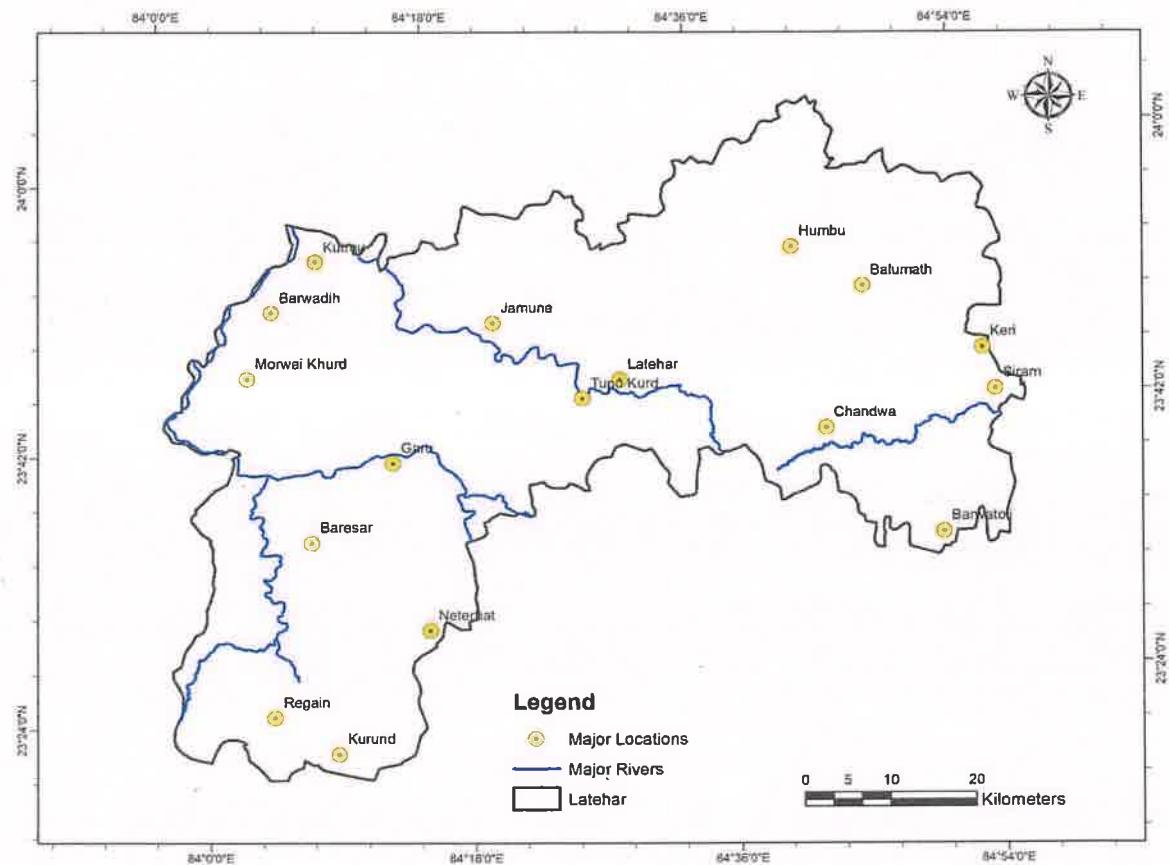


Fig.3.4: Major Rivers of Latehar District
(Source: CGWB Report of Latehar)

[Handwritten signature]





DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND

3.6 Demography:

Latehar district of Jharkhand has total population of 726,978 as per the Census 2011. Out of which 369,666 are males while 357,312 are females. In 2011 there were total 133,381 families residing in Latehar district. The Average Sex Ratio of Latehar district is 967. As per Census 2011 out of total population, 7.1% people lives in Urban areas while 92.9% lives in the Rural areas. The average literacy rate in urban areas is 78.3% while that in the rural areas is 58%. Also the Sex Ratio of Urban areas in Latehar district is 914 while that of Rural areas is 971.

The population of Children of age 0-6 years in Latehar district is 137699 which is 19% of the total population. There are 69971 male children and 67728 female children between the age 0-6 years. Thus as per the Census 2011 the Child Sex Ratio of Latehar is 968 which is greater than Average Sex Ratio (967) of Latehar district.

The total literacy rate of Latehar district is 59.51%. The male literacy rate is 56.73% and the female literacy rate is 39.45% in Latehar district.

Table 3.4: Population Data of 2011 Census

DESCRIPTION	FIGURE
MALE	369669
FEMALE	357310
POPULATION GROWTH	18%
AREA KM ²	3651.59
DENSITY/KM ²	169
SEX RATIO (PER 1000)	967
CHILD SEX RATIO (0-6 AGE)	968
AVERAGE LITERACY	59.51%
MALE LITERACY	75.42%
FEMALE LITERACY	55.55%
TOTAL CHILD POPULATION (0-6 AGE)	137699
MALE POPULATION (0-6 AGE)	69971
FEMALE POPULATION (0-6 AGE)	167728
LITERATES (TOTAL)	61%

3.7 Connectivity in Latehar District:

By Road

Latehar is well connected by a network of roads with all the neighbouring cities and towns. The distance to some important locations are as follows: Bokaro 237.7 km (via NH 320, NH 39), Dhanbad 274 km (NH 19), Jamshedpur 264.4 km (Via NH39), Chaibasa 265.6 km(Via NH 39), Hazaribag 150.5 km (Via NH 22) Gaya 192.3 km (Via NH 22), Patna 290.5km (NH 139), Barhi (via NH 27, NH 139) 498.5 km, Kolkata (428.3 km) via Kodarma-Giridih-Tundi-Gobindpur Road/Kowar-Koderma Road-Kolkata 539.6 via NH 19. Bus connections are available for almost all cities and towns in the area. Road communication of this district is not at par with the other districts of the state.

Following are the important Roads in the district: -

[Handwritten signature]



DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



1. Daltonganj–Ranchi–Road - The road runs from Daltonganj through Latehar and Chandwa to Ranchi covering 155 kms.
2. Chandwa–Balumath–Chatra–Road - This road runs through Balumath for 36 km in the district and joins Dobhi on the G.T. Road.
3. Latehar–Barwadih–Garu–Netherhar–Mahuadanr – This road runs with start from Latehar through Barwadih, Garu, Netherhar and finally Mahuadanr
4. Palamau is connected by NH 75 Road, Chatra is connected by NH 99, Ranchi is connected by NH39 which is shown in the map below.

By Rail

Rail line from Barwadih to Gomoh under Eastern Central Railway runs through the district from Latehar and Chandwa.

By Air

Latehar district have no airport. The nearest Airport is Ranchi Airport (IXR) 93 km (South East) away from Latehar.

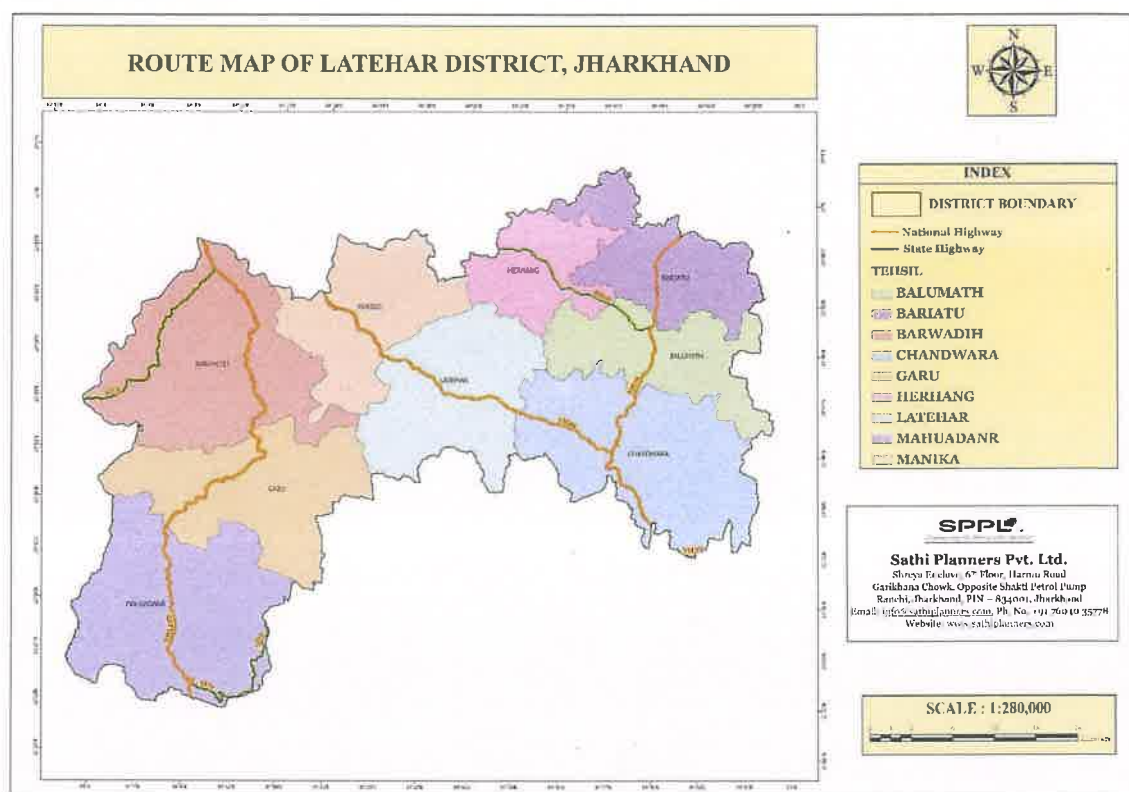


Fig.3.5: Route Map of Latehar District

3.8 Flora & Fauna:

The forests of the Latehar have a vast range of vegetation consisting of tropical wet evergreen forests in the lower reaches, mixed (moist & dry) deciduous forests in the middle and temperate alpine forests in the upper reaches including sal and bamboo as the major components along with a number of medicinal plants. There are grasslands in the flowing area of the Koel river itself and its tributaries run through the northern portion of the park.

The park has a variety of diverse eco-systems and plenty of wild animals. Elephants in large numbers are seen mostly after the monsoons up to the time when water holes begin to dry up in March. Permanent residents include as predators Sloth Bear, Panther, Wild Bear and Wolf. Jackal



DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND

and hyena are common scavengers. Large herds of Gaur and Chital are commonly seen. Large families of Langurs are an ever present attraction, as are rhesus monkey. Other animals found in the park are Mouse Deer, Sambhar, Four-horned antelopes, Nilgai, Kakar, small Indian Civets, porcupine and Mongoose.

Betla National Park

Though some part of this National Park falls in Palamau district, some portion falls in Latehar district as well (Lat-Long 23.8878°N, 84.190139°E). The park has a variety of diverse eco-systems and abundance of wild animals. The park features waterfalls and hot springs. This is one of the finest parks in the northeast of India. The park is open all year round. In wildlife scenes, the hot weather (May to June) is highest when the leaves are not thick; the most comfortable time to come in terms of climate is between November and March.



[Handwritten signature]

DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



Lodh Waterfall



It is located on the Burha River, deep in the forest of the Latehar district. It is 120 km from Daltonganj, 200 km from Ranchi, and 61 km from Netarhat. Being the highest waterfall of the Jharkhand, lakhs of tourists flock every year from different part of country to visit the fall. Being located inside the sanctum sanctorum of the Wolf Sanctuary, a protected area, the tourism is regulated by the Forest Department. Eco Development Committee, Lodh has been involved in managing tourism at Lodh Falls.

Netarhat

Netarhat is a hill station in Latehar district; it is also referred to as the "*Queen of Chhotanagpur*". It is located at 23.4833°N, 84.2667°E, at a height of 1,071 metres.

It is a plateau covered with thick forest, located in the Pat region of Chhotanagpur Plateau, Netarhat plateau is about 4 miles (6.4 km) long and 2.5 miles (4.0 km) broad. It consists of crystalline rocks and has a summit capped with sandstone trap or laterite. Region of Netarhat is covered with Sal, Kendu, Mahua, Pear and Eucalyptus. The highest point is 3,696 feet.



DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



3.9 General Landforms:

Latehar district is highly hilly and forested in the south and comparatively less hilly in the north. The average elevation of the district is 400 meters. The highest spot found is Netarhat. Geologically, hills found near Netarhat area are of metamorphic rock. The remaining hills are composed of sandstone, conglomerate, and lava capping having thick mantle of laterite.

Physiographically, the district can be divided into three parts:

- East–West trending hill ranges consisting of metamorphic rocks in the southern part.
- Flat type hill in the south–eastern parts.
- The narrow valleys along the course of rivers in south–west of the district.

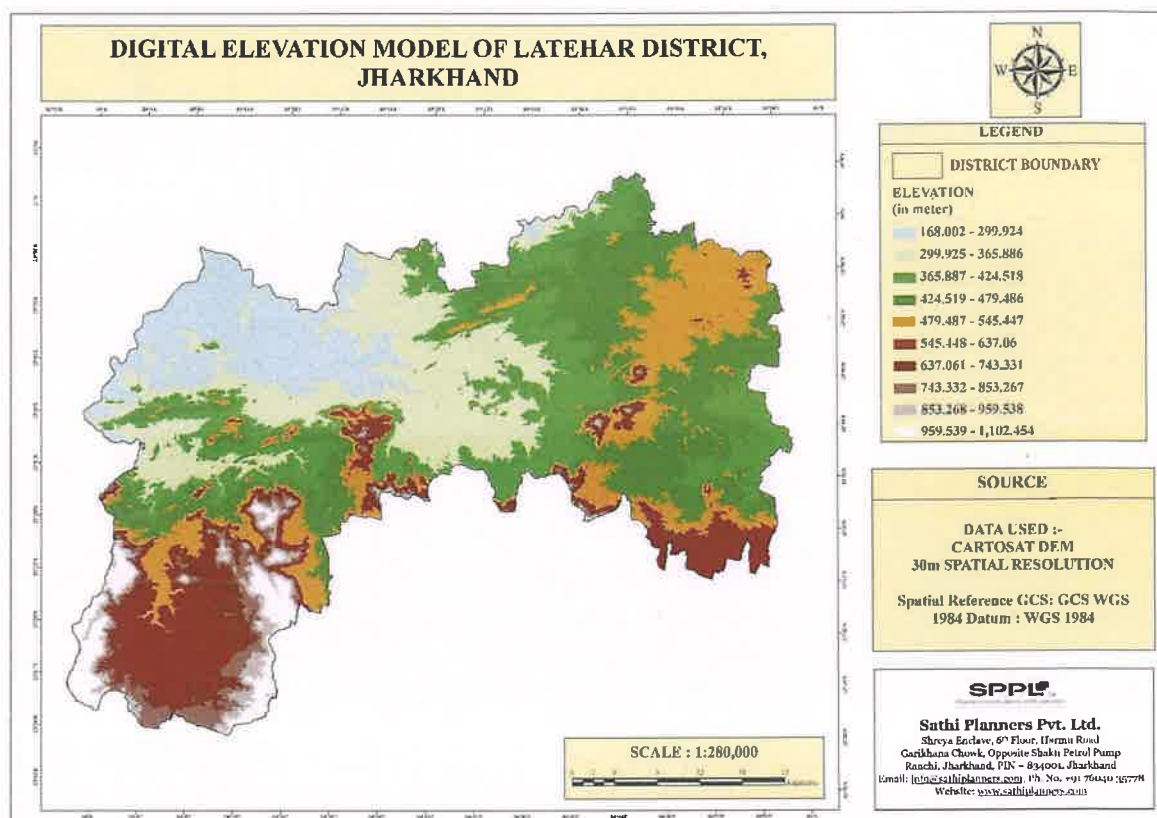


Fig. 3.6: Map Showing Elevation Profile of Latehar District

(Source: Aster DEM Imagery Data)



[Handwritten signature]

DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



3.10 Soil:

The district is characterized by great heterogeneity in soil development. It can be attributed to uneven topography, non-uniform rainfall distribution and variation within composition of the parent material. High relief plateau of Netarhat, Chandwa and Garu are in mature stage, where the soil developments in low relief areas are of recent type. Soils of Netarhat region are laterite type derived from weathered basalt and granite rocks. Major part of the district is occupied by red sandy soil. The red and yellow soil are occupying the northern part of the district.

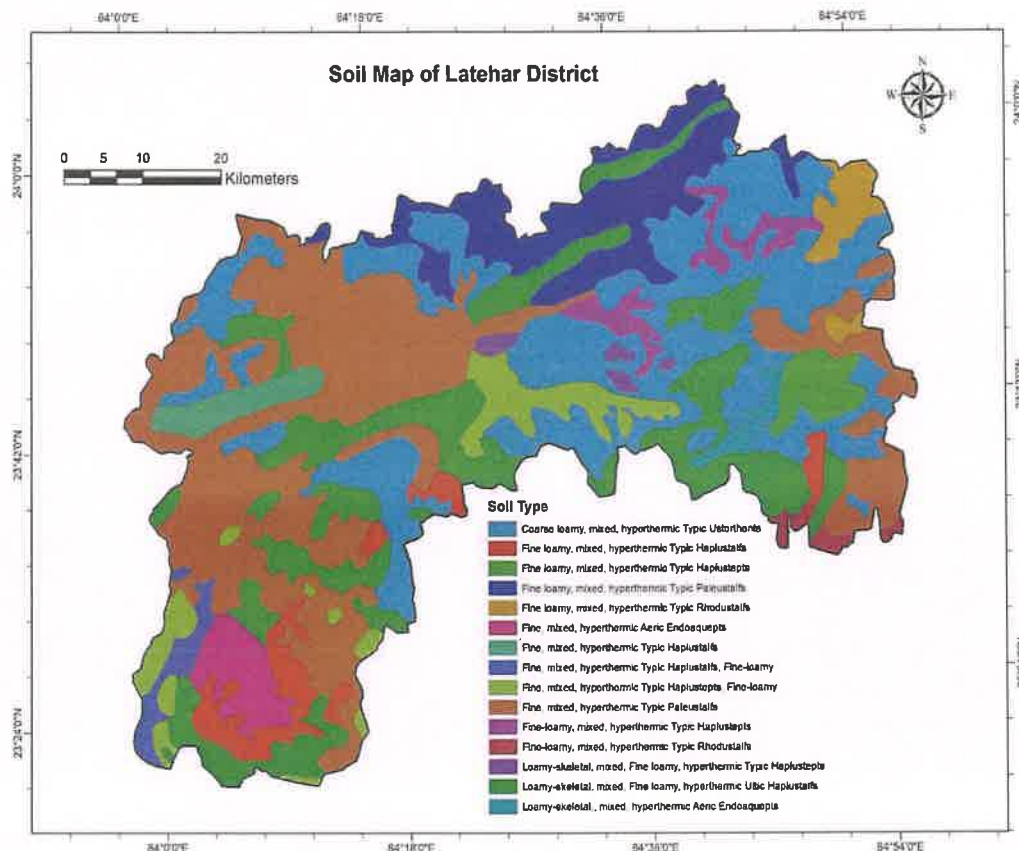


Fig. 3.7: Soil Map of Latehar District

(Source: National Informatics Centre)

3.11 Geomorphology:

The topography of Latehar district is characterized by highly rugged landscape with green forest all over the area. The elevation of the hill ranges in southern part of the district varies from 360-1110 m above msl. The master slope of the area in general tends towards north and east. In terms of the physiography the district shows the following four broad categories of landforms -

- East-West trending hill ranges, consisting of crystalline and metamorphic rocks in the southern part.
- Flat topped hills in the south-eastern.
- The sub-plateau area lying south of the plains are separated by narrow valleys in parts of Bishrampur block.
- Narrow valleys along the course of the major rivers.

(Signature)



116-

DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND

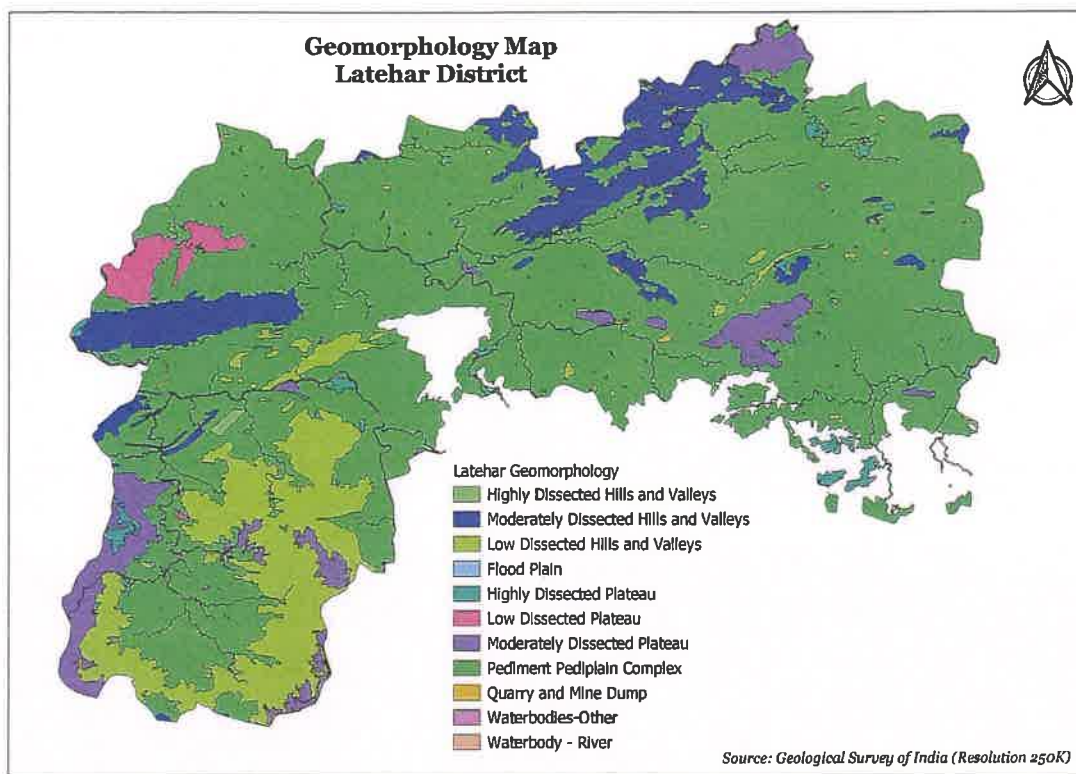


Fig. 3.8: Geomorphology Map of Latehar District

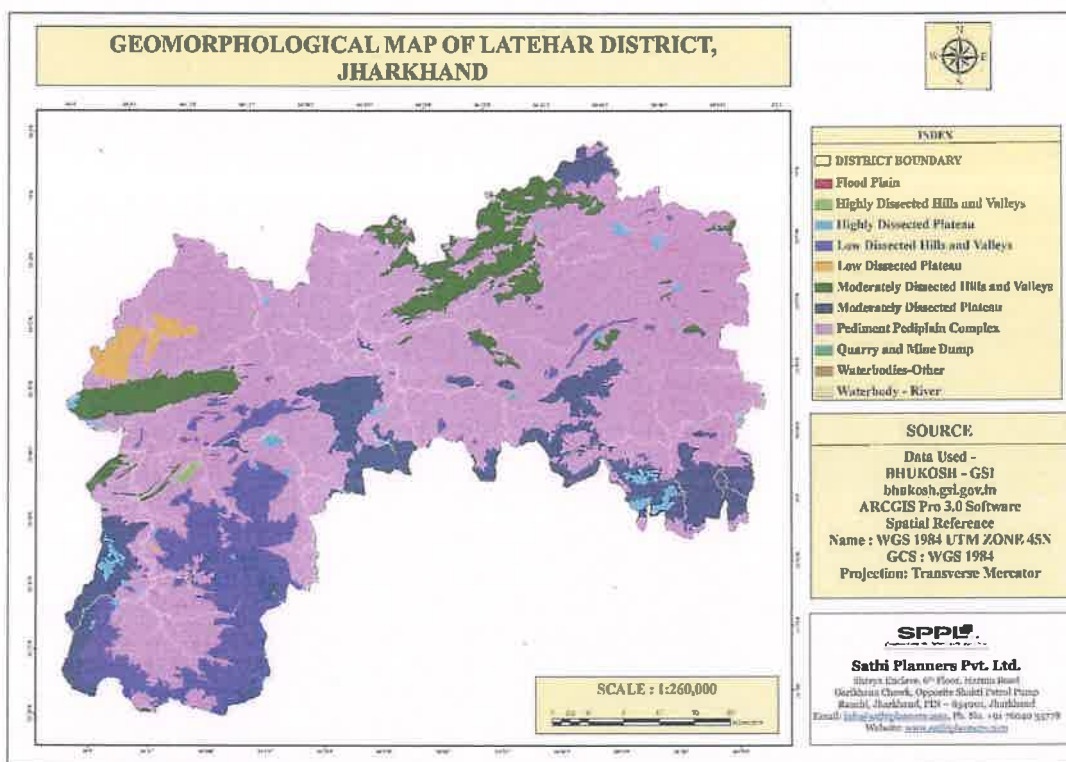


Fig. 3.9: Geomorphological Map of Latehar District

[Handwritten signature]





4. GEOLOGY & MINERAL WEALTH OF THE DISTRICT

4.1 Geology:

The geological formation of the Latehar district comprise mainly rock of Archaean, Vindhyan & Gondwana ages, the last cut by dykes of Deccan Trap age. The Archaean rock includes both Schist of Dharwar age and Gneisses and Granite. The Schists, mainly Horn-blendic and Biotitic are the oldest rock of the area and occurs as parallel and lenticular bands in the Gneisses. The Schist is intruded by Epidiorites, Amphibolites, and Gneisses. Garnetiferous Sillimanite-Graphite Schists, similar to the Khondalites, also occur near Daltonganj and Latehar smaller patches of these rocks are found in the manner of inclusive in the most prevalent and the Biotite and Sillimanite Schists are rare.

Geologically, much of the district is yet unexplored except the areas around Latehar, the Coalfields and other economics deposits such as those of Magnetite, Limestone and Clay etc.

The Archaean rock can be grouped under the following head:

Crystalline Limestone Marbles and Calc-silicate rock

Amphibolites

Dolerites and meta-Dolerites

Grannites and Granite-Gneisses

In the Latehar region, these rocks have been altered by intrusions of basic igneous rocks into different types of Granulites, Dolerite and meta Dolerite. The differences in composition of the original sediments which by their metamorphic induced by the surrounding dykes (Dolerite) have produced the different types. The Dolerite occur as dykes and bands show various degrees of metamorphism. The slightly metamorphosed Dolerite but in some area the rocks are converted to Epidiorites and Amphibolites in which Hornblende have more or less replaced the Pyroxene while in the Meta-Dolerites, the original ophitic texture characteristics of igneous origin is present though the Pyroxene is altered to Amphibole. Some varieties contain Hypersthene and approach basic Charnockite in appearance.

Pegmatites are common in the Granitic & Gneissic country, but also merge into finer-grained Granitic type. Although they form irregular veins, thick masses also occur containing considerable amount of Muscovite work able deposit occur in Lesliganj, Kini and Feldspar and Quartz veins derived from the residual Pegmatites liquid are also found in many places.

In the neighborhood of Latehar, Hornblende Peridotite dykes are found in the Khondalites and the Gneisses.

The lower Vindhyan system of rocks has been described as follows:

The south of narrow outcrop of Vindhyan rocks belonging mainly to the Basal, Porcellanite and Kheinjua stage. The rock of the Porcellanite group is indurated and silicified volcanic ashes. Toward the north-western part of the district there is a large out crop of the lower Vindhyan strata, south of the Sone, which appears to be a part of the main lower Vindhyan formation of the Rohtas plateau north of the Sone. Bhawnathpur is situated in the eastern part of the main outcrop. There is a small outlier about 5 miles south-east in Hussainabad near Japla. The Shales and the Limestone of the Kheinjua group are mostly concealed by Alluvium along the bank of the Sone. South of this at a distance of two miles is a place called Kalapahar. The Kalapahar are a group of very conspicuous and remarkable done hills formed of an acid volcanic rock, Rhyolitic in composition. Other hills between Japla and Nabinagar are made up of volcanic tuff of varying coarseness and Porcellanite which may be bedded.

Felsites are true lavas have been found in one locality between Japla and Kutumba and indicated the proximity of a centre of volcanic eruption.

The Gondwana system of rock as developed in the Latehar district has been classified as follows:



-114-



DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND

Coal-bearing Damuda strata occur in three separate areas in the Latehar district, namely, the Auranga, Hutar and Daltonganj coal-fields. Although there are of Gondwana strata are now isolated from one another, their distribution is such as to suggested that they are remnants of a much large spread of Gondwana of the Damodar valley. The Auranga and Hutar Coalfield lie directly in the belt of the Damodar valley Coalfield, the Auranga River flowing westward from the wastershed between itself and Damodar. The Daltonganj field is north of this belt along the valley of the north Koel. This northern field has suffered a greater amount of demulation than the other two fields as only the Talchir and Karharbari stages of the Barakar series are present.

In the Hutar Coalfield, the Mahadevas lie directly on the Baraker and appear to be conformable to them. This break in the sedimentation of the lower Gondwana period appears also to be present in the western part of the Auranga field which is nearest to be Hutar field. But both the Raniganj and the Panchet series between the Barakar and the Mahadevas have been recognized in the Auranga field which lies nearer to the Damodar valley.

Local Geology

In this area scattered Dolerite is exposed to the surface. With very veneer layer of the general succession of rock types exposed in the proposed lease hold area is as follows with the oldest litho unit at the base.

- Morrum
- Dolerite (Basic & Ultrabasic of Gorumahisani Greenstone)
- Quartzite (Iron Ore Stage of Iron Ore group)
- Unconformity.....
- Sighbhum Granite (Not exposed in the area)

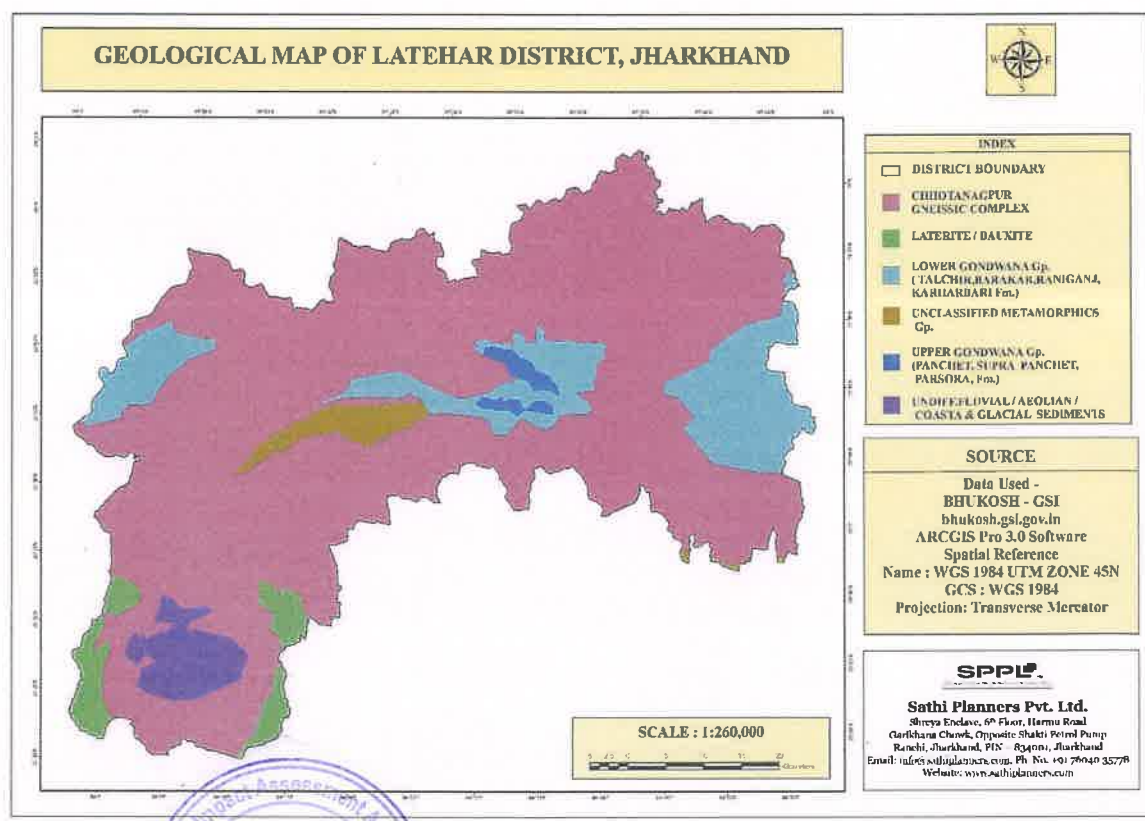


Fig. 4.1: Geological Map of Latehar District
(Soruce: Geological Survey of India)

[Handwritten signature]



DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



4.2 Overview of Mineral Resources:

Availability of Minerals

The district is very rich in various mineral deposits. There is abundance of deposit of Coal, Bauxite, Laterite, Dolomite, and Graphite, Granite, Quartz, Fireclay, Feldspar etc. The excavation and exploration of these minerals have provided job opportunities to the inhabitants of this hinterland to some extent because these minerals have not been fully explored at large scale.

As on date, the district is having nine numbers of Stone/Morrum mines having lease granted, spread across Balumath, Manika and Chandwa block of the district. As per the data obtained from the office of the District Mining Officer, Latehar, it can be observed that there is a gradually increasing trend of mining industry in the district.

Sand is the basic raw material for its utilization in any development activity throughout the world. Sand is primarily produced from mining operations on the surface on the surface of the Earth, near the river beds and the sand quarrying below the surface of Earth. In the earlier time the mud houses/buildings were constructed with the use of mud. However, with the passage of time, new technique of development activities was started. As such the demand of Minor mineral started on an increasing trend. In order to meet the requirement of raw material for construction, the extraction of sand carried out manually/semi-mechanized from the river beds. Sand mining is mainly practiced in Auranga, Damodar, North Koel, Sukri and Patam Rivers of Latehar district.

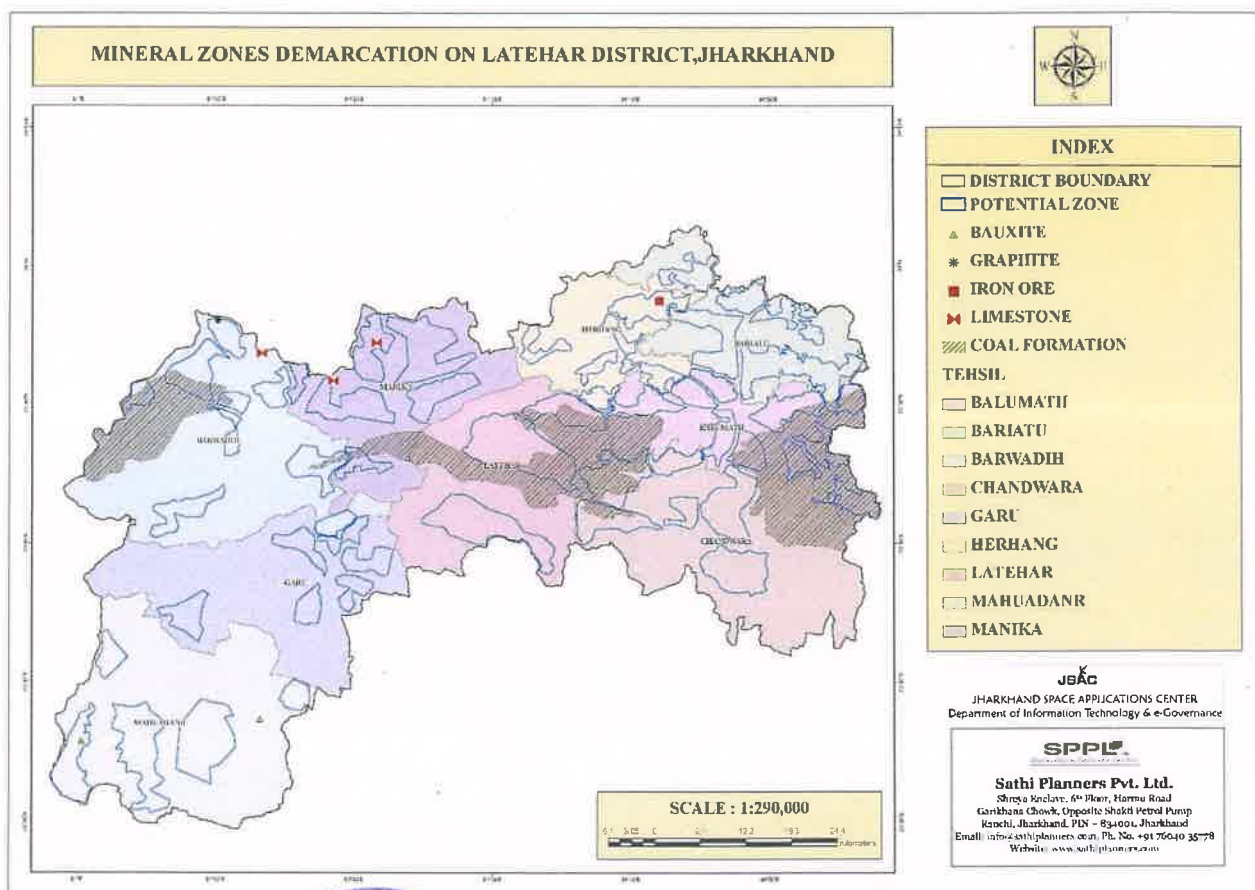


Fig. 4.2: Mineral Map of Latehar District

(Source: JSAC, Dept. of Mines & Geology, Govt. of Jharkhand)





DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND

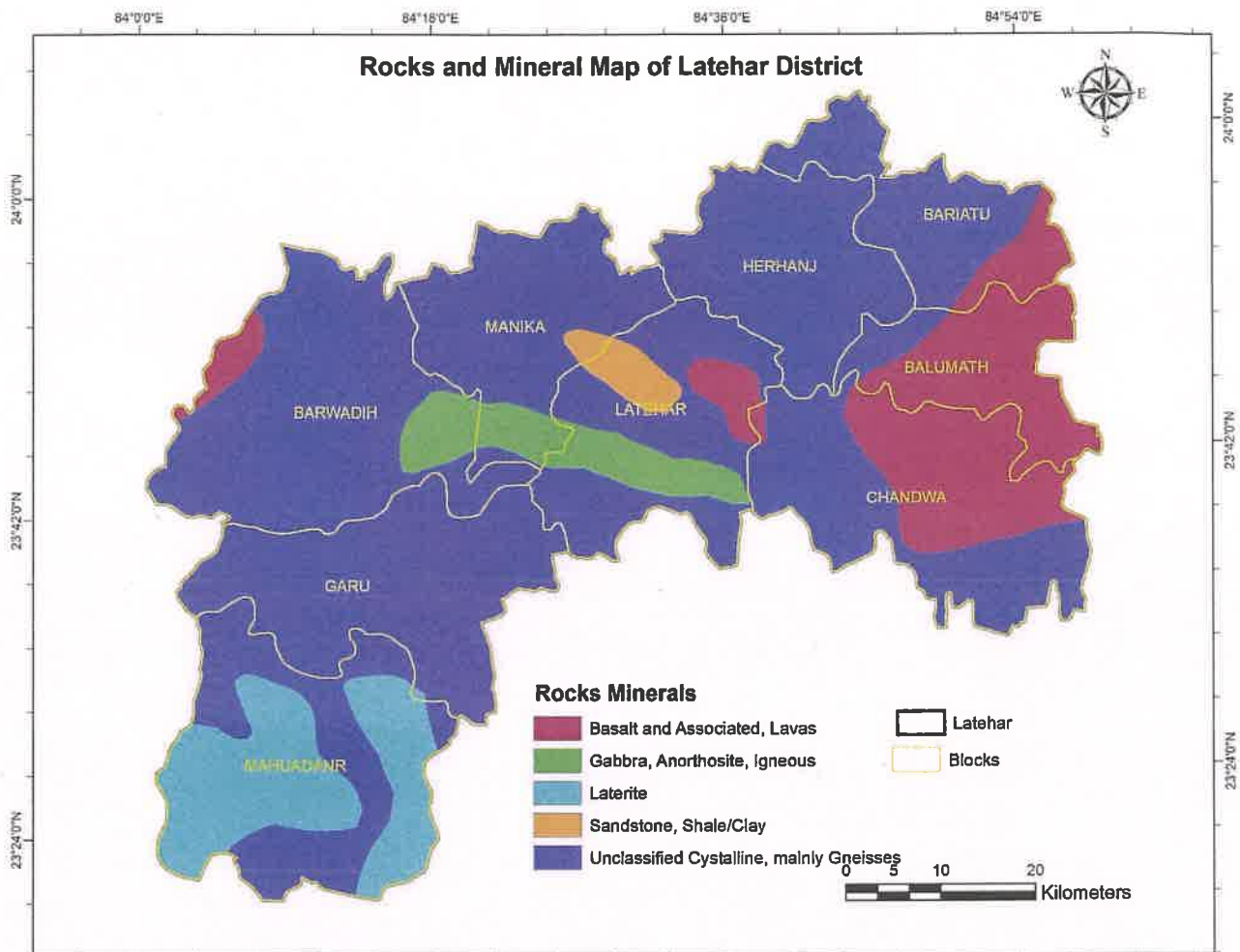


Fig. 4.3: Map Showing Rocks & Mineral types of Latehar District



[Handwritten signature]



5. DRAINAGE SYSTEM & IRRIGATION PATTERN

5.1 Drainage system with description of main Rivers:

Sl. No.	Name of the River	Area Drained (km ²)	% area drained in the District
1	Auranga	9.36	0.25%
2	North Koel	11.25	0.31%
3	Damodar	3.4	0.001%
4	Sukri	5.04	0.001%

5.2 Salient features of Important Rivers and Streams:

Sl. No.	Name of the River/Stream	Total Length in the District (in km)	Place of Origin	Altitude at Origin
1	Auranga	78	Patratu	435m
2	North Koel	45	Chemo	356m
3	Damodar	40	Boda	709m
4	Sukri	56	Basia	531m

5.3 Drainage System:

The drainage of the district is mainly controlled by the River North Koel and its tributaries viz the Auranga and Amanat. The Koel, Auranga and Amanat have the upper reaches characterized by high bank and rocky beds while the lower reaches by Sandy beds. The general line of drain is from south to north towards River Sone. The occurrence of river-bed Sand and Gravel in the district has been established by Directorate of Mines and Minerals, Government of Jharkhand and others in previous instances. It requires further systematic and scientific approach to quantify the resource along with their grade assessment. Sand mining is mainly practiced in Auranga, Damodar, North Koel, Sukri and Patam Rivers of Latehar district.



-110-

DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND

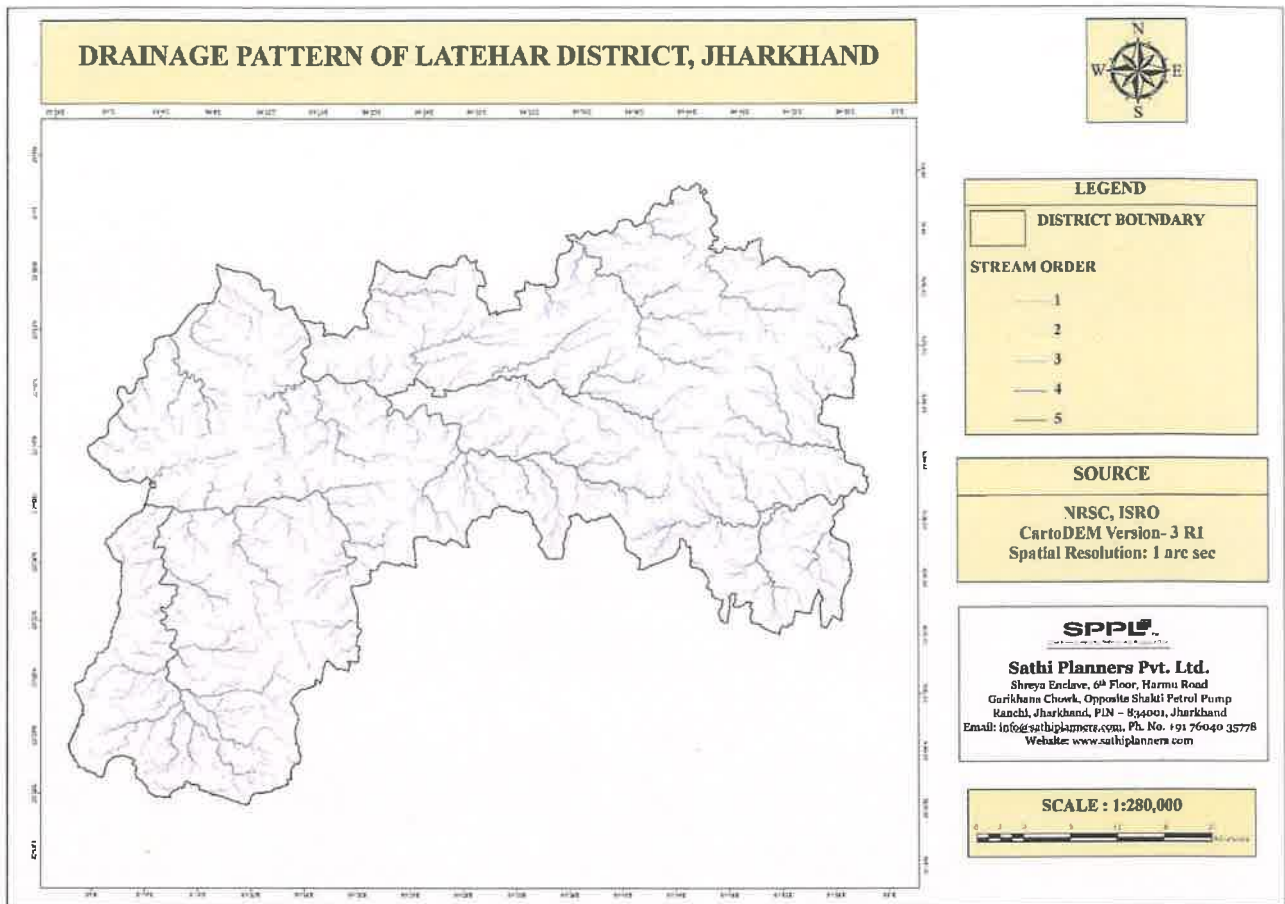


Fig 5.1: Drainage Map of Latehar District



[Handwritten signature]



6. LAND UTILIZATION PATTERN OF THE DISTRICT

6.1 Forest:

Out of total geographical area of 4291 km², forest area covers nearly 2403.04 km². The tribal economy revolves around using forest products, by products and minor products. Kendu leaves, Bamboo and its manufactured products, Mahua, fruits, leaves lac etc. play a role in the economic activity of the people. People also hunt animals for food and 'Jani shikar' festival is related to this hunting habit.

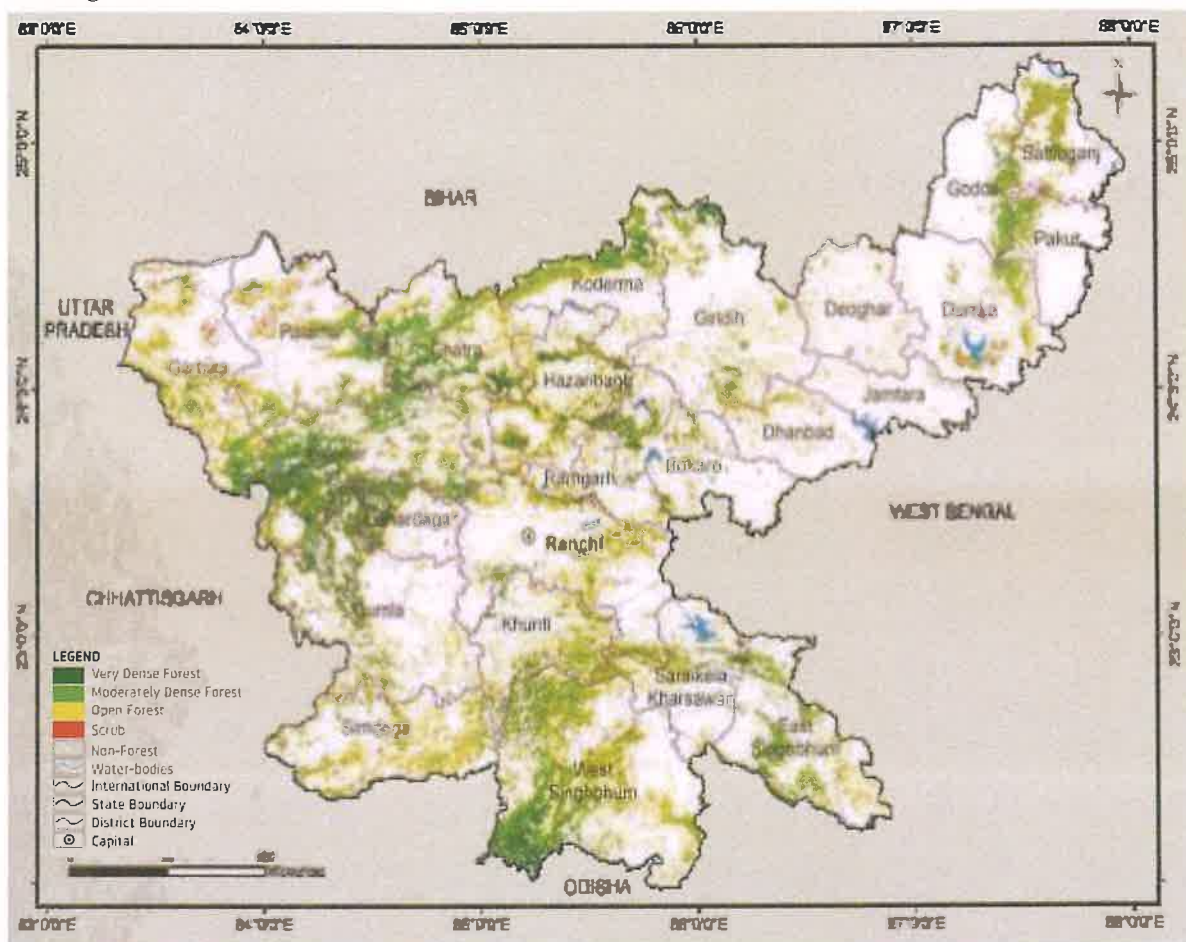


Fig. 6.1: Forest Cover Map of Jharkhand

(Source: India State of Forest Report, 2021)



[Handwritten signature]

DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



Table 6.1: District-wise Forest Cover Area in Jharkhand (Area in Km²)

District	Geo-graphical Area (GA)	2021 Assessment				%of GA	Change wrt 2019 assessment	Scrub
		Very Dense Forest	Mod. Dense Forest	Open Forest	Total			
Bokaro	2,883	60.99	231.94	283.07	576.00	19.98	2.45	37.95
Chatra	3,718	244.28	871.73	666.08	1,782.09	47.93	4.74	23.57
Deoghar [†]	2,477	0.00	14.30	191.50	205.80	8.31	2.09	14.04
Dhanbad	2,040	0.00	44.00	174.18	218.18	10.70	4.67	16.05
Dumka [†]	3,761	0.00	259.40	318.23	577.63	15.36	0.32	44.55
East Singhbhum [†]	3,562	54.81	591.69	434.19	1,080.69	30.34	1.31	20.91
Garhwa [†]	4,093	125.14	415.60	890.98	1,431.72	34.98	40.13	44.32
Giridih	4,962	77.16	338.56	490.19	905.91	18.26	4.67	28.92
Godda [†]	2,266	12.81	271.88	138.66	423.35	18.68	0.00	14.27
Gumla [†]	5,360	304.69	585.81	552.65	1,443.15	26.92	0.89	8.25
Hazaribagh	3,555	230.11	348.54	784.54	1,363.19	38.35	10.42	15.99
Jamtara [†]	1,811	0.00	20.84	85.18	106.02	5.85	5.38	5.32
Khunti [†]	2,535	72.97	344.59	496.18	913.74	36.04	8.25	3.11
Koderma	2,540	80.80	494.43	447.82	1,023.05	40.28	-0.42	6.37
Latehar [†]	4,291	480.36	1,308.93	613.75	2,403.04	56.00	-3.30	9.30
Lohardaga [†]	1,502	174.03	218.40	111.99	504.42	33.58	-0.20	7.66
Pakur [†]	1,811	2.96	172.40	111.64	287.00	15.85	-0.13	20.06
Palamu [†]	4,393	62.82	512.73	640.18	1,215.73	27.67	14.95	84.23
Ramgarh	1,341	30.96	109.32	190.98	331.26	24.70	2.26	14.49
Ranchi [†]	5,097	62.89	363.91	741.98	1,168.78	22.93	4.29	27.98
Sahibganj [†]	2,063	17.74	258.73	297.48	573.95	27.82	1.60	47.53
Saraikela-Kharsawan [†]	2,657	22.03	213.84	338.73	574.60	21.63	0.56	21.87
Simdega [†]	3,774	21.97	343.54	877.89	1,243.40	32.95	2.48	20.28
West Singhbhum [†]	7,224	461.53	1,353.80	1,553.11	3,368.44	46.63	2.32	47.18
Grand Total	79,716	2,601.05	9,688.91	11,431.18	23,721.14	29.76	109.73	584.20

(Source: India State of Forest Report 2021 - Jharkhand)

6.2 Agriculture & Irrigation:

Agriculture

Since, the district has partly hilly terrain and partly homogenous plains, land use also varies. In northern part, as it is plain most of the area is under agriculture. Rice and wheat are major crops grown in the district. In southern part the majority area is engaged in forest cover only patches of agricultural land are found.



DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND

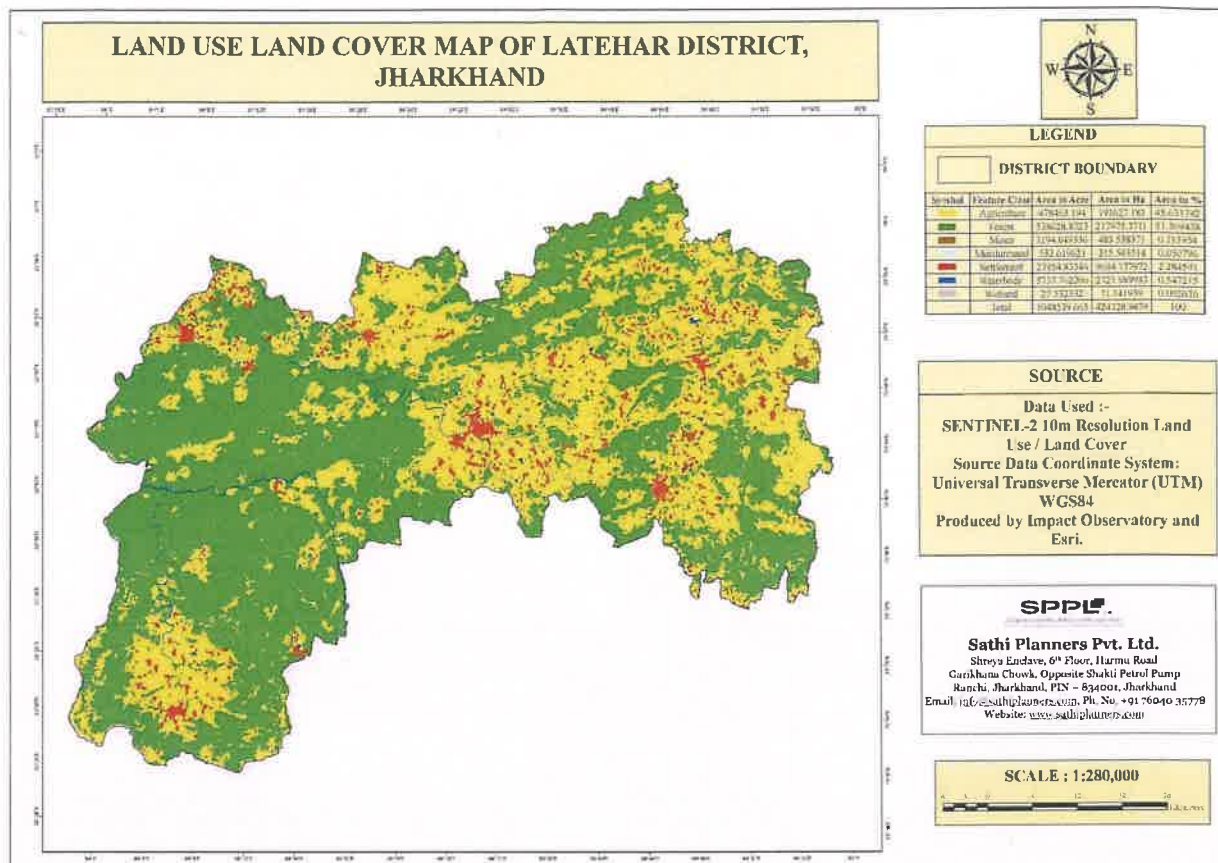


Fig. 6.2: Map Showing Land Use/Land Cover of Latehar District

(Source: Sentinel 2 Imagery, December 2020)

Classes	Area (in km ²)
Terrestrial Vegetation	1911.13
Agriculture	1197.57
Settlement	1393.53
Water bodies	37.56
Others	64.45
Total	4604.24





DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND

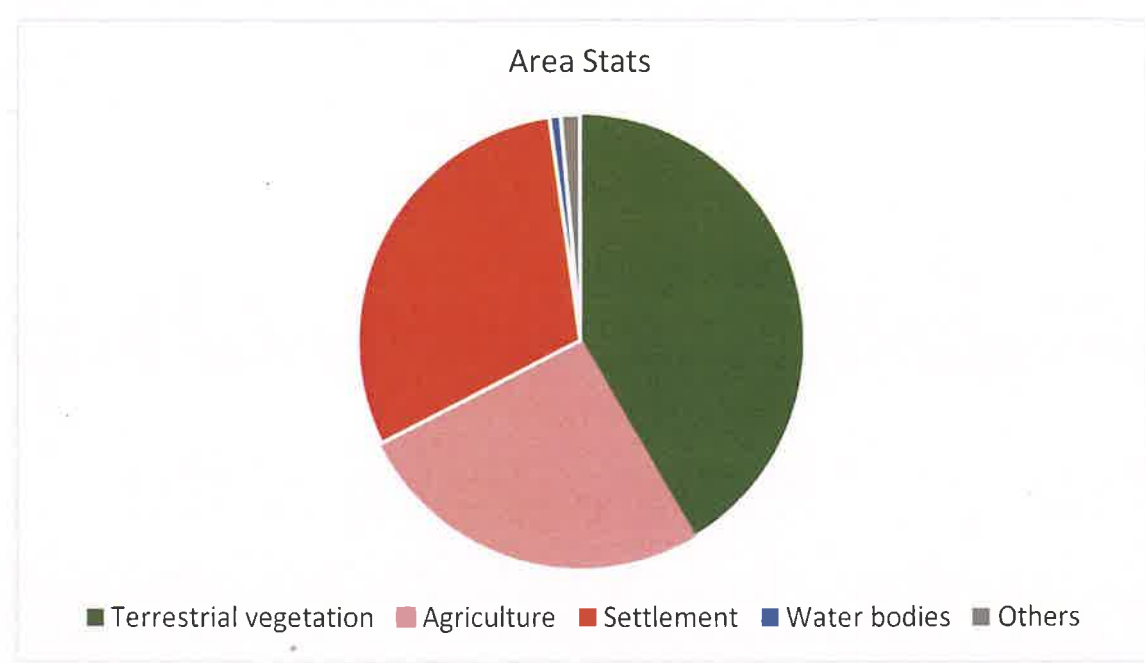


Fig. 6.3: Pie Chart Representation of Land Use/Land Cover of Latehar District

- ❖ Terrestrial vegetation includes Forest area and related trees.
- ❖ Agriculture includes all area under cultivation.
- ❖ Settlement area includes the area or locality, which are habited, and has evidence of human interactions.
- ❖ Waterbodies includes all water bodies including river, lakes, ponds and streams.

Other class includes wasteland, sandy area and barren land.

Irrigation

Out of total geographical area of 4291 km², forest area covers nearly 2403.04 km². Land put to agricultural use is 1197.57 km² and waterbody occupying area is 37.56 km². Area under habitation settlement and other structure is 1393.53 km².





DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND

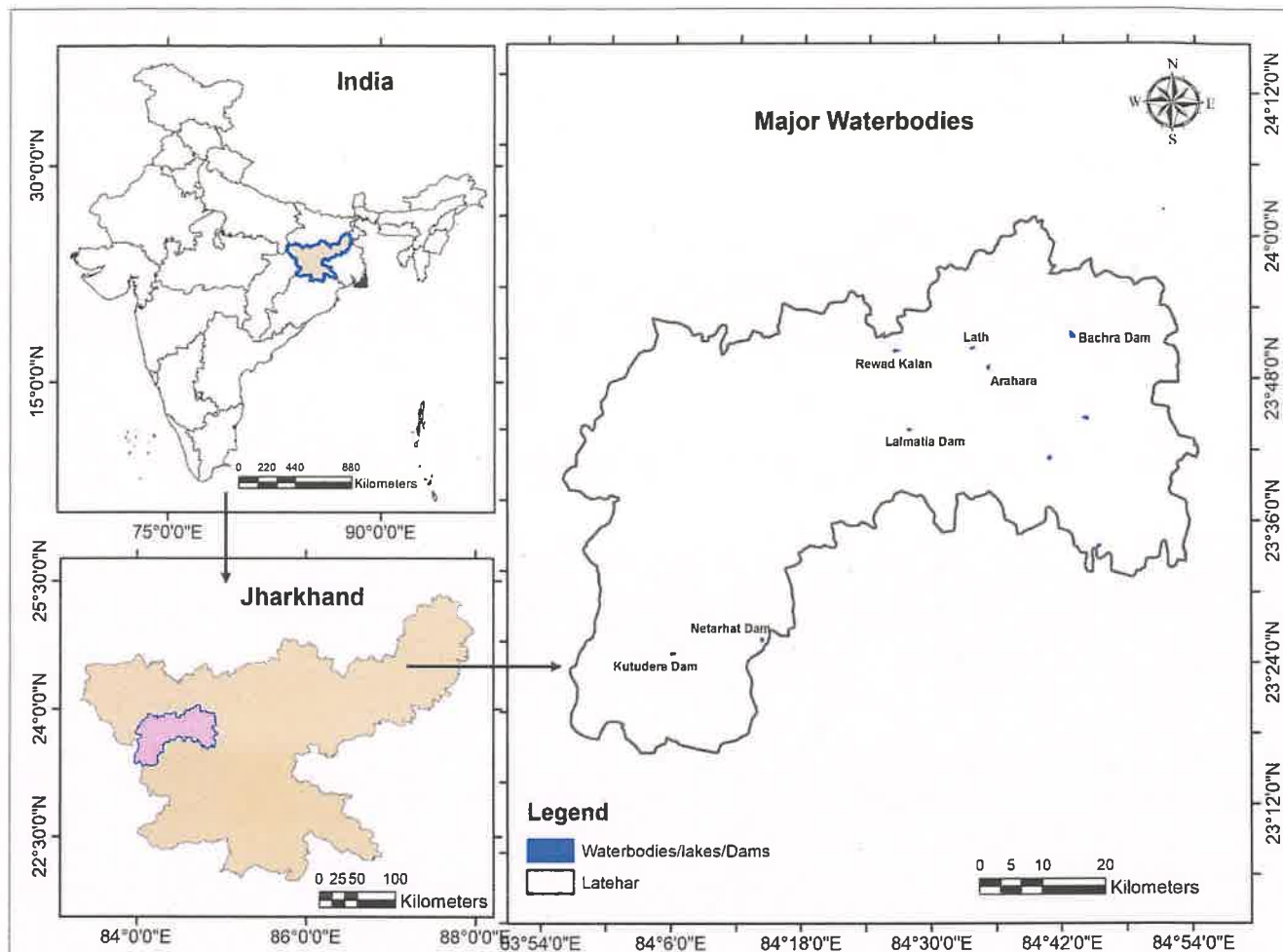


Fig. 6.4: Map Showing Major Waterbodies of Latehar District



[Handwritten signature]



7. GROUND WATER SCENARIO OF THE DISTRICT

7.1 Water courses and Hydrogeology:

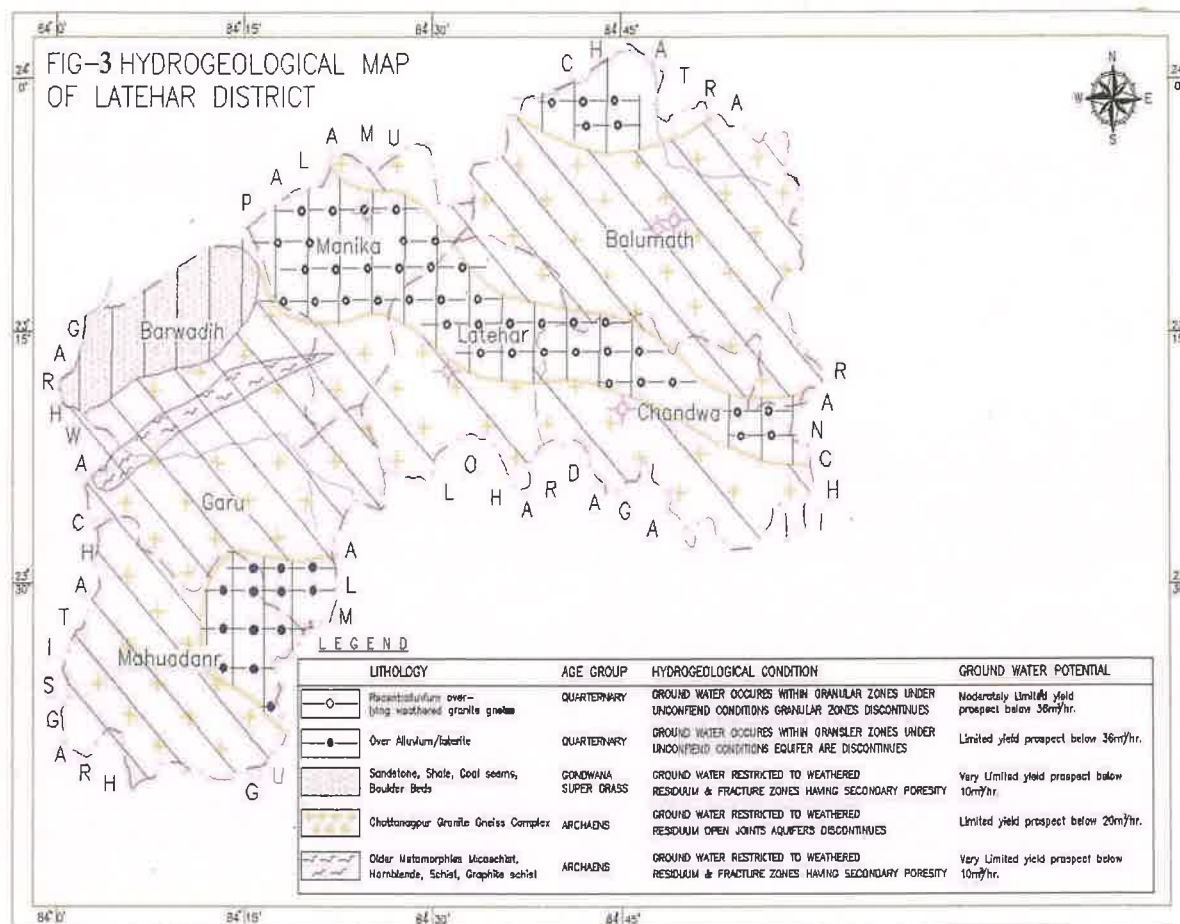


Fig. 7.1: Hydrogeological Map of Latehar District

(Source: CGWB Report 2013, Latehar District)

In the district, the area is rugged and highly undulated and the following hydrogeological formations are found:

- Consolidated formations
- Semi consolidated formations and
- Unconsolidated formations

Rainfall, climate, topography, soil conditions and land use are the factors controlling ground water potentials of the area. Ground water in the hard rock areas occur in the weathered mantle and fracture zones of under lying rocks. It also occurs in unconsolidated sedimentary deposits along the major river valleys.

Depth to Water level

CGWB has established a network of observation wells under National Hydrograph Network Stations (NHNS) programme to study water level behavior and quality of ground water in the district. Eight NHS monitoring stations were established and being monitored every year regularly during January, May, August and November During pre-monsoon season, the minimum and maximum water levels were observed as 6.15 m bgl. and 11.02 m bgl respectively. About 55%

-103-

DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



wells have the water level in the range of 6–8 mbgl. The water level in eastern part of district ranges from 10 m bgl to 12 m bgl, while the southern and middle part is having the water level in the range 8–10 m bgl.

The water level during post monsoon season ranges from 2.0 m bgl to 8.05 m bgl. About 25% the wells have the water level in the range of 0–3 m bgl. In majority of the wells (around 62.5%), the water levels lie in the range of 3–6 m bgl. In and around Balumath block, the water level is more than 6 m bgl.

Table 7.1: Depth to Water Level of Hydrograph Network Stations Located in Latehar District (2012-13)

Sl No.	Location	May 2012	August 2012	November 2012	January 2013
1	Balumath	11.7	8.4	9.5	10.45
2	Barjatu	8.47	4.87	6.9	7.57
3	Barwadih	9.31	0.42	3.65	-
4	Chandwa	9.95	3.2	4.15	5.7
5	Latehar	5.7	2.2	3.02	4.38
6	Manika	6.52	0.92	2.5	3.84

Water Level Trend

Water level depends upon the storage of ground water development and variation in rainfall over a long period. The water level data of each station has been analyzed. The pre monsoon and post monsoon long term water level trend has been calculated for the period of 2003–2012. The long term water level trend is showing declining trend between 0.16–0.26, 0.13–0.41 and 0.05–0.27 m/year for pre monsoon, post monsoon and all period respectively.



[Handwritten signature]



- 105

DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



BLOCK	YEILD (IN LPM)	DEPTH (IN M)
Manika	50-100	30-80
	200-400	30-80
	100-200	30-80
	10-50	>80
Mahuadanr	50-100	30-80
	100-200	30-80
	10-50	>80
Latehar	50-100	30-80
	100-200	30-80
	10-50	>80
	50-100	>80
	200-400	30-80
Herhang	50-100	30-80
	100-200	30-80
	10-50	>80
	200-400	30-80
Garo	50-100	30-80
	100-200	30-80
	10-50	>80
	10-50	30-80
Chandwara	50-100	30-80
	100-200	30-80
	10-50	>80
	10-50	30-80
	200-400	30-80
Barwadih	50-100	30-80
	100-200	30-80
	10-50	>80
	50-100	>80
Bariyatu	50-100	30-80
	100-200	30-80
	10-50	>80
	200-400	30-80
Balumath	50-100	30-80
	50-100	30-80
	100-200	30-80
	10-50	>80
	200-400	30-80



DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



Ground Water Resources

The ground water resource assessment has been assessed based on the recommendations of the Ground Water Estimation Committee – 1997 (GEC – 1997). The ground water assessment has been carried out on blockwise basis. Latehar district is having adequate ground water resource potential and only a small part of it is being utilized. The net ground water availability is 25256.47 ham. Gross draft for all uses is 6685.57 ham. Net ground water availability for future irrigation has estimated to be 18206.47 ham. Stage of ground water development varies from 16.34% at Mahuadanr to 60.09% in Latehar. All the blocks in the district fall under Safe category.

Ground Water Quality

The chemical quality of ground water is very important as it controls the suitability of the ground water for domestic, irrigation and industrial uses. For analysis of ground water quality, the following parameters are considered for analysis of water samples collected during May 2011 from 5 hydrograph network stations of the district. The EC ranges from 113 to 1460 micro siemens/cm at 25°C with the average being 577.6 micro siemens/cm at 25°C. Except one well, EC is within 1000 micro siemens/cm in the district. For consideration of suitability of ground water for drinking purpose, ISI norms have been adopted. All the constituents are under permissible limit, so the ground water is suitable for both drinking and agricultural purposes.

7.2 Status of Ground Water Development:

In the district, there is vast scope for further development of the ground water resources. However, the main problem associated with the ground water development in the district is that the ground water is not occurring in isotropic and homogeneous strata. The exploratory well drilled depth varies from 85.24 m bgl to 199.56 m bgl. The thickness of fracture zones varies from 1m to 6m. The well at Latehar having the highest discharge of 3.3 m³/hr. The minimum SWL at Balumath is 3.3 m bgl. The yield of bore well ranges from 0.9-3.3 m³/hr.

Ground water development

Dug wells, tube wells and dug cum bore wells are the main ground water extraction structure in the district to meet the increasing demand of domestic water supply and irrigation. North-East part of the district is more suitable for ground water development depending upon the availability of favorable locations. The overall ground water development in the district is 26.47%. The ground water draft has been worked out as per norms of Ground Water Estimation Committee - 1997 for potential available in the district. The details of recharge, net annual ground water availability, net ground water balance and annual draft has been evaluated.

Water Conservation & Artificial Recharge

The major schemes like artificial recharge & rain water harvesting are lacking in the district. Rain water harvesting and artificial recharge is necessary for ground water augmentation in different part of the district. There should be a plan to arrest the decline of ground water storage and ensuring sustainable and economic utilization of ground water resources. The artificial recharge can be taken up in Latehar and Chandwa Township as well as other block headquarter in the district. There are lot of watersheds in the area. The artificial recharge structure like percolation tank, gully plugging, subsurface dyke can be constructed to maintain the ground water potentiality and sustainability.

Ground Water related Issues & Problems

Some areas of the district are highly drought prone. The deeper ground water level is the major problem in the district.

Awareness & Training Activity

Awareness of Training Activity



-99-

DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



No mass awareness programme or Water Management Programme has been organized in the district till date.

Participation in Exhibition, Mela, Fair etc.

Nil.

Presentation & Lectures delivered in public forum/Radio/TV/Institute of repute/Grassroots association/NGO/ Academic institutions etc.

Nil.

Areas Notified by CGWB/SGWA

From the ground water point of view, all blocks of the district are under safe category. So no block has been notified by the Authority.

Recommendation

1. In certain patches, the dug well goes dry during the summer. In such places the wells should be deepen so that it taps the entire saturated thickness of weathered residuum. Lineaments should be carefully demarcated and pin pointed by Geophysical investigations for construction of bore wells.
2. The springs should be developed and used for local water supply in the district.
3. In the district under geological condition deeper fracture and other secondary porosity are proved their yielding and storage capacity. The district head quarter Latehar and other block headquarters are suitable for rainwater harvesting and artificial recharge of ground water.

The artificial recharge structure like percolation tank, gully plugging, subsurface dyke can be constructed to maintain the ground water potentiality and sustainability





8. RAINFALL AND CLIMATE OF THE DISTRICT

8.1 Rainfall:

Table 8.1: Month-wise Rainfall

Latehar District Rainfall Data (mm)					
	2020	2019	2018	2017	2016
Jan	33.80	0	0	27.1	5.6
Feb	18.70	36.40	0	0	4.2
Mar	153.40	13.40	16.50	0	30
Apr	40.30	16.80	0	0	0
May	34.90	0	5.50	19.1	18.8
Jun	274.90	90.0	19.80	70.6	118.2
Jul	442.50	225.20	100.80	638.9	330.4
Aug	312.3	201.60	358.20	233.1	582.2
Sep	150.7	116.70	297.40	127.8	466.3
Oct	168.2	59.10	283.40	76.9	84.6
Nov	10.10	0	31.0	0	0
Dec	0	2.0	0	0	0

(Source: Indian Meteorological Department)

The Indian Meteorological Department, Nagpur, vide letter No. NAGPUR RMC/CS-312, dated 18th January, 2016 has provided the period of Rainy Season Viz. Normal dates of Onset and Withdrawal of South West Monsoon over India as State-wise. The duration for the period is 15th June to 15th October.

Climatic Condition:

The district is characterized by humid and subtropical climate with three distinct seasons - hot and dry summer, cold winter and rainy season. The cold season extends from November to March; it is followed by summer season from April to middle of June and rainy season from mid June to middle of October. The climate here is mild, and generally warm and temperate. In winter, there is much less rainfall than in summer. In Latehar, the average annual temperature is 25.0°C. Precipitation here averages 1270 mm.

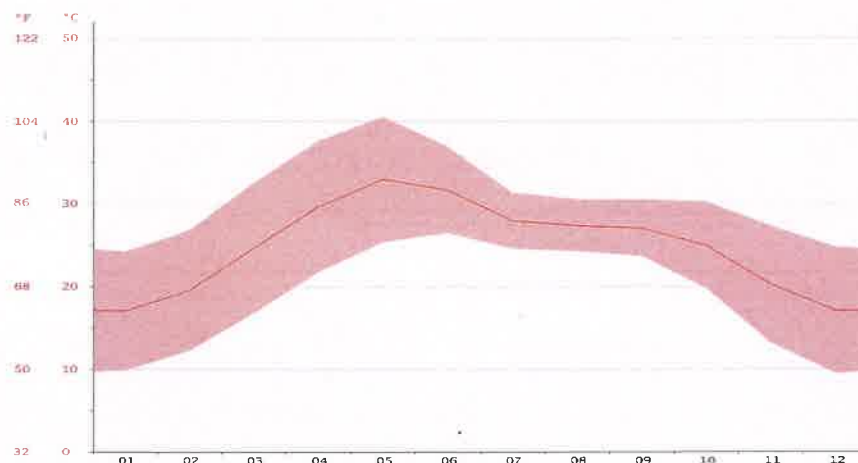


Fig. 8.1: Average Annual Temperature Graph of Latehar District



97-



DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND

Table 8.2: Monthly Average Temperature of Latehar District

	Jan.	Feb	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
Avg. Temperature (°C)	17	19.5	24.6	29.6	32.9	31.6	27.9	27.3	27	24.9	20.2	17
Min. Temperature (°C)	9.8	12.2	16.7	21.7	25.3	26.4	24.5	24.2	23.6	19.7	13.1	9.4
Max. Temperature (°C)	24.2	26.8	32.5	37.6	40.5	36.9	31.3	30.5	30.5	30.2	27.3	24.7
Avg. Temperature (°F)	62.6	67.1	76.3	85.3	91.2	88.9	82.2	81.1	80.6	76.8	68.4	62.6
Min. Temperature (°F)	49.6	54.0	62.1	71.1	77.5	79.5	76.1	75.6	74.5	67.5	55.6	48.9
Max. Temperature (°F)	75.6	80.2	90.5	99.7	104.9	98.4	88.3	86.9	86.9	86.4	81.1	76.5
Precipitation /Rainfall (mm)	20	15	18	8	14	154	330	302	220	62	4	5

(Source: Indian Meteorological Department)



[Handwritten signature]

DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



9. DETAILS OF EXISTING MINING LEASES OF MINOR MINERAL (STONE) IN THE DISTRICT

Sl No	Name of the Mineral	Name of the Lessee	Address of Lessee	Contact No. of Lessee	Mining Lease Grant Order No. & date	Area of Mining Lease Acres (Ha)	Period of Mining Lease		Period of Mining Lease (1st/2ndrenewal)		Date of Commencement of mining operation	Status (Working/Non-working/Temp. Working for dispatch)	Captive/ Non-Captive	Obtained Environmental Clearance (Yes/No.) If yes Letter No. with date of grant of EC	Location of the Mining Lease (Coordinates)	Method of Mining (Opencast/ Underground)
							From	To	From	To						
1	Stone	M/s Balram Stone Mines, Pro-Kanhaiya Prasad Singh	Pro-Kanhaiya Prasad Singh, Vill+P.O.-Bariyatu, Dist Latehar	7903924718	Letter No. 815/M, Dated 20.09.2017	7 Mauza-Pipardih, Khata No.-05, Plot No.-07, Area-2.85 Acre	13.10.2017	12.10.2027	N.A.	N.A.		Working	Non-Captive	EC/SEIAA/2024-25/3388/2024/488, Dated-08.01.2025	16	Open Cast
2	Stone	M/s Santosh Construction, Prop-Sri Santosh Kumar Singh	Vill-Kanta, P.O.+P.S.-Chandwa, Dist-Latehar	9939161568	Letter No. 884/M, Dated-16.10.2017	7 Mauza-Loharsi, P.S.-Chandwa, Khata No.-123, Plot No.-1858, Area-5.26 Acre	13.10.2017	12.10.2027	N.A.	N.A.		Working	Non-Captive	EC/SEIAA/2024-25/3393/2024/481, Dated-08.01.2025		Open Cast
3	Stone	Smt. Rita Devi, W/O-Sri Ajay Kumar Pathak	Vill-Banpur, P.O.+P.S.+Dist-Latehar	9776481772	Letter No. 840/M, Dated-26.09.2017	7 Mauza-Bichalidag, Khata No.-65, Plot No.-256, Area - 2.40 Acre	13.10.2017	12.10.2027	N.A.	N.A.		Working	Non-Captive	EC/SEIAA/2024-25/3229/2024/396, DATED-06.12.2024		Open Cast
4	Stone	Sri Shatrughan Prasad, S/O-Sri Triveni Sav	Vill-Jalimkhurd, P.O.-Jalim, P.S.-Latehar	9572921412	LETTER NO. 812/M, DATED-20.09.2017	7 Mauza-Dendu, Khata No.-190, Plot-1919, Area-3.56 acre	13.10.2017	12.10.2027	N.A.	N.A.		Working	Non-Captive	EC/SEIAA/2024-25/3389/2024/486 Dated-08.01.2025		Open Cast
5	Stone	Md Mustafiz, S/O-MD Jalil, Vill-Tarwadhi	Vill-Tarwadhi, Po-Nawagarh, P.S.+Dist-Latehar	6206040495	LETTER NO. 827/M, DATED-23.09.2017	7 Mauza-Dundu, Khata No.-322, Plot No.-1054, Area-6.72 Acre	17.10.2017	16.10.2027	N.A.	N.A.		Working	Non-Captive	EC/SEIAA/2024-25/3297/2024/361 DATED 03.12.2024		Open Cast
6	Stone & Morrium	Ashok Prasad, S/O-Sri Shrivath Prasad	Vill+P.O.+P.S.-Manika	9113408132	Letter No. 826/M, Dated-30.08.2016	7 Mauza-Dundu, Khata No.-322, Plot No.-1566 and 1599, Area-5.18 Acre	09.11.2016	08.11.2026	N.A.	N.A.		Working	Non-Captive	EC/SEIAA/2014-15/491/2014/ 835, DATED-30.4.2015		Open Cast



DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



7	Stone	Sri Amit Kumar, S/o- Sri Dinesh Prasad,	Vill+ P.O.+ P.S.- Bariyatu	7992336252	LETTER NO. 1323/M DATED 23.12.2023	Mauza- Chumba, Khata No.-97 and 98 (New), Plot No.-609, 610 and 633 (New), Area- 3.21 Acre	31.01.2024	31.12.2028	N.A.	N.A.	Working	Non-Captive	EC/SELAA/2023-24/3042/2023/437, DATED 02.11.2023	Open Cust
8	Stone	Md Azad, S/o- Saud Ahmed,	Vill-Redma, P.O.-G.L.A. College, Daltonganj, P.S.+ Dist- Daltongaj	8002717044	LETTER NO. 17/M, DATED- 05.01.2024	Mauza- Agardih Manghaniya, Khata No.- 66, 61, 02, 44 and 18 (New), Plot No.-398, 399, 485, 486, 487 and 474 (New), Area-4.58 Acre	13.01.2024	13.12.2028	N.A.	N.A.	Working	Non-Captive	EC/SELAA/2023-24/3047/2023/240, DATED 02.11.2023	Open Cust
9	Stone	Maa Ugratara Construction, Partner- Sri Shailesh Kumar Singh,	Vill-Komar, PO+P.S.- Balumath	8709638861	LETTER NO. 1344/M, DATED 27.12.2023	Mauza- Tundahutu, Khata No.-6, 15 and 41, Plot No.-59, 77, 61 and 79, Area-3.62 Acre	02.02.2024	01.02.2034	N.A.	N.A.	Working	Non-Captive	EC/SELAA/2023-24/3052/2023/443, DATED-02.11.2023	Open Cust
10	Stone	Sri Rohit Yadav, S/O- Late Nandn Yadav	Vill+P.O.- Nindra, P.S.- Chandwa, Dist- Latehar	6202613470	Letter No. 19/M, Dated- 05.01.2024	Mauza- Nindra, Khata No.- 16, 07 and 14, Plot No.- 137, 139 and 134, Area- 4.67 Acre	30.01.2024	30.12.2028	N.A.	N.A.	Temp-Non-Working	Non-Captive	EC/SELAA/2023-24/3019/2023/ 413 Date 02.11.2023	Open Cust
11	Stone	Sri Sanjay Kumar Singh, S/O-Sri Shambhu Singh, Vill- Bhatchatra, P.O.- Besra, P.S. Balumath, partner- Shamsbad Ansari, S/O- Late Asim Miyan, Vill- Nawagarhw, P.o.+ P.S. +District- Latehar		7991163101	Letter No. 1315/M, Dated- 22.12.2023	Mauza-Tasu, Khata No.- 47, Plot No.- 419, Area- 4.63 Acre.	08.01.2024	07.01.2034	N.A.	N.A.	Working	Non-Captive	EC/SELAA/2023-24/3042/2023/407, DATED 02.11.2023	Open Cust
12	Stone	Sri Ajay Kumar Pathak, S/o- Late-Vijay Narayan Pathak,	Vill-Banpur, P.O+P.S.- Latehar, Dist- Latehar	9155199222	LETTER NO. 1309/M, DATED- 22.12.2023	Mauza- Mohanpur, P.S.- Herhani, Khata No.- 04 and 15, Plot No.-397 (P), 448, Area-6.06 Acre	13.01.2024	12.01.2034	N.A.	N.A.	Working	Non-Captive	EC/SELAA/2023-24/3054/2023/449, DATED 02.11.2023	Open Cust



- 95 -

DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



13	Stone	Sri Umesh Kumar Singh, S/o-Late Ganesh Singh,	Vill-Rampur, P.O.-Bari, P.S.-Chandwa, Dist- Latehar	7979825290	LETTER NO. 1325/M, DATED- 23.12.2023	Mauza- Piridig, Khata No.-02 and 15 (New), Plot No.-29, 31, 32 and 33 (New), Area- 2.65 Acre	13.01.2024	12.01.2034	N.A.	N.A.	Working	Non-Captive	EC/SEIAA/2023-24/3034/2023/395, DATED-02.11.2023	Open Cast
14	Stone	Sristi Works Private LTD, Pro-Sri Abhishek Anand, Authorized Sri Rajnish Kumar	Vill-Lakhipur Kola, P.O.-Fatehpur	9523859258	LETTER NO. 1311/M, DATED- 22.12.2023	Mauza-Jasu, Khata No.-30, Plot No.-522(p), 523(p) and 525 (New), Area-2.63 Acre	26.01.2024	25.01.2034	N.A.	N.A.	Working	Non-Captive	EC/SEIAA/2023-24/3057/2023/406, DATED-02.11.2023	Open Cast
15	Stone	Smt Indu Devi, W/O- Sri Ramchandra Singh	Vill-Mangra, P.O.-P.S.-Barwadih, Dist- Latehar	7739790901	Letter No. 1313/M, Dated- 22.12.2023	Mauza-Sodhwadih, Khata No.-48 and 09, Plot No.-1090, 1091 and 1232, Area- 4.04 Acre	02.03.2024	02.02.2034	N.A.	N.A.	Working	Non-Captive	EC/SEIAA/2023-24/3048/2023/453, DATED 02.11.2023	Open Cast
16	Stone and soil	Blaskar Kumar, S/o-Prabhad Singh	Vill-Jabra, Post-Barichup, P.S.-Bariyatu, Dist- Latehar	9835823867	Letter No. 845/M, Dated- 18.09.2024	Mauza-Loharsi, P.S.-Chandwa, Khata No.-40, Plot No.-1863 and 1864, Area- 2.76 Acre	N.A.	N.A.	N.A.	N.A.	Working	Non-Captive	EC/SEIAA/2024-25/3175/2024/184, Dated-11.08.2024	Open Cast
17	stone	Lotus Minerals- Partner- Manoj Kumar, and Sri Sanjay Kumar Pandey,	Daltonganj, Palamu	8877160333	LETTER NO. 506/M, DATED- 27-06-2024	Mauza-Bandua, Khata No. 189, 226 and 308, Plot No. 212, 210(P), 208, 235, 213 and 216, area-6.09 acres	N.A.	N.A.	N.A.	N.A.	Working	Non-Captive	EC/SEIAA/2023-24/3052/2023/80, Dated-27.05.2024	Open Cast
18	Stone	M/s A.K. Construction, Partner 1. A.K. Dubey and 2. A.K. Pandey, Baralofa, Daltongunj	Baralofa, Daltongunj	7979829431	PENDING FOR GRANT	Mauza-Manikdih, Khata No. 22, 29, 31, 48, Plot No. 290 (P), 294, 295, 296, Area-2.20 Acres	N.A.	N.A.	N.A.	N.A.	Working	Non-Captive	EC/SEIAA/2024-25/3168/2024/232, DATED-16.08.2024	Open Cast
19	Stone and soil	Banwar Stone Chips, Partner-1. Shailendra Kumar Mehta, 2. Kumar Vinay, 3. Vikki Kumar	Balumath	9798576818	PENDING FOR GRANT	Mauza-Banwar, Thana No.-51, Khata No.-49, 50, 55 and 69, Plot No.-543, 544, 550, 551, 552 (P), 553 (P) and 542, Area- 5.40 Acres	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	EC/SEIAA/2024-25/3216/2024/246, DATED 07.09.2024	Open Cast



DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



20	Stone and soil	Banwar Stone Chips, Partner-1. Shailendra Kumar Mehta, 2. Kumar Vinay, 3. Vikki Kumar	Balumath	9798576818	PENDING FOR GRANT	Mauza- Chedra, Thana No.- 54, Khata No.-91, 94 and 103, Plot No.-1399, 1397, 1400 (P), 1401 (P) and 1402, Area-3.90 Acres	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	Non-Captive	EC/SEIAA/2024-25/3215/2024/252, DATED 07.09.2024		Open Cast
21	Stone	M/s Bhardwaj Stone Works, Prop- Shri Ritesh Kumar Bhardwaj	Village-Banalat, P.O.-Chedra, Thana- Balumath, District- Latehar, Jharkhand	8862856303	PENDING FOR GRANT	Mauza- Banwar, Khata No. 10, 11, new, 37, 08 old, plot no. 531, 532 new, 305, 322 old, area- 1.63 acres	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	Non-Captive	EC/SEIAA/2024-25/3176/2024/195, Dated-11.08.2024		Open Cast



[Handwritten signature]

93-

-92-



DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND
MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND

**10. DETAILS OF ROYALTY OR REVENUE RECEIVED IN
LAST THREE YEARS**

Sl. No	Financial Year	Royalty (in INR)
1	2022-23	29437.00 Lakhs
2	2023-24	39302.53 Lakhs
3	2024-25	63669.02 Lakhs



-91-

DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND
MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



**11.DETAILS OF PRODUCTION OF MINOR MINERALS
IN LAST THREE YEARS**

Sl. No.	Year	Production (in ft ³)
1	2022-23	4836885
2	2023-24	2955250
3	2024-25	7256406



[Handwritten signature]

DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



12. MINERAL MAP OF THE DISTRICT

12.1 Mineral Wealth:

The district is very rich in various mineral deposits. There is abundance of deposit of Coal, Bauxite, Laterite, Dolomite, and Graphite, Granite, Quartz, Fireclay, Feldspar etc. The excavation and exploration of these minerals have provided job opportunities to the inhabitants of this hinterland to some extent because these minerals have not been fully explored at large scale.

As on date, the district is having nine numbers of Stone/Morrum mines having lease granted, spread across Balumath, Manika and Chandwa block of the district. As per the data obtained from the office of the District Mining Officer, Latehar, it can be observed that there is a gradually increasing trend of mining industry in the district.

Sand is the basic raw material for its utilization in any development activity throughout the world. Sand is primarily produced from mining operations on the surface on the surface of the Earth, near the river beds and the sand quarrying below the surface of Earth. In the earlier time the mud houses/buildings were constructed with the use of mud. However, with the passage of time, new technique of development activities was started. As such the demand of Minor mineral started on an increasing trend. In order to meet the requirement of raw material for construction, the extraction of Sand carried out manually/semi-mechanized from the river beds. Sand mining is mainly practiced in Auranga, Damodar, North Koel, Sukri and Patam Rivers of Latehar district.

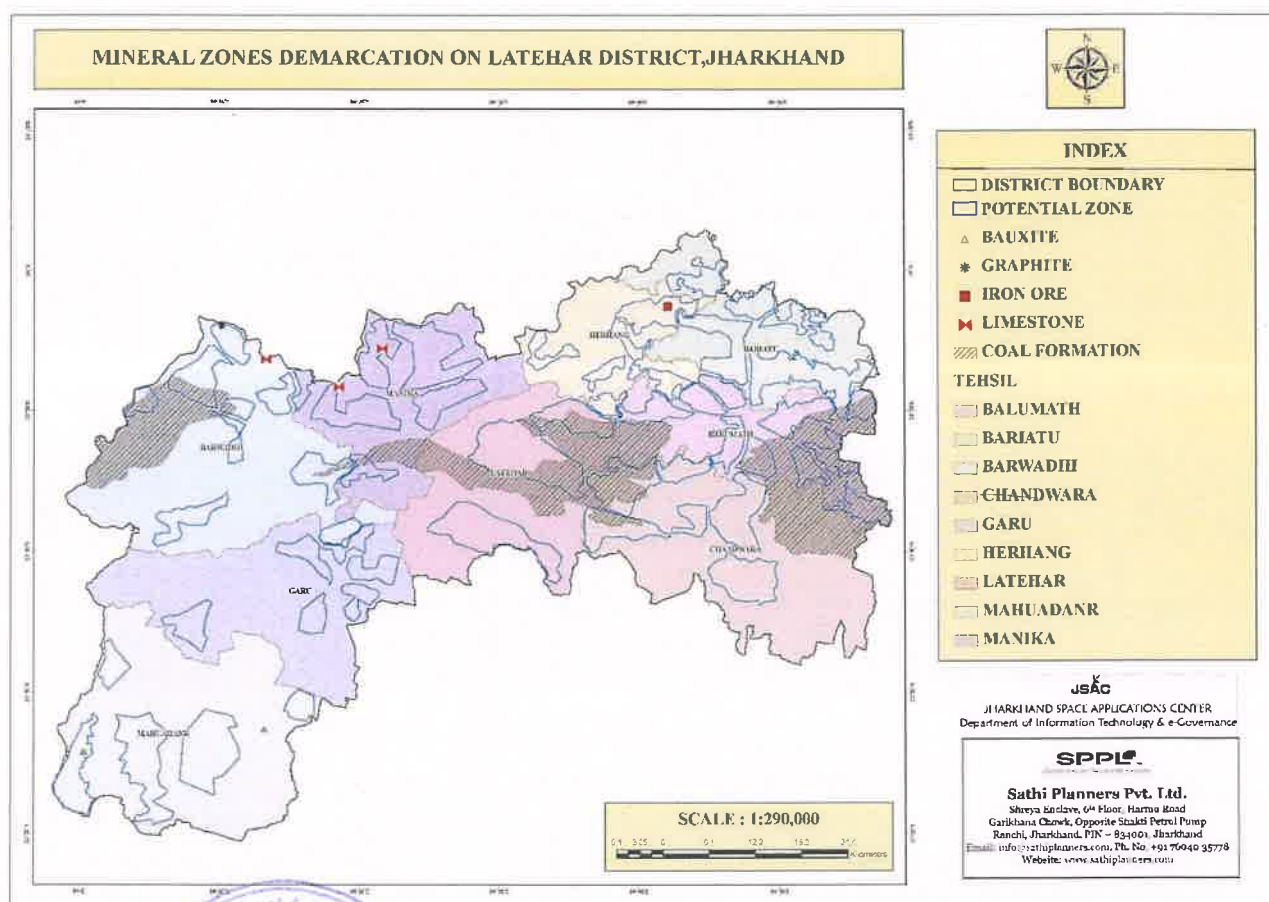


Fig. 12.1: Mineral Map of Latehar District
(Source: JSAC, Deptt. of Mines & Geology, Govt. of Jharkhand)

DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND

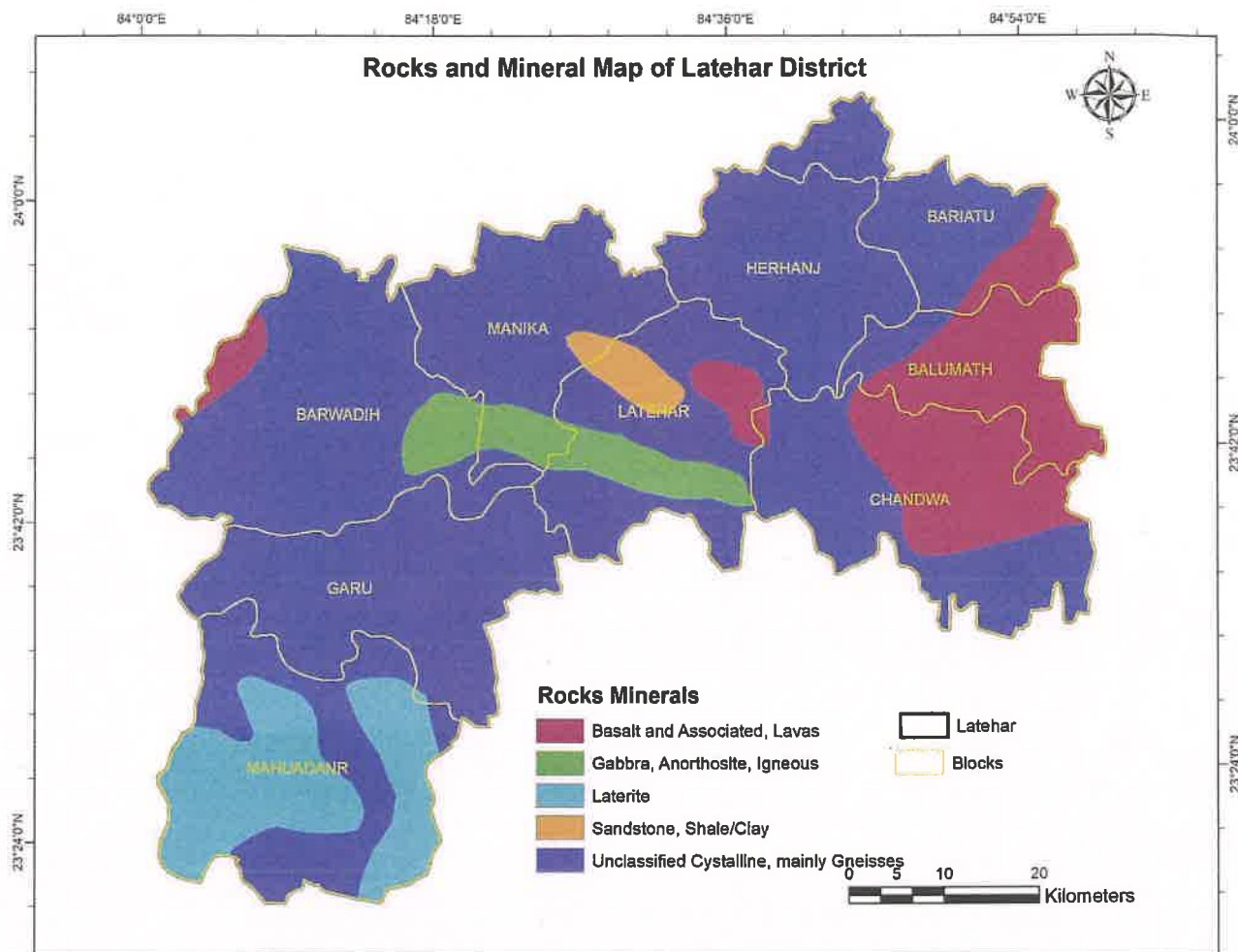


Fig. 12.2: Map Showing Rocks & Mineral types of Latehar District





DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR
LATEHAR DISTRICT OF JHARKHAND

13. LIST OF LETTER OF INTENT HOLDERS IN THE DISTRICT

Sl No	Name of the Mineral	Name of the Lessee	Address of Lessee	Contact No. of Lessee	Letter of Intent Grant Order No. & Date	Area of Mining Lease Acres (Ha)	Validity of LOI	Use (Captive/ Non-Captive)	Address of the Mining Lease	Location of the Mining Lease (Coordinates)
1	Stone	Sri Rohit Yadav, S/O- Late Nandu Yadav, Vill-P.O.- Nindra, P.S.- Chandwa, Dist- Latehar	Chandwa	6202613470	Letter No. 1305/M, Dated- 21.12.2023	1.032	NA	Non- Captive	Circle-Chandwa, Mauza- Nindra, Khata No. - 98, Plot No.-136 , Area-2.55 Acre	11
2	Stone	Maa Bhadrakali Minerals, Bariyatu Partners- 1. Mahmood Khan, S/o Intaf Khan, 2. Shashikant Kumar Sahay, S/o Sri kant Kumar Sahay, 3. Rizwan Alam, 4. Umesh Kumar, 5. Gulam Sarwar, 6. Dewanand Kumar	Bariyatu	7979987711	Letter No. 902/M, Dated- 01.10.2024	1.21	NA	Non- Captive	Circle-Bariyatu, Mauza- Chumba, Thana No. 31, Khata No. 36, Plot No.- 521, Area- 3.00 Acres.	
3	Stone	Barbrik Project Private Limited, District- Riva, M.P.	Chandwa	8298797777	Letter No. 110/M, Dated- 28.01.2025	0.71	NA	Non- Captive	Circle-Chandwa, Mauza- Amjharia, Khata no. 28, 9, Plot No. 300 (p), 299 (p) 296(p) 294, Area- 1.75 Acres.	
4	Stone	Sri Satrudhan Prasad, S/o Late Triveni Suh, Vill-Post-JalimKhurd, P.S+Dist-Latehar	Latehar	9572921412	Letter No. 751/M Dated- 24.06.2025	1.77	NA	Non- Captive	Circle-Manika, Mouza-Bella, Khata no-31,82,92,86 Plot No- 534,544P,545P,543P,539P and 537P, Area-4.375 Acre	





14. TOTAL MINERAL RESERVE AVAILABLE IN THE DISTRICT

At present, based on existing running mining leases and available mining plans (4 registered Mining Leases) a total of 42528902286 m³/114828036172 Tonnes of mineable reserve of Stone are found in the Latehar district. There are 09 nos. of blocks of potential Stone deposits have been identified in Latehar district. Based on reconnaissance survey, it has been also assessed that about 42528902286 m³/114828036172 Tonnes of mineable reserve of Stone deposit can be mined to meet the demand- supply gap of district.





DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



BALUMATH	
Dumbu	Soparam
Ghutam	Barhaniakhar Aliasbhutahabab
Hathdih	Bhang
Ichak	Masiatu
Jhabar	Kuriam Khurd
Komar	Lundibar
Seregara	Lejang
Ara	Bahera
Chamatu	Gurtur
Balu	Lachhipur
Bukru	Gerenja
Chetar	Pindarkom
Tumbagara	Hebna
Banio	Semarsot
Diridag	Rajbar
Jarri	Bara
Olhepat	Murgaon
Holang	Hempur
Balumath	Marangloiya
Chetag	Bhaisadon
Tasatwar	Bishunpur
Pundurlawa	Jilanga
Kasiadih	Okea
Nagra	Mawadih
Jala	Keri
Ganeshpur	Dhadhu
Basiya	Chitarpur
Jogiadih	Mausingha
Datam	Murpa
Kurian Kalan	Jipua
Bhagea	Kolpatia
Siram	Balbal
Itke	Chandli
Pakri	



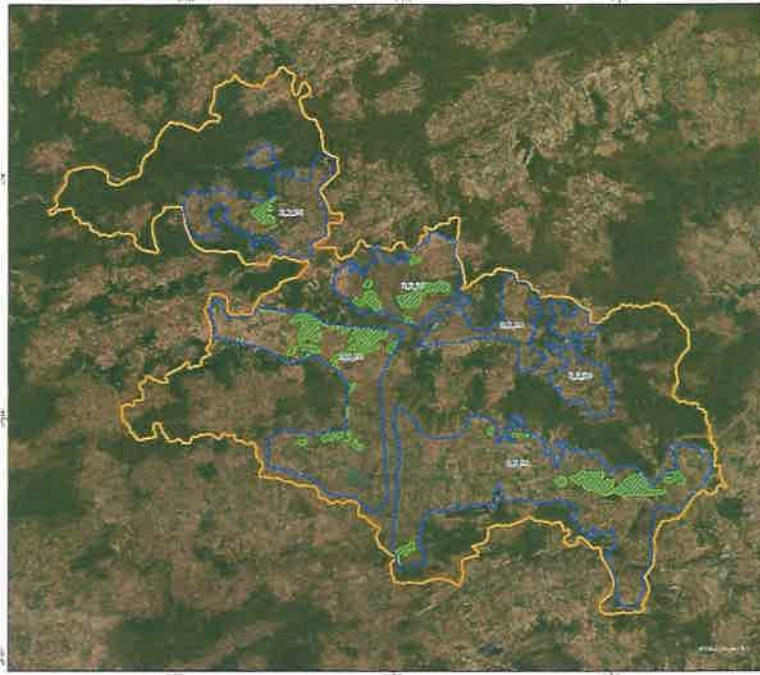
[Handwritten signature]

84-

DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



MAP SHOWING IDENTIFIED POTENTIAL STONE DEPOSITS IN ADMINISTRATIVE BOUNDARY OF BLOCK - BARIATU, DISTRICT - LATEHAR, JHARKHAND



INDEX

- BLOCK BOUNDARY
- PROTECTED FOREST
- POTENTIAL ZONE

DETAILS OF POTENTIAL ZONE IN BARIATU BLOCK, LATEHAR DISTRICT

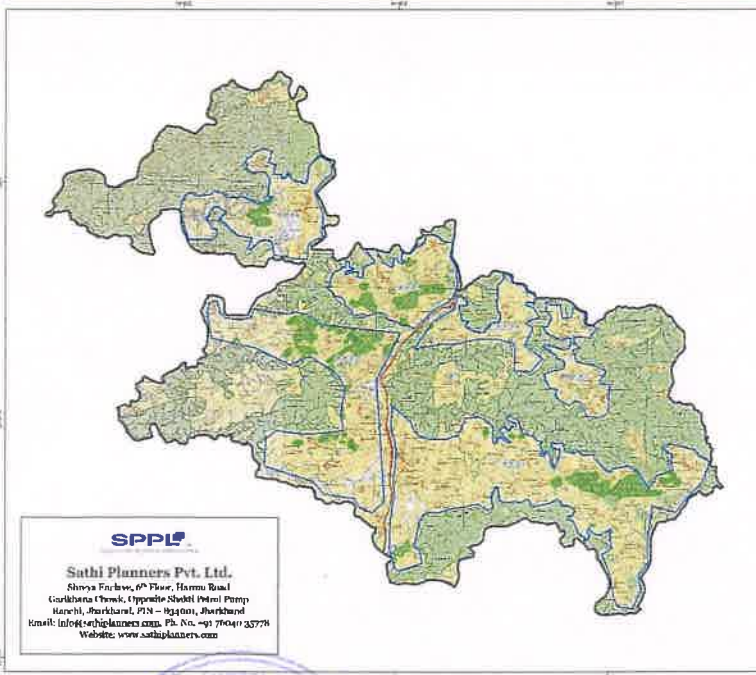
S. No.	Potential Zone	Area (Ha)	Grade (%)	Quantity (Cm)
1	1	100	10	1000
2	2	200	20	2000
3	3	300	30	3000
4	4	400	40	4000
5	5	500	50	5000
6	6	600	60	6000
7	7	700	70	7000
8	8	800	80	8000
9	9	900	90	9000
10	10	1000	100	10000

SPPL
Sathi Planners Pvt. Ltd.
Shree Krishna, 6th Floor, Harma Road
Gandhinagar, Opposite Shakti Petrol Pump
Ranchi, Jharkhand, PIN - 834001, Jharkhand
Email: info@sathiplanners.com, Ph. No. +91 76040 33778
Website: www.sathiplanners.com

SCALE : 1:90,000



POTENTIAL ZONE DEMARCATION ON BARIATU BLOCK OF LATEHAR DISTRICT



INDEX

- BLOCK BOUNDARY
- PROTECTED FOREST
- POTENTIAL ZONE

CONVENTIONAL SYMBOLS

Symbol	Description
	National Highway
	State Highway
	District Boundary
	Block Boundary
	Protected Forest
	Potential Zone
	River
	Road
	Railway
	Airfield
	Port
	Island
	Lake
	Swamp
	Mountain
	Hill
	Valley
	Plateau
	Desert
	Tundra
	Snow
	Ice
	Cloud
	Sun
	Moon
	Star
	Comet
	Meteor
	Asteroid
	Planet
	Galaxy
	Universe

SCALE : 1:90,000



835

DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND

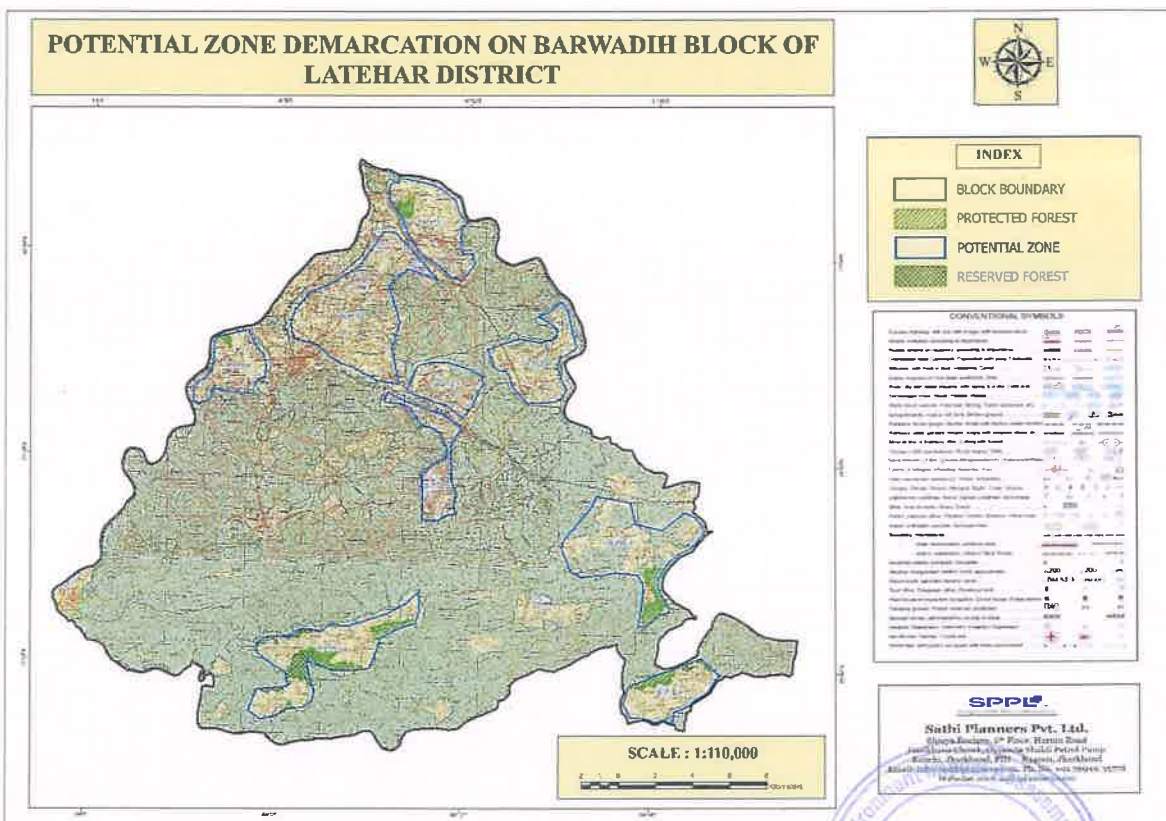
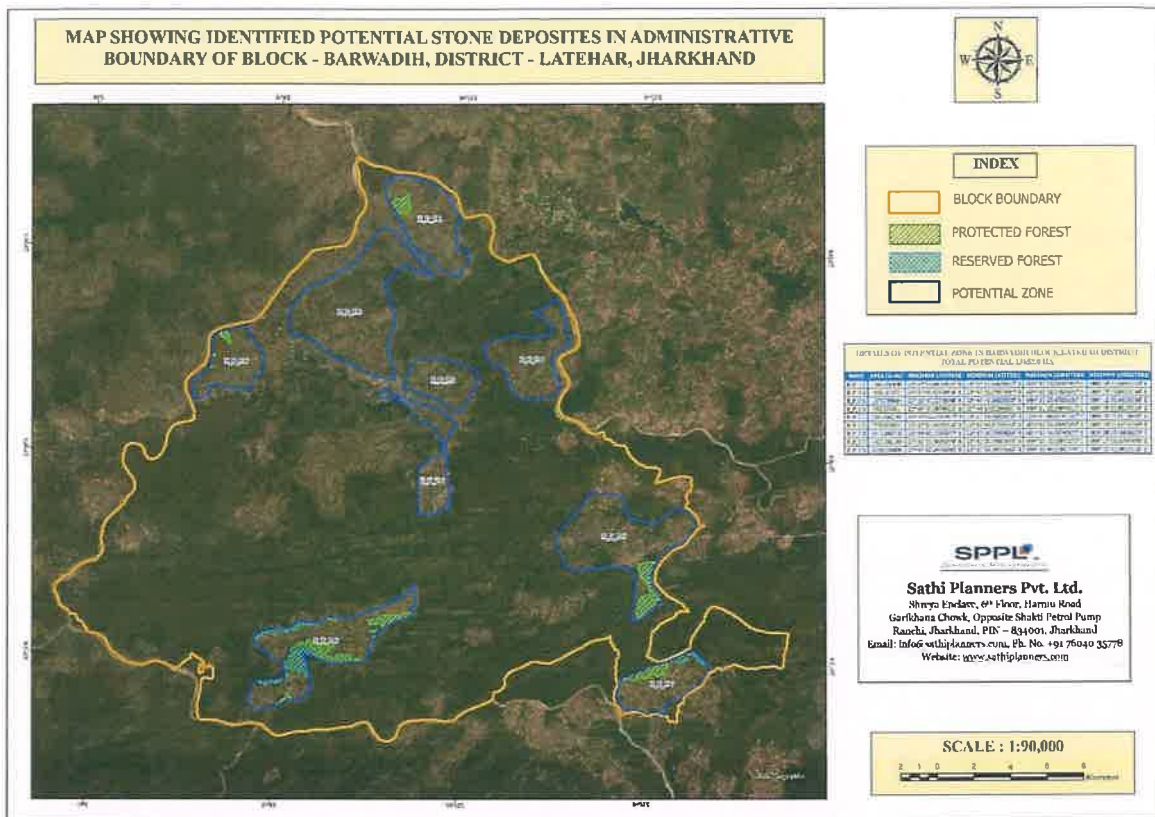


BARIYATU	
Nawadih	Darha
Gurbe	Bara
Gargama	Rud
Chumba	Kusamha
Hisri	Gari
Rajguru	Nachna
Gonea	Bariatu
Mukki	Besra
Latu	Banalat
Sibla	Manatu
Birbir	Toti
Jhirmatkuma	Itke
Karma	Salwe
Phulsu	Barwadih
Ronhe	Ratnadag
Jabra	Bachra
Bisrampur	Rahea
Makra	Bamwar
Bathet	Tundahutu
Matkoma	Renchi
Bhatchatra	Bari Khap
Phulbasia Alias Amarwadih	Charra
Barni	Pipradih Alias Kutse
Chetuag	Pukchu
	Gurusalwe



[Handwritten signature]

DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



-81-

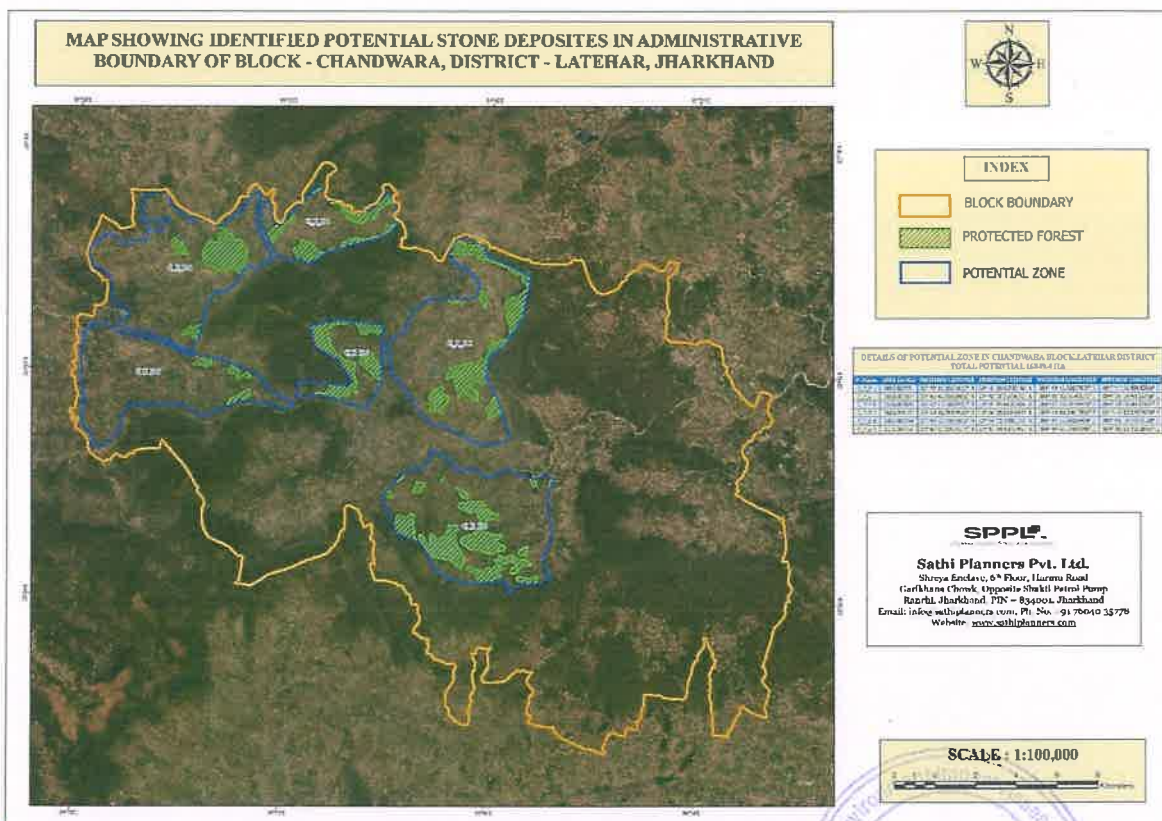
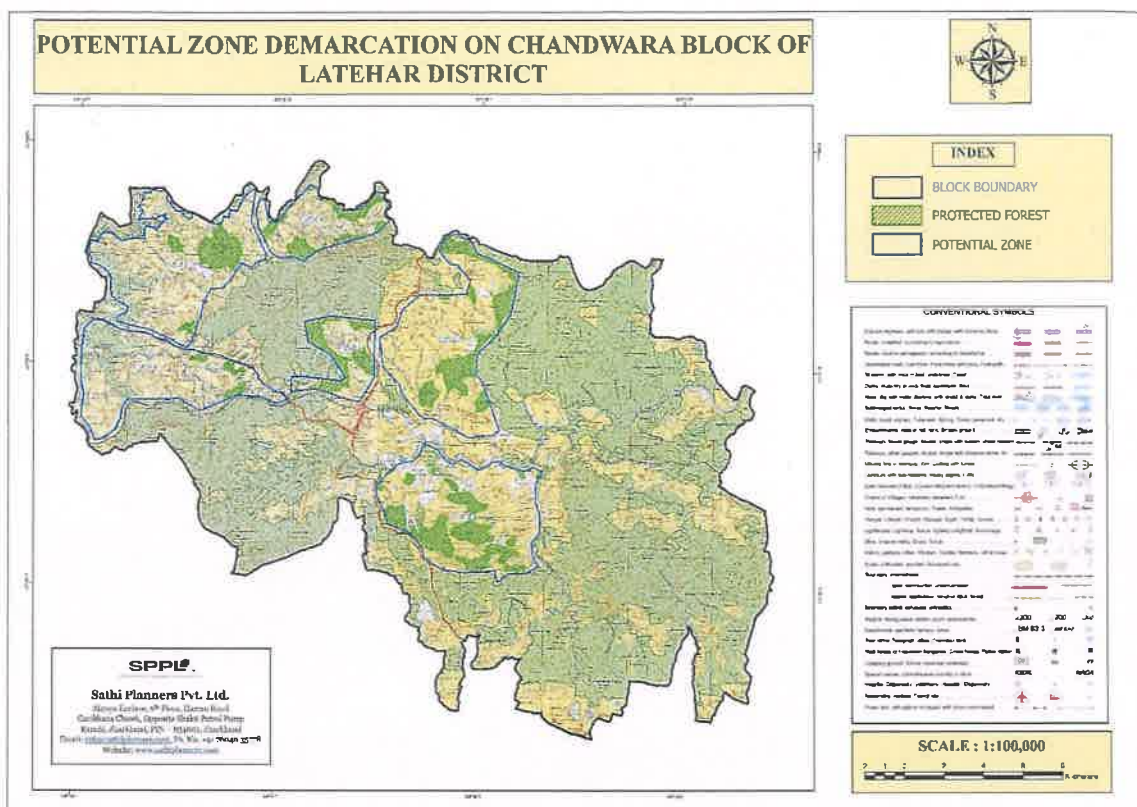
DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND
MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



BARWADIH
Harparwa Alias
Biratpurwa
Aghra
Mangra
Murgidih
Khura
Barwadih CT
Chapri
Chamardiha
Chhancha
Meral
Panwai
Ramru



[Handwritten signature]



-79-

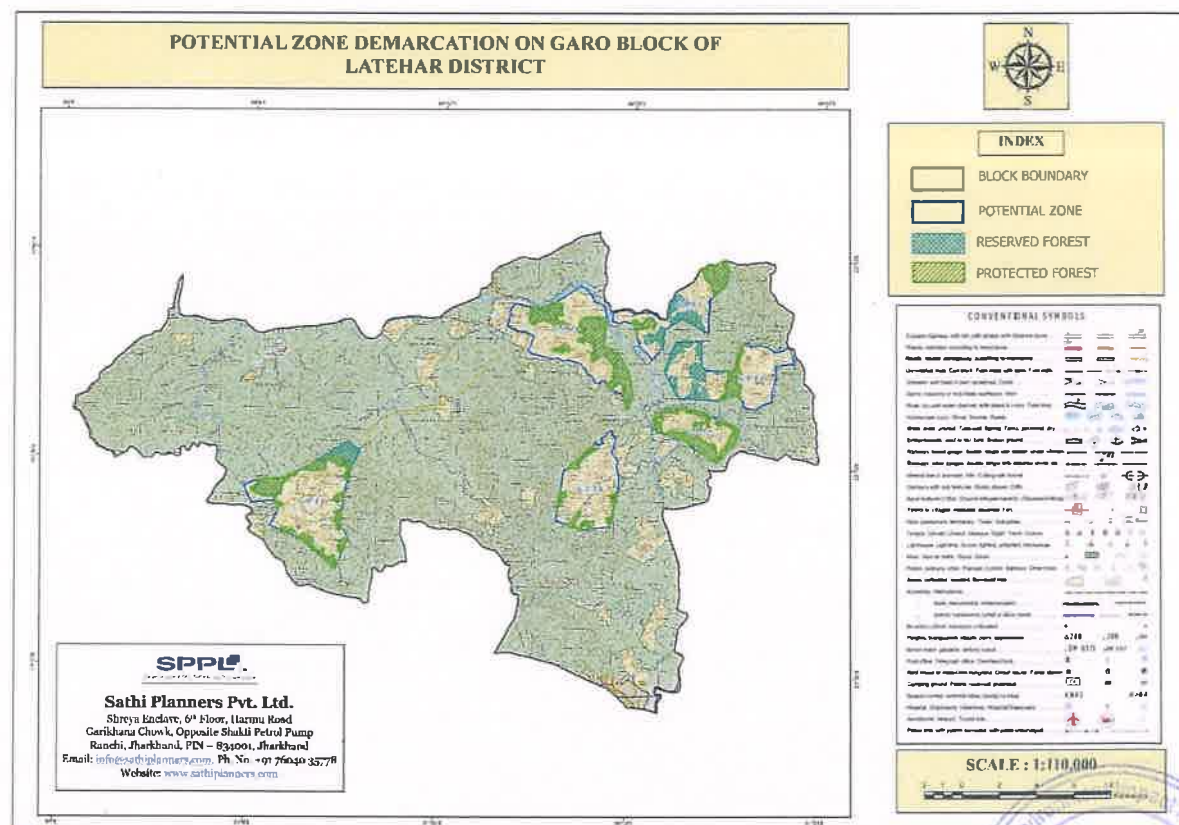
DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



CHANDWA		
Erud	Alaudia CT	Loharsi
Kuramubartpur	Santi	Boda
Serak	Bana	Belgara
Renchi	Marmar	Nindra
Kita	Nawadih	Ganiari
Darea	Kita	Kudra
Banhardi	Ardhe	Tiling
Tarhasi	An	Amjharia
Nindra	Bhusar	Hesla
Chakla	Kamta	Ara
Nagar	Barwakhar	Hesalong
Turisot	Rud	Torar
Surli	Chetar	Belenga
Mahuatanr	Bulhu	Marma
Rampur	Zamira	Jamuari
Bari	Dumaro	Bairgara
Chatuang	Turhamu	Dudhimati
Latdag	Sos	Senha
Damodar	Malhan	Pirdag
Ambadohar	Deonadia	Childiri
Ete	Chandwa CT	Rud
Chatro	Chiro	Ladhup
Sikni	Dhoti	Betar
Hisri	Kali	Barwatoli
Barwadih	Rol	Rohum
Tota	Hutap	Manatu
Angara	Gardag	Goli
Mahuamilan	Lukwa	Tata
Sasang	Borsidag	



[Handwritten signature]



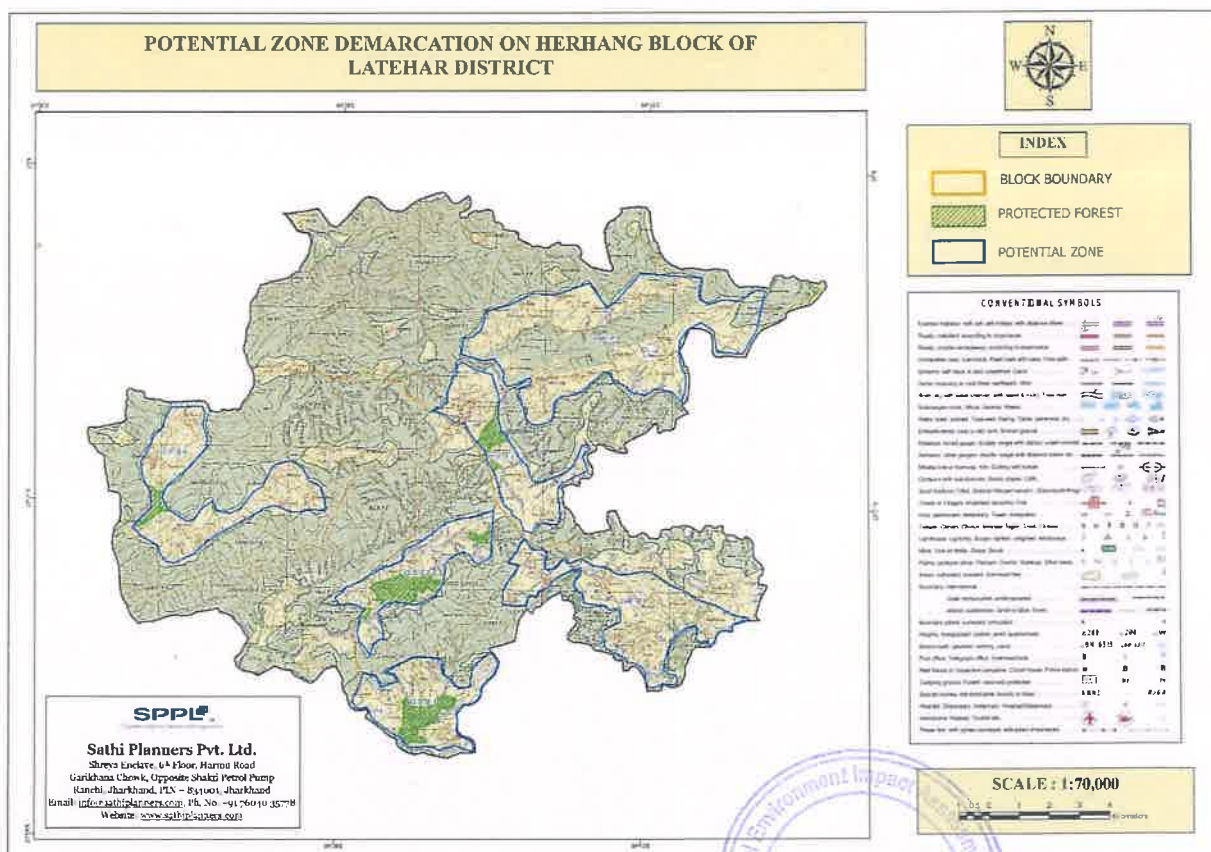
78

**DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND
MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND**



GARU
Kuku
Gopi Khonr
Ghuturu
Pati
Kojram
Purni Armu
Latu
Daldalia
Karihenar





-75-

DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND
MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



HERHANJ	
Salaiya	Bandua
Mailam	Meral
Karandag	Nawada
Chain	Sasang
Kasmar	Lawagara
Chuku	Sardhabar
Ud	Hundra
Hunjar	Chaea
Ghure	Sikid
Hesatu	Jani
Khapia	Bhargaon
Bidir	Lath
Hur	Bankita
Dori	Jawar
Serandag	Tasu
Kenru	Bandarlauria
Mohanpur	Hundi
Kasiadih	Munukdag
Arahara	Dihi
Baseta	

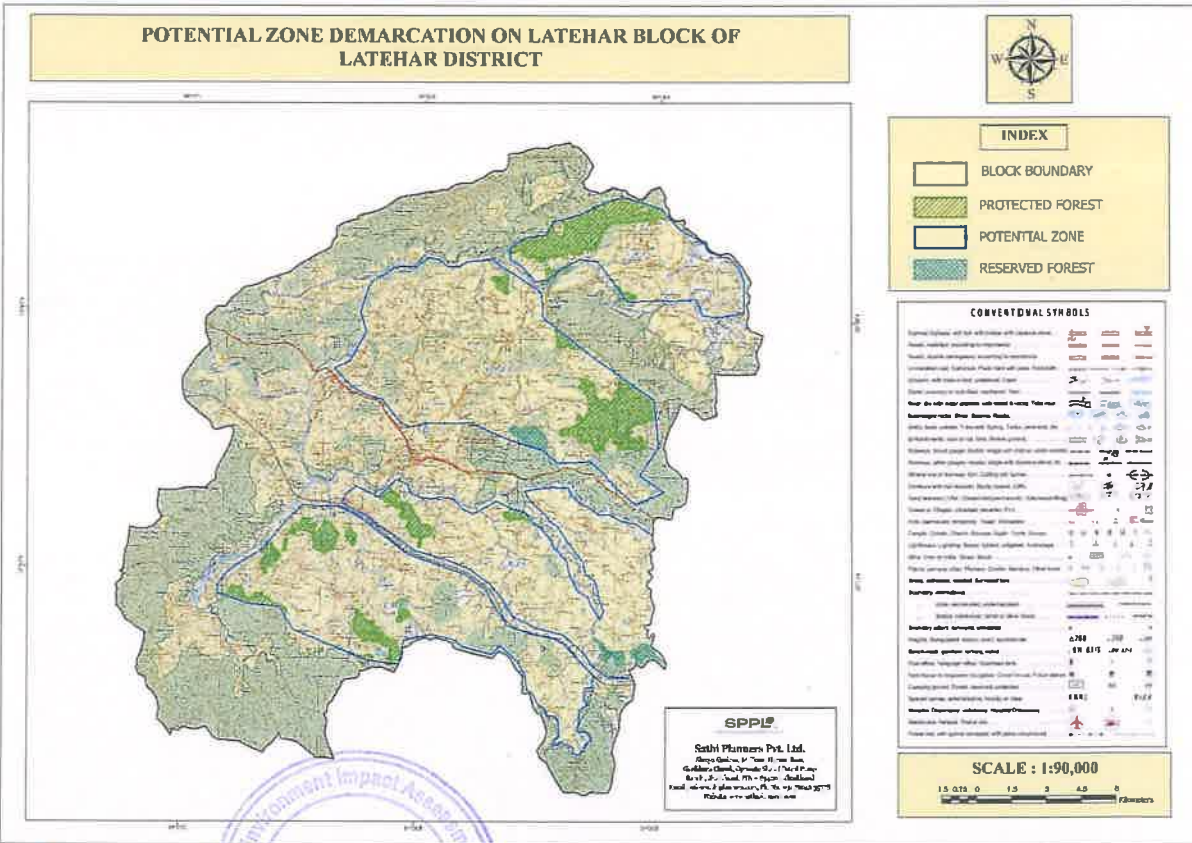
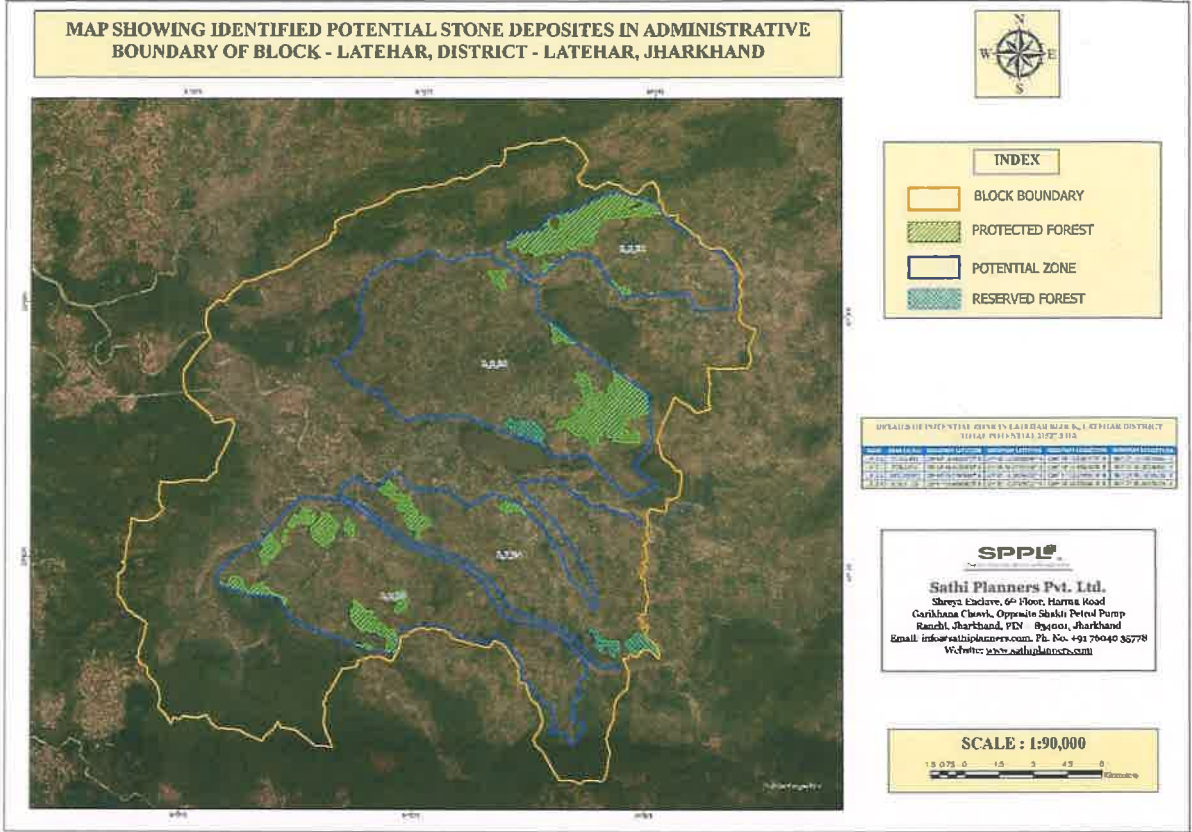


[Handwritten signature]

-74-



DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



[Handwritten signature]



-73-

**DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND
MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND**



LATEHAR			
Sohdag	Aragunde	Keru	Thakurpara
Hesiklbar	Negain	Semariatanr	Narayanpur
Marabar	Kena	Zalim Kalan	Kone
Dihi	Sabano	Kothila	Reheldag
Tubed		Munger	
Patratu	Kura	Manan Chotag	Sukhal Katha
Kaima	Rehal	Patariachotag	Murgidih
Ambajharan	Muka	Bhusur	Patratu
Sasang	Ichak	Tinia Khar	Kudag
Bhalugari		Tupu Kalan	Nawadih
Manjar		Baritu Jagir	
Nawari	Hethloto		Ghanghri
Luti	Ledhpa	Tarwadih	Labarpur
Jaram	Durangi Kalan	Uparpochra	
Chope	Uparloto	Gurgu Alias Irgu	Salaia
Murup	Durangi Khurd		Gulariatanr
Sukri	Manikpura	Ghutua	Ichabar
Dhobia Tharan	Dugila	Ichak	Batat Khurd
Baridih	Karhuma	Hartua	Batat Kalan
Panruka	Nawadih	Nawadih Alias Kalyanpur	Ambatkar
Mangra	Pandepur	Hundru	Hethtoli
Kundri	Banhardi	Dhankara	Mahuatoli
Patratu	Rehra	Jogiadih	Richughutu
Hutar	Parsahi	Sinjo	Giri
Kolherua	Latehar	Alagdiha	Peshrar
Sotam	Jalta	Kalyanpur	Sakwar
Largari		Matkhar	Rehrai
Bisrampur	Udaipura	Demu	Saraidih
Korhas	Salodih	Nawagarh	Parwatanr
Nawadih		Beraini	Pachamba
Hethpochra	Jagaldaga		Parahiatola
Semaria		Turidih	Forest
Pakrar		Mankeri Khas	Forest
Obar	Kinamanr	Sisi	Forest
Temki	Kamo Alias Kumu	Dubiahi	Khaira
Jareang	Bariatunisf Aliasbariatukhal	Kumhar	Khairajagir
Oden	Goa	Ulgara	Rehea
	Bajkum	Nindir	Bishunpur
Lohisini Alias Tulbul	Karmachuan	Mankeri Jagir	Zalim Khurd
Patratu	Tupu Khurd		Harkha
Matnag		Hosir	Hethbera
Labarpur		Kulgara	Lawagara
Uparbesra			

[Handwritten signature]



- 72 -

**DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND
MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND**



All Villages in Mahuadanr are falling under Eco-Sensitive Zone of PWLS, BNP, MWS



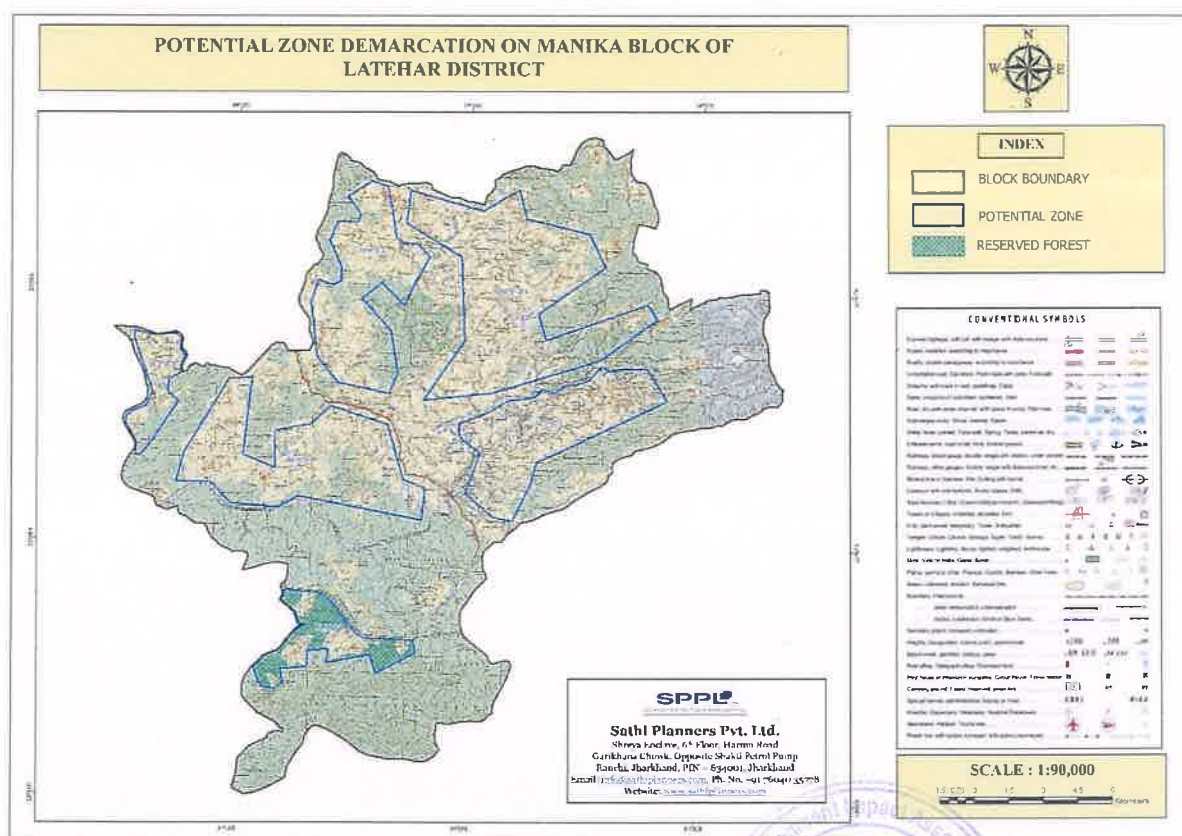
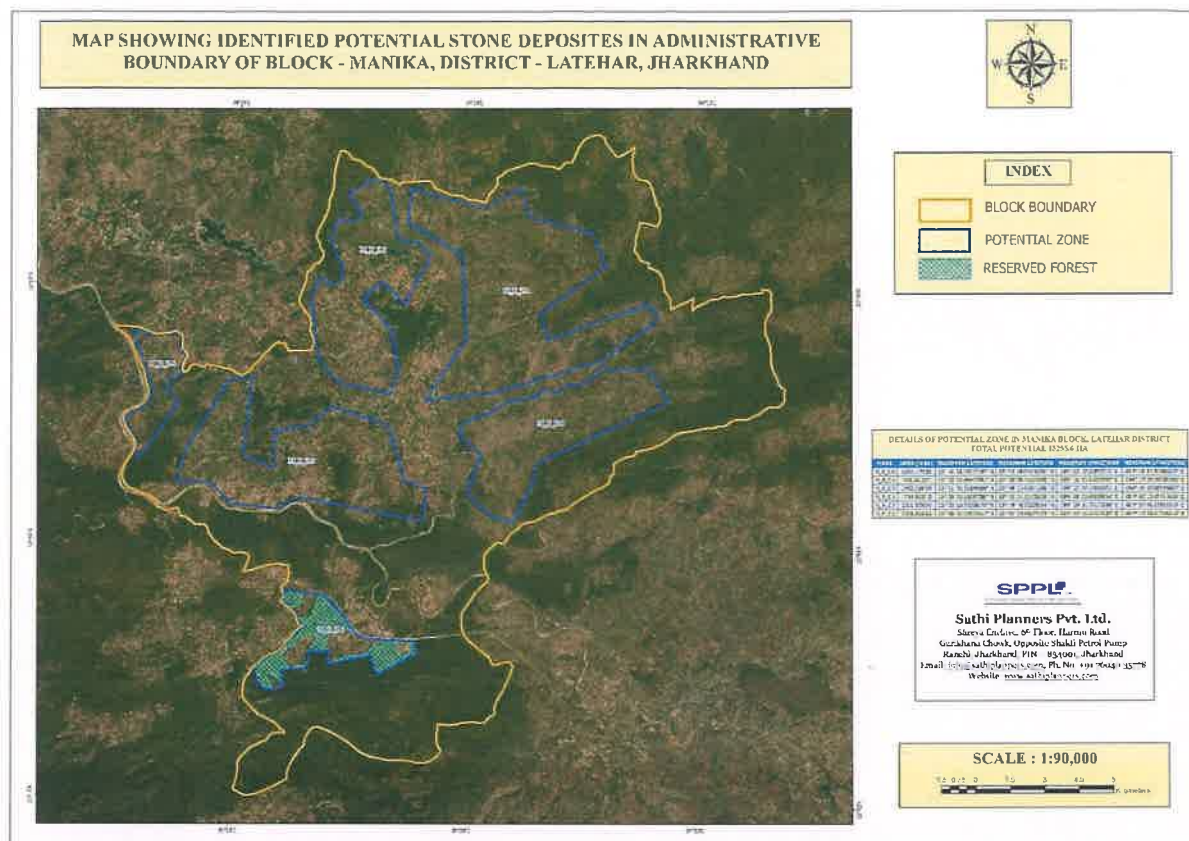
[Handwritten signature]

**DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND
MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND**



MAHUADANR
NIL





69-

DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



MANIKA	
Seldag	Sinjo
Pasagam	Mail
Barwaia Kalan	Barkadih
Pagar	Hosir
Doki	Ara
Betla	Uraontoli
Chama	Pokhri
Hesatu	Salgi
Barwaia Khurd	Banri
Sewan	Nadbelwa
Siris	Kutmu
Patna	Madandih
Sardandag	Lali
Jamho	Dundu
Baraitu	Ejamar
Matnog	Nawadih
Naihara	Baraitola
Bandua	Dumbi
Kurund	Dumri
Palhea	Bichlidag
Beang	Matnag
Kurid	Khapiadih
Agardih Mandhanian	Rewad Khurd
Bikra	Jungur
Newar	Manikdih
Sadhwadih	Manika
Matlaung	Namudag
Kuchal	Aunratn
Rewad Kalan	Bishunbandh
Puruipalhea	Chechendha
Jalima	



68-

DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



Blockwise Geological Reserve available in Latehar					
SL. NO.	BLOCK	AREA (IN HA)	DEPTH	AREA (IN SQM)	VOLUME IN CUM
1	BALUMATH	15070.85095	30	150708509.5	4521255286
2	BARIYATU	13.910.00	40	139100000	5564000000
3	BARWADIH	13.652.00	35	136520000	4778200000
4	CHADWA	16.849.40	32	168494000	5391808000
5	GARO	8.370.50	39	83705000	3264495000
6	HERHANG	7.407.90	38	74079000	2815002000
7	LATEHAR	16.396.80	34	163968000	5574912000
8	MAHUADANR	16.539.40	31	165394000	5127214000
9	MANIKA	15.255.60	36	152556000	5492016000
		123452.451	35	1234524510	42528902286
		TOTAL	AVERAGE	TOTAL	TOTAL

All Villages which comes under Eco-sensitive zone of PWLS, BNP, MWS, are strictly prohibited for any kind of mining activity.

(PWLS - Palamu Wildlife Sanctuary)

(BNP - Betla National Park)

(MWS - Mahudanr Wolf Sanctuary)



[Handwritten signature]

- 67 -

DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



Blockwise Potential Village for Earth Work:-

BALUMATH	
Dumbu	Soparam
Ghutam	Barhaniakhar Aliasbhutahabab
Hathdih	Bhang
Ichak	Masiatu
Jhabar	Kuriam Khurd
Komar	Lundibar
Seregara	Lejang
Ara	Bahera
Chamatu	Gurtur
Balu	Lachhipur
Bukru	Gerenja
Chetar	Pindarkom
Tumbagara	Hebna
Banio	Semarsot
Diridag	Rajbar
Jarri	Bara
Olhepat	Murgaon
Holang	Hempur
Balumath	Marangloiya
Chetag	Bhaisadon
Tasatwar	Bishunpur
Pundurlawa	Jilanga
Kasiadih	Okea
Nagra	Mawadih
Jala	Keri
Ganeshpur	Dhadhu
Basiya	Chitarpur
Jogiadih	Mausingha
Datam	Murpa
Kurian	
Kalan	Jipua
Bhagea	Kolpatia
Siram	Balbal
Itke	Chandli
Pakri	

BARIYATU	
Nawadih	Darha
Gurbe	Bara
Gargama	Rud
Chumba	Kusamha
Hisri	Gari
Rajguru	Nachna
Gonea	Bariatu
Mukki	Besra
Latu	Banalat
Sibla	Manatu
Birbir	Toti
Jhirmatkuma	Itke
Karma	Salwe
Phulsu	Barwadih
Ronhe	Ratnadag
Jabra	Bachra
Bisrampur	Rahea
Makra	Bamwar
Bathet	Tundahutu
Matkoma	Renchi
Bhattachatra	Bari Khap
Phulbasia Alias Amarwadih	Charra
Barni	Pipradih Alias Kutse
Chetuag	Pukchu
	Gurusalwe



- 66-

DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND
MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



BARWADIH
Harpurwa Alias
Biratpurwa
Aghra
Mangra
Murgidih
Khura
Barwadih CT
Chapri
Chamardiha
Chhencha
Meral
Panwai
Ramru



[Handwritten signature]



DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND

CHANDWA		
Erud	Alaudia CT	Loharsi
Kuramubartpur	Santi	Boda
Serak	Bana	Belgara
Renchi	Marmar	Nindra
Kita	Nawadih	Ganiari
Darea	Kita	Kudra
Banhardi	Ardhe	Tiling
Tarhasi	An	Amjharia
Nindra	Bhusar	Hesla
Chakla	Kamta	Ara
Nagar	Barwakhar	Hesalong
Turisot	Rud	Torar
Surli	Chetar	Belenga
Mahuatanr	Bulhu	Marma
Rampur	Zamira	Jamuari
Bari	Dumaro	Bairgara
Chatuang	Turhamu	Dudhimati
Latdag	Sos	Senha
Damodar	Malhan	Pirdag
Ambadohar	Deonadia	Childiri
Ete	Chandwa CT	Rud
Chatro	Chiro	Ladhup
Sikni	Dhoti	Betar
Hisri	Kali	Barwatoli
Barwadih	Rol	Rohum
Tota	Hutap	Manatu
Angara	Gardag	Goli
Mahuamilan	Lukwa	Tata
Sasang	Borsidag	

HERHANJ	
Salaiya	Bandua
Mailam	Meral
Karandag	Nawada
Chain	Sasang
Kasmar	Lawagara
Chuku	Sardhabar
Ud	Hundra
Hunjar	Chaea
Ghure	Sikid
Hesatu	Jani
Khapia	Bhargaon
Bidir	Lath
Hur	Bankita
Dori	Jawar
Serandag	Tasu
Kenru	Bandarauria
Mohanpur	Hundi
Kasiadih	Munukdag
Arahara	Dihi
Baseta	



DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND
MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



GARU
Kuku
Gopi Khonr
Ghuturu
Pati
Kojram
Purni Armu
Latu
Daldalia
Karihenar



-63-

DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND
MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



MANIKA	
Seldag	Sinjo
Pasagam	Mail
Barwaia Kalan	Barkadih
Pagar	Hosir
Doki	Ara
Betla	Uraontoli
Chama	Pokhri
Hesatu	Salgi
Barwaia Khurd	Banri
Sewan	Nadbelwa
Siris	Kutmu
Patna	Madandih
Sardandag	Lali
Jamho	Dundu
Baraitu	Ejamar
Matnog	Nawadih
Naihara	Baraitola
Bandua	Dumbi
Kurund	Dumri
Palhea	Bichlidag
Beang	Matnag
Kurid	Khapiadih
Agardih Mandhanian	Rewad Khurd
Bikra	Jungur
Newar	Manikdih
Sadhwadih	Manika
Matlaung	Namudag
Kuchal	Aunratn
Rewad Kalan	Bishunbandh
Puruipalhea	Chechendha
Jalima	



- 62 -

**DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND
MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND**



LATEHAR			
Sohdag	Aragunde	Keru	Thakurpara
Hesiklbar	Negain	Semariatnr	Narayanpur
Marabar	Kena	Zalim Kalan	Kone
Dihi	Sabano	Kothila	Rehldag
Tubed		Munger	
Patratu	Kura	Manan Chotag	Sukhal Katha
Kaima	Rehal	Patariachotag	Murgidih
Ambajharan	Muka	Bhusur	Patratu
Sasang	Ichak	Tinia Khar	Kudag
Bhalugari		Tupu Kalan	Nawadih
Manjar		Baritu Jagir	
Nawari	Hethloto		Ghanghri
Luti	Ledhpa	Tarwadih	Labarpur
Jaram	Durangi Kalan	Uparpochra	
Chope	Uparloto	Gurgu Alias Irgu	Salaia
Murup	Durangi Khurd		Gulariatnr
Sukri	Manikpura	Ghutua	Ichabar
Dhobia Tharan	Dugila	Ichak	Batat Khurd
Baridih	Karhuma	Hartua	Batat Kalan
Panruka	Nawadih	Nawadih Alias Kalyanpur	Ambatkar
Mangra	Pandepur	Hundru	Hethtoli
Kundri	Banhardi	Dhankara	Mahuatoli
Patratu	Rehra	Jogiadih	Richughutu
Hutar	Parsahi	Sinjo	Giri
Kolherua	Latehar	Alagdiha	Peshrar
Sotam	Jalta	Kalyanpur	Sakwar
Largari		Matkhar	Rehrai
Bisrampur	Udaipura	Demu	Saraidih
Korhas	Salodih	Nawagarh	Parwatanr
Nawadih		Beraini	Pachamba
Hethpochra	Jagaldaga		Parahiatola
Semaria		Turidih	Forest
Pakrar		Mankeri Khas	Forest
Obar	Kinamanr	Sisi	Forest
Temki	Kamo Alias Kumu	Dubiahi	Khaira
Jareang	Bariatunif Aliasbariatukhal	Kumhar	Khairajagir
Oden	Goa	Ulgara	Rehea
	Bajkum	Nindir	Bishunpur
Lohisini Alias Tulbul	Karmachuan	Mankeri Jagir	Zalim Khurd
Patratu	Tupu Khurd		Harkha
Matnag		Hosir	Hethbera
Labarpur		Kulgara	Lawagara
Uparbesra			



- 61-

**DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND
MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND**



MAHUADANR

NIL

All Villages which comes under Eco-sensitive zone of PWLS, BNP, MWS, are strictly prohibited

for any kind of mining activity.

(PWLS - Palamu Wildlife Sanctuary)

(BNP - Betla National Park)

(MWS - Mahudanr Wolf Sanctuary)





15. QUALITY/GRADE OF MINERAL AVAILABLE IN THE DISTRICT

A petro-logical study of stones found in mines of Latehar district have been studied and found that Stone is medium to fine grained, fractured, innocuous and suitable for road and building construction.

Commonly found rocks in Latehar district is Granite Gneiss, which is a rock consisting of an orthogenesis having the composition of a Granite. It is a high grade metamorphic rock, which has been subjected to higher temperatures and pressures than Schist. It is formed by the metamorphosis of Granite, or Sedimentary rock. Gneiss displays distinct foliation, representing alternating layers composed of different minerals. However, unlike Slate and Schist, Gneiss does not preferentially break along planes of foliation because less than 50% of the minerals formed during the metamorphism are aligned in thin layers. Because of the coarseness of the foliation, the layers are often sub-parallel, i.e. they do not have a constant thickness, and discontinuous.

The Granitic Stones of Latehar district are not suitable for cutting to pre-determined sizes, polishing and carving and amenable for making value-added products in decorative monumental and ornamental fields of industry as a high-value item.

(Source: Previous DSR [Stone] of Latehar District)





16. USE OF MINERAL

Stones form one of the most important building materials in civil engineering. Stones are derived from rocks, which form the earth's crust and have no definite shape or chemical combination but are mixtures of two or more minerals. The mineral is a substance which is formed by the natural inorganic process and possesses a definite chemical combination and molecular structure. They are strong, durable and descent in appearance.

Stone is an essential and more permanent building material in construction than other natural building materials. Based on the type, stones can be used in buildings for flooring, roofing, masonry paving roads and also as aggregates for concrete.

Most of the prehistoric monuments are built with natural stones as they remain stable with time. Before the advent of concrete stones were highly preferred for heavy engineering works like bridge piers, harbour walls, sea side walls and for facing works.

Stones for construction purposes are obtained by quarrying from solid massive rocks. The stone used for masonry construction should be hard, durable, tough and should be free from weathered soft patches of material, cracks and other defects that are responsible for the reduction of strength and durability.

Based on Geology, stones or rocks are classified into three types:

- Igneous Rocks – Basalt, Trap, Andesite, Rhyolite, Diorite, Granite.
- Sedimentary Rocks – Limestone, Dolomite and Sandstone.
- Metamorphic Rocks – Gneiss, Quartzite, Marble, Slate.

Types of Building Stones:

Some of the common building stones which are used for different purposes in India are as follows

Granite

It is a deep seated igneous rock, which is hard, durable and available in various colours. It has a high value of crushing strength and is capable of bearing high weathering.



Granite is used for bridge components, retaining walls, stone columns, road metal, ballast for railways, foundation, stonework and for coarse aggregates in concrete. These stones can also be cut into slabs and polished to be used as floor slabs and stone facing slabs.

Basalt Trap

They are originated from igneous rocks in the absence of pressure by rapid cooling of the magma.



58°

**DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND
MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND**



They have the same uses as Granite. Deccan Trap is a popular Stone of this group in South India.

Limestone

It is a sedimentary rock formed by remnants of seaweeds and living organisms consolidated and cemented together. It contains a high percentage of Calcium carbonate.



Limestone is used for flooring, roofing, pavements and as a base material for cement.

Sandstone

This Stone is another form of sedimentary rock formed by the action of mechanical sediments. It has a sandy structure which is low in strength and easy to dress.



They are used for ornamental works, paving and as road metal.

Gneiss

It can be recognized by its elongated platy minerals usually mixed with mica and used in the same way as Granite.



Marble

It is a metamorphic rock which can be easily cut and carved into different shapes.





DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



It is used for ornamental purposes, stone facing slabs, flooring, facing works etc.

Slate

It is a metamorphic rock which can be split easily and available in black colour.



It is used for damp-proofing flooring and roofing.

Quartzite

It is a metamorphic rock which is hard, brittle, crystalline and durable.



It is difficult to work with and used in the same way as granite but not recommended for ornamental works as it is brittle.

Laterite

It is decomposed from igneous rocks; occur in soft and hard varieties. It contains a high percentage of iron oxide and can be easily cut into blocks.



The soft variety is used for walls after curing while the hard blocks are used for paving the pathways.

Uses of Building Stones:

The stones used for various types of works are as follows:

- Fine-grained Granite and Gneiss Stones are used for heavy engineering works such as building bridge piers, breakwaters, monuments etc.

[Handwritten signature]



- 56

DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



- Granite Quartzite and compact Sandstones are used for masonry works in industrial areas exposed to smoke and fumes.
- Marble, Granite and Sandstones are used for facing work of buildings.
- Limestone and Sandstone are used for general building works.
- Fine-grained Granite, Marble and soft Sandstones are used for carving and ornamental works.
- Compact Limestone and Sandstones are used for fire-resistant masonry.
- Granite, Quartzite stones are used in foundations of building in place with high groundwater level.
- Marble, Slate, Sandstone and Granite stones are used for floor pavings.





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

In the present scenario, the Stone boulders & chips have good market in all regions of the country for construction of buildings, roads, bridges, railway line and other constructional purposes. As such there are huge infrastructural activities such as road, building, railways are coming up by Govt. of India & PSUs under "Make in India" programme. The production of Stone boulders & chips are the main raw minerals for the above activities and considering the last three years' actual production of Latehar with respect to the requirement of the State has a huge gap. It is proposed to start the stone production from larger areas to at least double the production of the district which will enhance the revenue of the district and also support the livelihood of the local people.

The mining project will also bring economic benefits to the State by the ways of royalty of Stone as well as benefit to the lessee. It will help in general of employment in rural areas in Jharkhand State where tribal people are starving due to unemployment. A single mining project shall be providing employment to approximately 10 to 20 people of the poorest section of the society and benefitting more than 50 to 60 people indirectly. Further, infrastructure development will help in development of nation. Socio-economic condition of the area will be improved as mining activity will create additional employment for the local habitants for raising their socio-economic status. Significant contribution will be made by lessee towards societal development of the surrounding area in the form of CSR fund.

There is a huge demand of stone chips for domestic and infrastructure sector. Only a few Stone mines have environmental clearance for extraction of Stone. There is limited supply of Stone and there is huge gap. There are no statistical data, regarding demand and supply of minerals in Latehar district. Due to construction of roads and public buildings for development works in the district a large number of Stone chips & boulders are required. This will meet only by granting new leases in the district.



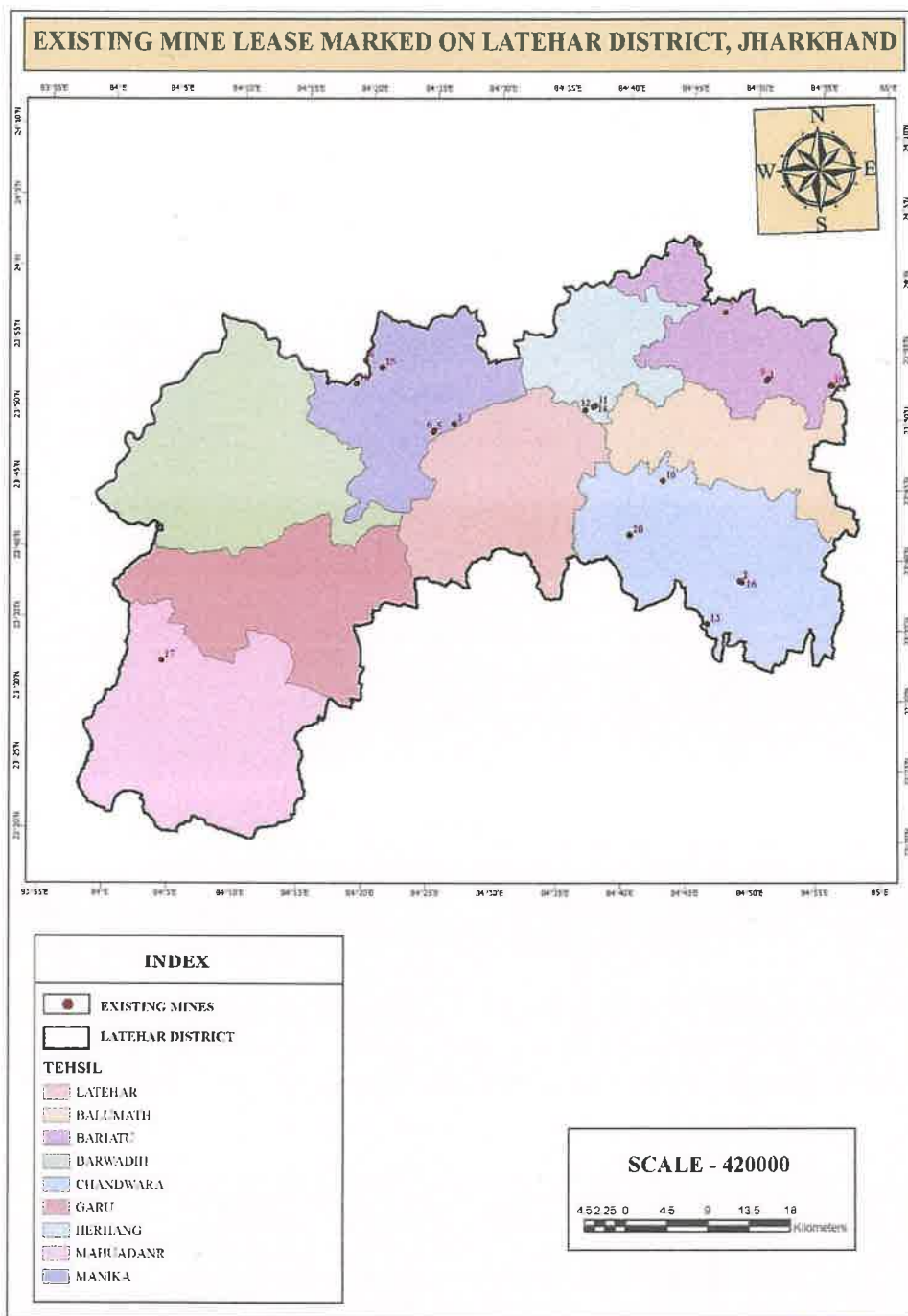
DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



18. MINING LEASES MARKED ON THE MAP OF THE DISTRICT

As per record of Latehar District Mining Office, 04 Stone mining leases are registered & are operational in current. The location of mining leases is given in Figure 18.1. Location of Mining Lease in the Map of Latehar district.

-Attached as **Annexure – I**.



[Handwritten signature]





**19. DETAILS OF THE AREA OF WHERE THERE IS A
CLUSTER OF MINING LEASES**

**19.1 Details of the area of where there is a cluster of mining leases
viz. number of mining leases, location (latitude and
longitude);**

There is no such cluster of mining lease found in Latehar district. However, it is proposed to consider the cluster of mining lease while planning for new lease area in coming years.





20. DETAILS OF ECO-SENSITIVE AREA

All the proposals involving mining of minerals within the ESZ (or) one kilometer from the boundaries of National Parks and Sanctuaries whichever is higher is prohibited in accordance with the order of the Hon'ble Supreme Court dated 4.08.2006 in the matter of T. N. Godavarman Thirumulpad Vs. UOI in W.P.(C) No. 202 of 1995 and dated 21.4.2014 in the matter of Goa Foundation Vs. UOI in W.P.(C) No. 435 of 2012 (MoEF&CC (IA Division) F. No. 22-43/2018-1a.III dated 08.08.2019). Latehar district has areas coming under ESZ of PWLS-BNP-MWS and ESZ of Lawalong Sanctuary (details below).

20.1 ESZ of Palamau Wildlife Sanctuary, Betla National Park and Mahuadanr Wolf Sanctuary:

The Eco-Sensitive Zone of Palamau Wildlife Sanctuary, Betla National Park and Mahuadanr Wolf Sanctuary shall be to an extent of zero to 7 km around the boundary of Palamau Wildlife Sanctuary and the area of ESZ is 1253.49 km² (Zero extent of ESZ is due to Inter-state boundary).

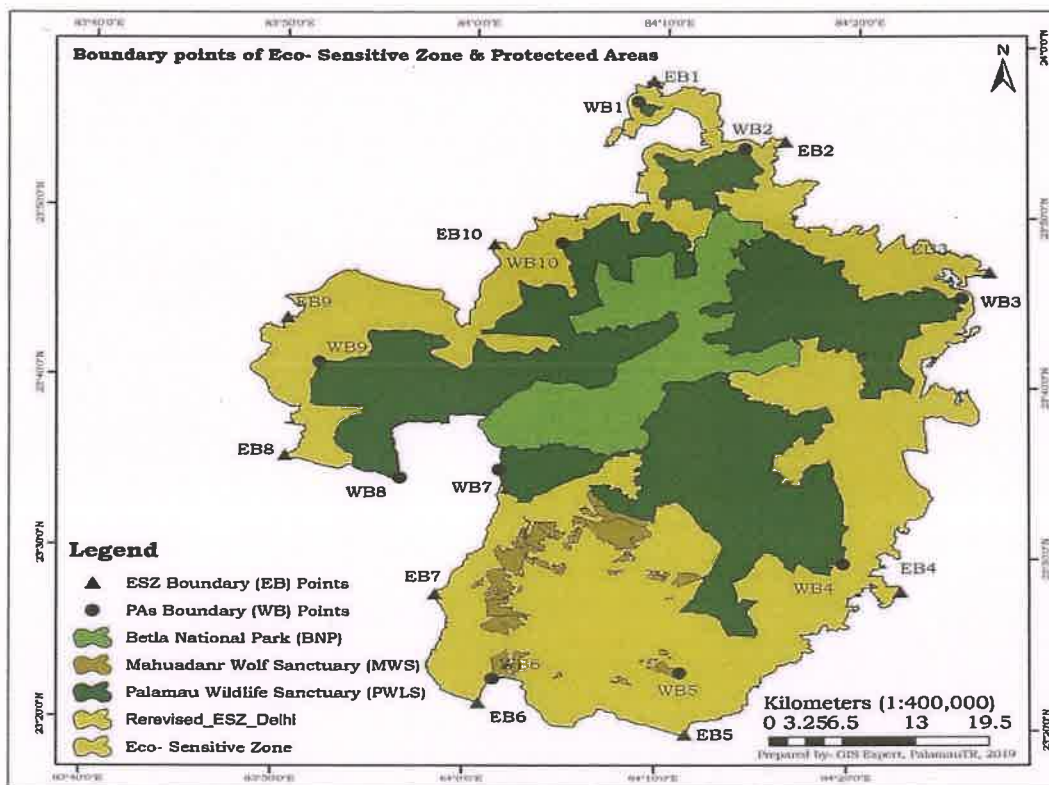


Fig. 20.1: Map of Palamau Wildlife Sanctuary, Betla National Park and Mahuadanr Wolf Sanctuary, Jharkhand along with Eco-Sensitive Zone

(Source: MoEF & CC Notification S.O. 2898 (E), Dt. 9th August, 2019)

➤ Boundary Description of Eco-Sensitive Zone:

North East: Rankikalan, Rabdi, Kui, Koili, Lanka, Jerua, Kope, Jagtu, Bhatko, Simri, Jamuna, Dasdih, Bari, Manasoti, Nalumanr, Jora hunhe alias jora, Rabda, Dulsulmi, Hurmur, Tumagara, Salaia, Kamaru, Chama, Hisra alias pokhraha, Polpol kalan, Karma, Banua alias sala, Chetma, Patuki, Devbar, Devbar R.F., Hotwag, Dumriyatn, Bendi, Amwatola, Churia, Bachra.

DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



South East: Jer, Godna, Kodag, Hesla, Lundi, Orwai, Oria, Bingara, Baheratanr, Nareshgarh, Oria R.F., Pailapathal R.F., Gotag, Besra kona, Hurmundatoli, Arahans, Mail, Chormanrwa, Kurund, Korwadih, Sohar, Gobarsela, Jori, Salam Nawatoli, Banari, Nirasi, Barkadohar Alias Domkom, Dardag, Hakajang, Lapu, Tithi, Chatakpur, Balatu, Narma.

South West: Baresanr R.F., Jamdih (Haramagara), Tisia, Kukud, Chiro, Orsa, Jamdih, Tahir, Merhar, Jori, Sidra, Goal khar, Surkain, Champa, Bhandaria, Nauka, Marda, Ramar, Paraswar, Tumera, Rud, Korwadih, Hesatu, Binjpur, Tehri, Saruwat.

North West: Kechki, Saraidih, Pokharikalan, Kolpurwa, Kushabathan, Kachanpur, Pokharikhurd, Kutmu, Kalyanpur, Muru, Akhra, Amdiha, Dorami, Akhra, Betla, Hendehas, Babhandih, Bode, Luhur, Gorhwatanr (Ahipurwa), Paira, Ledgain, Putuagarh, Harilong, Putuagarh R.F., Sindhurwa, Tatha(Balbai), Mandal, Ausane, Ledki, Barkoal P.F., Parro, Bairiya, Khapia.

➤ GPS Co-ordinates of 10 Important Points of Eco-Sensitive Zone and Palamau Wildlife Sanctuary, Betla National Park and Mahuadanr Wolf Sanctuary.

Table 20.1: List of Geo-Coordinates of Boundary of Protected Area

Boundary Point	Longitude (E)	Latitude (N)	Boundary Point	Longitude (E)	Latitude (N)
WB1	84°08'29.31"	23°56'34.62"	WB6	84°11'16.11"	23°23'05.90"
WB2	84°14'06.71"	23°53'54.80"	WB7	83°56'23.47"	23°34'15.07"
WB3	84°25'36.60"	23°45'17.68"	WB8	84°01'36.60"	23°34'49.59"
WB4	84°19'39.60"	23°29'35.42"	WB9	83°52'02.17"	23°40'58.31"
WB5	84°01'31.89"	23°22'36.31"	WB10	84°04'38.59"	23°48'13.52"

➤ List of Geo- coordinates of boundary of Eco- Sensitive Zone of Palamau Wildlife Sanctuary, Betla National Park and Mahuadanr Wolf Sanctuary

Table 20.2: List of Geo-coordinates of Palamu Wildlife Sanctuary, Betla National Park and Mahuadanr Wolf Sanctuary

Boundary Point	Longitude (E)	Latitude (N)	Boundary Point	Longitude (E)	Latitude (N)
EB1	84°09'14.95"	23°57'48.68"	EB6	84°00'47.27"	23°21'12.56"
EB2	84°16'11.11"	23°54'23.16"	EB7	83°58'22.29"	23°27'30.61"
EB3	84°27'01.08"	23°46'50.34"	EB8	83°50'20.47"	23°35'29.50"
EB4	84°22'40.11"	23°28'03.18"	EB9	83°50'19.55"	23°43'34.80"
EB5	84°11'34.91"	23°19'32.51"	EB10	84°01'06.77"	23°48'04.91"

All activities in the Eco-Sensitive Zone shall be governed by the provisions of the Environment Act and the rules made thereunder including the Coastal Regulation Zone, 2011 and the Environmental Impact Assessment Notification, 2006 and other applicable laws including the Forest (Conservation) Act, 1980 (69 of 1980), the Indian Forest Act, 1927 (16 of 1927), the Wildlife (Protection) Act 1972 (53 of 1972), and amendments made thereto and be regulated in the manner specified in the Table below, namely:-



5

DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



Table No. 20.3: List of Prohibited & Regulated Activities in the Eco-Sensitive Zone

Sl. No. (1)	Activity (2)	Description (3)
A. Prohibited Activities		
1.	Commercial mining, stone quarrying and crushing units.	(a) All new and existing mining (minor and major minerals), stone quarrying and crushing units are prohibited with immediate effect except for meeting the domestic needs of bonafide local residents including digging of earth for construction or repair of houses and for manufacture of country tiles or bricks for housing and for personal consumption; (b) The mining operations shall be carried out in accordance with the order of the Hon'ble Supreme Court dated the 4 th August, 2006 in the matter of T.N. Godavarman Thirumulpad Vs. UOI in W.P.(C) No. 2020 1995 and dated the 21 st April, 2014 in the matter of Goa Foundation Vs. UOI in W.P.(C) No. - 435 of 2012.
2.	Setting of industries causing pollution (Water, Air, Soil, Noise, etc.).	New industries and expansion of existing polluting industries in the Eco-Sensitive Zones Shall not be permitted: - Provided that non-polluting industries shall be allowed within Eco-Sensitive Zone as per classification of Industries in the guidelines issued by the Central Pollution Control Board in February, 2016, unless so specified in this notification and in addition the non-polluting
3.	Establishment of major hydroelectric project.	Prohibited (except as otherwise provided) as per the applicable laws.
4.	Use or production or processing of any hazardous substances.	Prohibited (except as otherwise provided) as per the applicable laws.
5.	Discharge of untreated effluents in natural water bodies or land area.	Prohibited (except as otherwise provided) as per the applicable laws.
6.	Setting up of new saw mills and wood based industries.	New or expansion of existing saw mills shall not be permitted within the Eco-Sensitive Zone.
7.	Commercial use of firewood.	Prohibited (except as otherwise provided) as per applicable laws.
8.	Setting up of brick kilns.	Prohibited (except as otherwise provided) as per the applicable laws.
B. Regulated Activities		



49

DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



9.	Commercial establishment of hotels and resorts.	No new commercial hotels and resorts shall be permitted within one kilometer of the boundary of the protected areas or up to the extent of Eco-Sensitive Zone, whichever is nearer, except for small temporary structures for eco-tourism activities: - Provided that, beyond one kilometer from the boundary of the protected area or up to the extent of Eco-sensitive Zone whichever is nearer, all new tourist activities or expansion of existing activities shall be in conformity with the Tourism Master Plan and guidelines as applicable.
10.	Construction activities.	(a) New commercial construction of any kind shall not be permitted within one kilometer from the boundary of the protected areas or up to extent of the Eco-Sensitive Zone, whichever is nearer: Provided that, local people shall be permitted to undertake construction in their land for their use including the activities mentioned in sub-paragraph (1) of paragraph 3 as per building bye-laws to meet the residential needs of the local residents. - Provided further that the construction activity related to small scale industries not causing pollution shall be regulated and kept at the minimum, with the prior permission from the competent authority as per applicable rules and regulations, if any. (b) Beyond one kilometer it shall be regulated as per the Zonal Master Plan.
11.	Small scale non-polluting industries.	Non-polluting industries as per classification of industries issued by the Central Pollution Control Board in February, 2016 and non-hazardous, small-scale and service industry, agriculture, floriculture, horticulture or agro-based industry producing products from indigenous materials from the Eco-sensitive Zone shall be permitted by the competent Authority.
12.	Ongoing agriculture and horticulture practices by local communities along with dairies, dairy farming, aquaculture and fisheries.	Permitted as per the applicable laws for use of locals.
13.	Establishment of large-scale commercial livestock and poultry farms by firms, corporate and companies.	Regulated (except as otherwise provided) as per applicable laws except for meeting local needs.



58

DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



14.	Felling of trees.	(a) There shall be no felling of trees in the forest or Government or revenue or private lands without prior permission of the Competent Authority in the State Government. (b) The felling of trees shall be regulated in accordance with the provisions of the concerned Central or State Act and the rules made thereunder.
15.	Collection of Forest produce or Non-Timber Forest produce.	Regulated as per the applicable laws.
16.	Erection of electrical and communication towers and laying of cables and other infrastructures.	Regulated under applicable laws (underground cabling may be promoted).
17.	Infrastructure including civic amenities.	Taking measures of mitigation as per the applicable laws, rules, and regulations available guidelines.
18.	Widening and strengthening of existing roads and construction of new roads.	Taking measures of mitigation as per applicable laws, rules, regulations and available guidelines.
19.	Undertaking other activities related to tourism like flying over the Eco-sensitive Zone area by hot air balloon, helicopter, drones, Microlites, etc.	Regulated as per the applicable laws.
20.	Protection of hill slopes and	Regulated as per the applicable laws.
21.	Movement of vehicular traffic at night.	Regulated for commercial purpose under applicable laws.
22.	Discharge of treated waste water or effluents in natural water bodies or land area.	The discharge of treated waste water or effluents shall be avoided to enter into the water bodies and efforts shall be made for recycle and reuse of treated waste water. Otherwise the discharge of treated waste water or effluent shall be regulated as per the applicable laws.
23.	Commercial extraction of surface and ground water.	Regulated as per the applicable laws.
24.	Open Well, Bore Well etc. for agriculture or other usage.	Regulated and the activity should be strictly monitored by the appropriate authority.



- 47 -

DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



25.	Use of polythene bags.	Regulated as per the applicable laws.
26.	Solid waste management.	Regulated as per the applicable laws.
27.	Introduction of exotic species.	Regulated as per the applicable laws.
28.	Eco-tourism.	Regulated as per the applicable laws.
29.	Commercial sign boards and hoardings.	Regulated as per the applicable laws.
C. Promoted Activities		
30.	Rain water Harvesting.	Shall be actively promoted.
31.	Organic farming.	Shall be actively promoted.
32.	Adoption of green technology for all activities.	Shall be actively promoted.
33.	Cottage industries including village artisans, etc.	Shall be actively promoted.
34.	Use of renewable energy and fuels.	Bio-gas, solar light etc. shall be actively promoted.
35.	Agro-Forestry.	Shall be actively promoted.
36.	Plantation of Horticulture and Herbals.	Shall be actively promoted.
37.	Use of eco-friendly transport.	Shall be actively promoted.
38.	Skill Development.	Shall be actively promoted.
39.	Restoration of degraded land/ forests/ habitat.	Shall be actively promoted.
40.	Environmental awareness.	Shall be actively promoted.



DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND

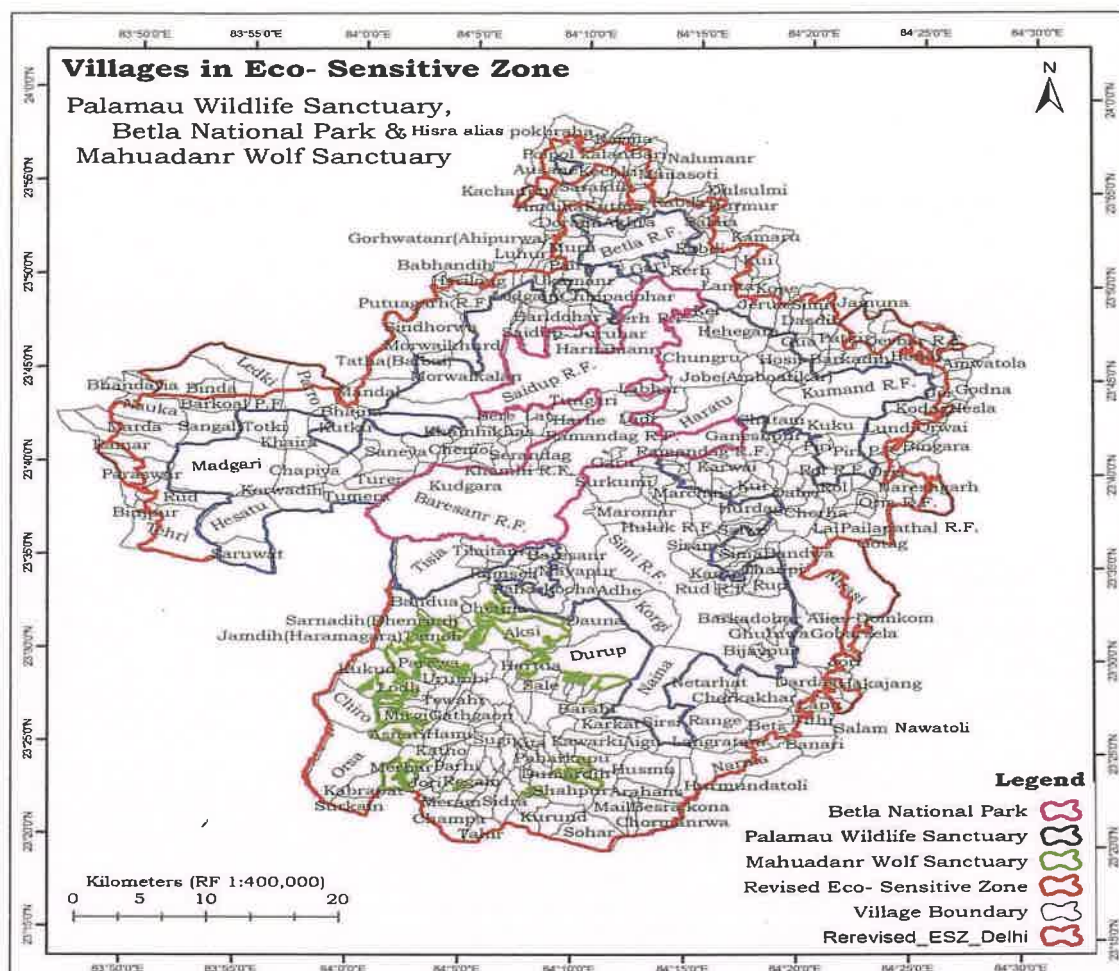


Fig. 20.2: Map showing villages fall within Eco-Sensitive Zone

Table No. 20.4: List of Villages fall within ESZ of PWLS, BNP, MWS:

Sl. No.	Name of District	Name of Taluk	Name of Village	Long. (E)	Lat. (N)
1	Garhwa	Bhandaria	Barkoal P.F.	83°52'42.73"	23°44'06.59"
2	Garhwa	Bhandaria	Bhajna	83°58'13.18"	23°42'15.72"
3	Garhwa	Bhandaria	Bhandaria	83°49'56.03"	23°44'03.74"
4	Garhwa	Bhandaria	Binda	83°53'28.39"	23°43'56.13"
5	Garhwa	Bhandaria	Binjpur	83°50'37.40"	23°37'33.91"
6	Garhwa	Bhandaria	Chapiya	83°57'31.36"	23°39'41.54"
7	Garhwa	Bhandaria	Chemo	84°03'05.70"	23°41'07.88"
8	Garhwa	Bhandaria	Hesatu	83°54'50.67"	23°37'00.44"
9	Garhwa	Bhandaria	Khaira	83°57'17.59"	23°41'48.19"
10	Garhwa	Bhandaria	Khura	83°58'37.24"	23°40'43.64"
11	Garhwa	Bhandaria	Korwadih	84°00'24.24"	23°40'54.01"

-45-

DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



12	Garhwa	Bhandaria	Korwadih	83°57'34.68"	23°38'09.76"
13	Garhwa	Bhandaria	Kudgara	84°02'56.06"	23°39'50.22"
14	Garhwa	Bhandaria	Kulhi	83°55'14.99"	23°38'24.65"
15	Garhwa	Bhandaria	Kutku	83°59'14.41"	23°42'01.66"
16	Garhwa	Bhandaria	Ledki	83°55'05.59"	23°44'47.59"
17	Garhwa	Bhandaria	Madgari	83°54'10.79"	23°39'48.28"
18	Garhwa	Bhandaria	Marda	83°50'02.28"	23°41'52.95"
19	Garhwa	Bhandaria	Nauka	83°50'40.92"	23°42'46.58"
20	Garhwa	Bhandaria	Paraswar	83°50'14.38"	23°39'19.71"
21	Garhwa	Bhandaria	Parro	83°57'43.57"	23°44'02.76"
22	Garhwa	Bhandaria	Polpol	83°59'23.90"	23°39'44.16"
23	Garhwa	Bhandaria	Ramar	83°49'27.20"	23°41'05.80"
24	Garhwa	Bhandaria	Rud	83°52'11.28"	23°38'10.12"
25	Garhwa	Bhandaria	Saneya	84°01'19.07"	23°40'45.20"
26	Garhwa	Bhandaria	Sangali	83°53'28.09"	23°41'58.09"
27	Garhwa	Bhandaria	Saruwat	83°55'17.82"	23°35'09.42"
28	Garhwa	Bhandaria	Tehri	83°51'52.75"	23°36'11.06"
29	Garhwa	Bhandaria	Totki	83°55'49.07"	23°41'59.82"
30	Garhwa	Bhandaria	Tumera	84°00'03.35"	23°38'29.01"
31	Garhwa	Bhandaria	Turer	84°01'00.28"	23°39'17.48"
32	Gumla	Bishunpur	Balatu	84°17'47.45"	23°25'13.81"
33	Gumla	Bishunpur	Banari	84°20'36.03"	23°25'24.46"
34	Gumla	Bishunpur	Barkadohar Alias Domkom	84°20'38.50"	23°31'00.18"
35	Gumla	Bishunpur	Beti	84°18'38.57"	23°26'22.73"
36	Gumla	Bishunpur	Birjiatoli	84°16'39.66"	23°27'53.27"
37	Gumla	Bishunpur	Chatakpur	84°18'56.53"	23°25'40.44"
38	Gumla	Bishunpur	Chorkakhar	84°18'19.80"	23°28'16.06"
39	Gumla	Bishunpur	Dardag	84°20'23.71"	23°28'45.74"
40	Gumla	Bishunpur	Gobarsela	84°22'17.55"	23°31'23.11"
41	Gumla	Bishunpur	Hakajang	84°21'52.90"	23°28'41.40"
42	Gumla	Bishunpur	Jori	84°21'56.42"	23°29'52.03"
43	Gumla	Bishunpur	Langratn	84°16'33.46"	23°25'29.82"
44	Gumla	Bishunpur	Lapu	84°20'51.28"	23°27'35.92"
45	Gumla	Bishunpur	Marwai	84°17'53.34"	23°27'12.42"
46	Gumla	Bishunpur	Narma	84°17'19.42"	23°24'13.13"
47	Gumla	Bishunpur	Nirasi	84°21'42.67"	23°34'00.75"



-44-

**DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND
MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND**



48	Gumla	Bishunpur	Range	84°16'10.53"	23°26'37.66"
49	Gumla	Bishunpur	Salam Nawatoli	84°20'25.54"	23°26'11.77"
50	Gumla	Bishunpur	Tithi	84°20'29.47"	23°26'53.81"
51	Latehar	Barwadih	Akhra	84°12'02.97"	23°53'52.40"
52	Latehar	Barwadih	Akhra	84°10'52.97"	23°53'32.40"
53	Latehar	Barwadih	Amdiha	84°08'17.99"	23°53'19.45"
54	Latehar	Barwadih	Babhandih	84°06'19.61"	23°50'09.05"
55	Latehar	Barwadih	Barichatan	84°09'50.23"	23°48'09.09"
56	Latehar	Barwadih	Barichatan R.F.	84°09'40.45"	23°49'06.98"
57	Latehar	Barwadih	Barichatan R.F.	84°07'27.21"	23°49'06.46"
58	Latehar	Barwadih	Barichatan R.F.	84°10'05.13"	23°47'38.18"
59	Latehar	Barwadih	Baridohar	84°08'47.97"	23°48'06.99"
60	Latehar	Barwadih	Barkheta	84°09'21.68"	23°43'00.33"
61	Latehar	Barwadih	Bere	84°06'08.64"	23°42'20.11"
62	Latehar	Barwadih	Betla	84°11'50.22"	23°53'25.70"
63	Latehar	Barwadih	Betla P.F.	84°12'48.54"	23°53'57.11"
64	Latehar	Barwadih	Betla P.F.	84°12'30.59"	23°53'47.22"
65	Latehar	Barwadih	Betla P.F.	84°11'03.71"	23°52'53.62"
66	Latehar	Barwadih	Betla R.F.	84°12'35.32"	23°52'17.16"
67	Latehar	Barwadih	Bode	84°05'37.87"	23°50'16.49"
68	Latehar	Barwadih	Chatam	84°18'54.67"	23°41'57.39"
69	Latehar	Barwadih	Chatam R.F.	84°18'57.95"	23°42'50.33"
70	Latehar	Barwadih	Chhipadohar	84°11'26.60"	23°49'13.71"
71	Latehar	Barwadih	Chungru	84°15'11.15"	23°46'02.24"
72	Latehar	Barwadih	Dorami	84°09'26.40"	23°53'09.48"
73	Latehar	Barwadih	Ganeshpur	84°17'44.84"	23°41'38.38"
74	Latehar	Barwadih	Gari	84°12'44.54"	23°50'47.61"
75	Latehar	Barwadih	Gasedag	84°07'03.31"	23°42'43.71"
76	Latehar	Barwadih	Gorhwatanr (Ahipurwa)	84°07'16.27"	23°51'05.49"
77	Latehar	Barwadih	Gua	84°18'49.88"	23°46'56.13"
78	Latehar	Barwadih	Haratu	84°15'20.35"	23°43'15.92"
79	Latehar	Barwadih	Harhe	84°08'57.36"	23°42'14.56"
80	Latehar	Barwadih	Harilong	84°04'46.07"	23°49'47.29"
81	Latehar	Barwadih	Harnamanr	84°10'57.20"	23°46'29.25"
82	Latehar	Barwadih	Hehegara	84°16'54.14"	23°47'27.85"
83	Latehar	Barwadih	Hendehas	84°08'27.83"	23°52'30.81"



- 43 -

**DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND
MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND**



84	Latehar	Barwadih	Hosir	84°18'51.07"	23°46'03.29"
85	Latehar	Barwadih	Jargarh(Pipratnir)	84°07'04.28"	23°47'54.82"
86	Latehar	Barwadih	Jobe(Amboatikar)	84°17'50.64"	23°43'49.69"
87	Latehar	Barwadih	Juruhar	84°11'13.97"	23°47'14.86"
88	Latehar	Barwadih	Kachanpur	84°09'05.34"	23°54'43.95"
89	Latehar	Barwadih	Kalyanpur	84°08'43.80"	23°54'02.51"
90	Latehar	Barwadih	Karamdih	84°05'38.07"	23°40'39.47"
91	Latehar	Barwadih	Kechki	84°09'29.15"	23°55'52.77"
92	Latehar	Barwadih	Ker	84°15'24.59"	23°48'34.09"
93	Latehar	Barwadih	Kerh	84°14'40.32"	23°50'26.75"
94	Latehar	Barwadih	Kerh R.F.	84°14'49.67"	23°48'09.21"
95	Latehar	Barwadih	Khamhi R.F.	84°07'55.93"	23°41'16.55"
96	Latehar	Barwadih	Khamhikhas	84°05'22.51"	23°41'04.01"
97	Latehar	Barwadih	Kolpurwa	84°12'00.44"	23°54'08.40"
98	Latehar	Barwadih	Kuchila	84°10'47.11"	23°50'17.56"
99	Latehar	Barwadih	Kuku	84°20'47.09"	23°42'30.62"
100	Latehar	Barwadih	Kushabathan	84°11'33.43"	23°55'20.86"
101	Latehar	Barwadih	Kutmu	84°10'00.05"	23°54'00.97"
102	Latehar	Barwadih	Labhar	84°12'56.45"	23°44'21.68"
103	Latehar	Barwadih	Ladi	84°12'26.15"	23°42'44.59"
104	Latehar	Barwadih	Lat	84°08'01.56"	23°42'36.78"
105	Latehar	Barwadih	Ledgain	84°08'33.09"	23°50'10.49"
106	Latehar	Barwadih	Lohara R.F.	84°03'27.23"	23°45'54.74"
107	Latehar	Barwadih	Luhur	84°08'01.54"	23°51'13.15"
108	Latehar	Barwadih	Lukumkhar	84°14'09.37"	23°51'15.48"
109	Latehar	Barwadih	Manatu	84°18'55.66"	23°40'53.25"
110	Latehar	Barwadih	Mandal	84°00'39.04"	23°43'57.14"
111	Latehar	Barwadih	Morwaikalan	84°04'54.81"	23°45'43.45"
112	Latehar	Barwadih	Morwaikhurd	84°04'49.73"	23°46'24.63"
113	Latehar	Barwadih	Mundu	84°14'08.81"	23°43'45.65"
114	Latehar	Barwadih	Muru	84°09'28.42"	23°51'49.09"
115	Latehar	Barwadih	Naurnagu	84°04'29.55"	23°40'42.79"
116	Latehar	Barwadih	Nawadih	84°17'27.34"	23°45'31.16"
117	Latehar	Barwadih	Paira	84°08'00.77"	23°50'22.19"
118	Latehar	Barwadih	Patradih	84°06'45.24"	23°41'32.42"
119	Latehar	Barwadih	Pokharikalan	84°11'08.35"	23°54'47.37"
120	Latehar	Barwadih	Pokharikhurd	84°12'10.66"	23°54'40.37"

[Handwritten signature]



42

**DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND
MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND**



121	Latehar	Barwadih	Putuagarh	84°03'31.12"	23°49'50.67"
122	Latehar	Barwadih	Putuagarh R.F.	84°04'58.02"	23°48'57.96"
123	Latehar	Barwadih	Rabdi	84°15'04.91"	23°52'06.49"
124	Latehar	Barwadih	Romandag	84°11'30.63"	23°40'53.44"
125	Latehar	Barwadih	Saidup	84°07'47.97"	23°47'14.86"
126	Latehar	Barwadih	Saraidih	84°10'33.21"	23°55'20.46"
127	Latehar	Barwadih	Selaritanr	84°19'05.78"	23°41'32.85"
128	Latehar	Barwadih	Serandag	84°07'13.05"	23°40'48.50"
129	Latehar	Barwadih	Sindhoriwa	84°03'08.52"	23°47'28.86"
130	Latehar	Barwadih	Sukalkatha	84°18'26.90"	23°41'37.70"
131	Latehar	Barwadih	Tanwai	84°04'25.04"	23°41'48.31"
132	Latehar	Barwadih	Tatha(Balbal)	84°01'33.88"	23°45'37.25"
133	Latehar	Barwadih	Tungari	84°10'12.96"	23°43'36.26"
134	Latehar	Barwadih	Ukamanr	84°09'27.68"	23°50'03.05"
135	Latehar	Barwadih	Wopag	84°18'25.76"	23°45'18.46"
136	Latehar	Garu	Alagdiha	84°21'39.08"	23°37'55.45"
137	Latehar	Garu	Armua	84°14'41.63"	23°39'39.47"
138	Latehar	Garu	Baherwatola	84°16'01.79"	23°40'20.24"
139	Latehar	Garu	Baigatoli	84°16'57.84"	23°36'16.08"
140	Latehar	Garu	Bandwa	84°19'44.98"	23°35'39.48"
141	Latehar	Garu	Baresanr	84°08'50.98"	23°35'33.80"
142	Latehar	Garu	Baresanr	84°07'21.55"	23°35'05.91"
143	Latehar	Garu	Baribandh	84°15'09.73"	23°34'55.64"
144	Latehar	Garu	Bhanwarband h P.F.	84°13'02.70"	23°38'58.46"
145	Latehar	Garu	Bheriabathan	84°20'07.43"	23°39'55.94"
146	Latehar	Garu	Bijaypur	84°18'11.34"	23°30'18.11"
147	Latehar	Garu	Chanchu	84°22'40.93"	23°37'57.58"
148	Latehar	Garu	Chanpi	84°18'12.91"	23°34'54.10"
149	Latehar	Garu	Chipru (Dudhimatia)	84°20'11.28"	23°39'20.03"
150	Latehar	Garu	Chiraiya	84°17'04.22"	23°34'32.01"
151	Latehar	Garu	Chorha	84°19'34.04"	23°37'19.49"
152	Latehar	Garu	Dabri	84°20'11.28"	23°38'13.41"
153	Latehar	Garu	Danrkocha	84°07'47.52"	23°33'52.29"
154	Latehar	Garu	Darichhapar	84°15'45.02"	23°35'29.55"
155	Latehar	Garu	Darichhapar P.F.	84°17'33.28"	23°37'23.72"



-41-

**DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND
MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND**



156	Latehar	Garu	Derhgaon	84°07'45.61"	23°35'38.77"
157	Latehar	Garu	Dhangartola	84°14'00.71"	23°40'02.28"
158	Latehar	Garu	Doram	84°18'48.99"	23°39'53.82"
159	Latehar	Garu	Garu	84°13'06.26"	23°40'24.56"
160	Latehar	Garu	Gasigara	84°20'36.62"	23°36'23.00"
161	Latehar	Garu	Ghasitola	84°21'54.16"	23°38'31.77"
162	Latehar	Garu	Ghutuwa	84°18'51.63"	23°31'27.25"
163	Latehar	Garu	Goandi	84°16'14.21"	23°38'47.50"
164	Latehar	Garu	Gotag	84°23'38.70"	23°36'36.55"
165	Latehar	Garu	Hanumantola	84°22'31.08"	23°38'53.36"
166	Latehar	Garu	Hendehans	84°16'32.14"	23°35'09.04"
167	Latehar	Garu	Hesag	84°14'29.86"	23°39'56.37"
168	Latehar	Garu	Hethatol	84°16'45.98"	23°39'43.29"
169	Latehar	Garu	Huluk R.F.	84°15'38.97"	23°37'27.24"
170	Latehar	Garu	Hurdag	84°17'35.63"	23°38'03.69"
171	Latehar	Garu	Hurdagtola	84°17'58.73"	23°38'52.77"
172	Latehar	Garu	Kabri	84°17'02.59"	23°34'53.56"
173	Latehar	Garu	Kante	84°16'25.93"	23°34'04.88"
174	Latehar	Garu	Karitola	84°19'27.69"	23°39'25.93"
175	Latehar	Garu	Karwai	84°16'30.62"	23°40'50.01"
176	Latehar	Garu	Korwatola	84°18'04.62"	23°39'57.55"
177	Latehar	Garu	Kotam	84°18'11.51"	23°36'19.53"
178	Latehar	Garu	Kui	84°17'28.41"	23°39'14.41"
179	Latehar	Garu	Lai	84°20'59.01"	23°36'58.21"
180	Latehar	Garu	Lohargara	84°15'21.63"	23°39'35.77"
181	Latehar	Garu	Luhurtanr	84°14'31.25"	23°40'39.14"
182	Latehar	Garu	Mahuadabar	84°16'38.64"	23°34'31.27"
183	Latehar	Garu	Mangra	84°05'16.59"	23°35'00.98"
184	Latehar	Garu	Marchaia	84°14'32.17"	23°38'44.67"
185	Latehar	Garu	Maromar	84°12'28.85"	23°38'07.02"
186	Latehar	Garu	Mayapur	84°08'22.03"	23°34'52.31"
187	Latehar	Garu	Mukundpur	84°19'56.11"	23°40'24.96"
188	Latehar	Garu	Murpa	84°20'57.39"	23°38'22.85"
189	Latehar	Garu	Paharkocha	84°08'49.28"	23°33'33.87"
190	Latehar	Garu	Pailapathal R.F.	84°22'39.58"	23°37'15.91"
191	Latehar	Garu	Pandra	84°17'03.22"	23°31'55.47"

[Handwritten signature]



**DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND
MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND**



192	Latehar	Garu	Patratu	84°22'24.86"	23°39'35.42"
193	Latehar	Garu	Piri	84°20'23.80"	23°41'23.96"
194	Latehar	Garu	Piri P.F.	84°21'39.42"	23°41'08.10"
195	Latehar	Garu	Purnakidabri (Khairgi)	84°19'25.45"	23°38'34.67"
196	Latehar	Garu	Purni Hesag	84°14'41.40"	23°40'11.83"
197	Latehar	Garu	Ramseli	84°06'41.21"	23°34'16.97"
198	Latehar	Garu	Rol	84°21'29.25"	23°39'12.64"
199	Latehar	Garu	Rol R.F.	84°21'48.17"	23°40'02.34"
200	Latehar	Garu	Rud	84°18'32.74"	23°33'58.06"
201	Latehar	Garu	Rud R.F.	84°17'16.07"	23°33'52.74"
202	Latehar	Garu	Salwe	84°17'26.65"	23°36'52.20"
203	Latehar	Garu	Samodhtola	84°13'46.00"	23°40'44.67"
204	Latehar	Garu	Sarju	84°22'46.60"	23°38'30.23"
205	Latehar	Garu	Sima	84°17'57.09"	23°35'35.93"
206	Latehar	Garu	Simi R.F.	84°15'27.45"	23°33'17.43"
207	Latehar	Garu	Siram	84°15'50.54"	23°36'03.22"
208	Latehar	Garu	Sonwar	84°23'09.39"	23°39'06.44"
209	Latehar	Garu	Surkumi	84°11'28.16"	23°39'21.02"
210	Latehar	Garu	Tati	84°17'05.67"	23°34'03.67"
211	Latehar	Garu	Tilaitanr	84°06'00.49"	23°35'36.22"
212	Latehar	Garu	Udaipur	84°22'47.62"	23°38'56.12"
213	Latehar	Latehar	Amwatola	84°26'15.24"	23°45'52.46"
214	Latehar	Latehar	Bachra	84°25'52.69"	23°44'57.99"
215	Latehar	Latehar	Baheratanr	84°23'29.35"	23°40'50.85"
216	Latehar	Latehar	Bendi	84°24'55.83"	23°46'15.36"
217	Latehar	Latehar	Bingara	84°23'49.91"	23°41'31.09"
218	Latehar	Latehar	Churia	84°26'46.60"	23°45'18.16"
219	Latehar	Latehar	Godna	84°26'45.11"	23°44'30.33"
220	Latehar	Latehar	Hesla	84°26'42.62"	23°43'43.25"
221	Latehar	Latehar	Jer	84°25'56.14"	23°44'10.87"
222	Latehar	Latehar	Kodag	84°25'07.62"	23°43'25.76"
223	Latehar	Latehar	Lundi	84°24'04.17"	23°42'25.02"
224	Latehar	Latehar	Naresgharh	84°25'27.42"	23°39'16.26"
225	Latehar	Latehar	Oria	84°23'39.60"	23°40'01.90"
226	Latehar	Latehar	Oria R.F.	84°24'13.24"	23°38'58.87"
227	Latehar	Latehar	Orwai	84°25'27.32"	23°42'29.84"



-39-

**DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND
MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND**



228	Latehar	Mahuadanr	Adhe	84°11'49.64"	23°33'38.01"
229	Latehar	Mahuadanr	Ahirpurwa	84°06'45.63"	23°26'47.54"
230	Latehar	Mahuadanr	Aigu	84°13'01.58"	23°25'25.08"
231	Latehar	Mahuadanr	Aksi	84°07'31.97"	23°31'02.00"
232	Latehar	Mahuadanr	Ambatoli	84°06'10.03"	23°23'50.32"
233	Latehar	Mahuadanr	Arahans	84°13'19.84"	23°22'43.20"
234	Latehar	Mahuadanr	Asnari	84°02'28.23"	23°25'41.06"
235	Latehar	Mahuadanr	Aunratoli (Khapartoli)	84°08'39.57"	23°27'02.63"
236	Latehar	Mahuadanr	Baheratoli	84°07'44.23"	23°26'18.81"
237	Latehar	Mahuadanr	Bandua	84°04'20.93"	23°32'59.74"
238	Latehar	Mahuadanr	Banskarcha	84°07'26.68"	23°29'53.66"
239	Latehar	Mahuadanr	Barahi	84°10'32.99"	23°27'02.88"
240	Latehar	Mahuadanr	Baraudih	84°11'34.87"	23°27'56.52"
241	Latehar	Mahuadanr	Bardaunikalan	84°09'20.40"	23°28'17.62"
242	Latehar	Mahuadanr	Bardaunikhurd (Pandeytoli)	84°09'43.30"	23°28'26.84"
243	Latehar	Mahuadanr	Bartoli	84°06'39.63"	23°23'18.70"
244	Latehar	Mahuadanr	Beltoli	84°08'10.34"	23°25'23.30"
245	Latehar	Mahuadanr	Belwar	84°11'23.31"	23°23'26.42"
246	Latehar	Mahuadanr	Besra kona	84°12'39.58"	23°21'21.03"
247	Latehar	Mahuadanr	Bisrampur	84°07'58.84"	23°23'53.11"
248	Latehar	Mahuadanr	Chainpur	84°05'55.73"	23°26'43.87"
249	Latehar	Mahuadanr	Champa	84°04'30.92"	23°21'06.98"
250	Latehar	Mahuadanr	Chatakpur	84°04'07.67"	23°27'39.79"
251	Latehar	Mahuadanr	Chetma	84°06'26.23"	23°32'28.37"
252	Latehar	Mahuadanr	Chiro	84°00'02.60"	23°26'56.78"
253	Latehar	Mahuadanr	Chormanrwa	84°13'44.12"	23°21'25.81"
254	Latehar	Mahuadanr	Chutia	84°10'07.80"	23°24'14.48"
255	Latehar	Mahuadanr	Danrkapu	84°09'36.99"	23°25'05.85"
256	Latehar	Mahuadanr	Dauna	84°10'39.76"	23°31'53.95"
257	Latehar	Mahuadanr	Dipatoli	84°06'47.35"	23°23'52.14"
258	Latehar	Mahuadanr	Duari	84°04'31.45"	23°22'16.74"
259	Latehar	Mahuadanr	Dumardih	84°09'42.91"	23°24'03.36"
260	Latehar	Mahuadanr	Durup	84°11'12.42"	23°30'03.84"
261	Latehar	Mahuadanr	Gansa	84°08'09.40"	23°21'56.87"
262	Latehar	Mahuadanr	Garhburhni	84°09'24.22"	23°26'15.68"
263	Latehar	Mahuadanr	Gathgaon	84°05'06.19"	23°27'03.37"



38

**DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND
MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND**



264	Latehar	Mahuadanr	Gaurgara	84°04'19.93"	23°31'12.75"
265	Latehar	Mahuadanr	Goal khar	84°03'37.68"	23°22'26.36"
266	Latehar	Mahuadanr	Hami	84°04'20.10"	23°25'40.98"
267	Latehar	Mahuadanr	Harinaghura (Birgatola)	84°07'35.76"	23°27'25.93"
268	Latehar	Mahuadanr	Hartua	84°08'00.52"	23°29'25.42"
269	Latehar	Mahuadanr	Horheng	84°14'25.78"	23°24'59.49"
270	Latehar	Mahuadanr	Hurmundatoli	84°15'03.19"	23°23'21.40"
271	Latehar	Mahuadanr	Husmu	84°13'13.25"	23°23'56.51"
272	Latehar	Mahuadanr	Jaipur	84°04'47.98"	23°27'43.22"
273	Latehar	Mahuadanr	Jamdih	84°03'17.28"	23°22'11.97"
274	Latehar	Mahuadanr	Jamdih (Haramagara)	84°02'02.28"	23°31'45.09"
275	Latehar	Mahuadanr	Jangsi	84°06'08.69"	23°26'00.19"
276	Latehar	Mahuadanr	Janta	84°04'39.72"	23°31'35.01"
277	Latehar	Mahuadanr	Jarhatoli	84°05'33.94"	23°23'10.34"
278	Latehar	Mahuadanr	Jori	84°03'31.00"	23°23'31.94"
279	Latehar	Mahuadanr	Kabrapat	84°00'42.73"	23°22'49.11"
280	Latehar	Mahuadanr	Karkat	84°11'36.20"	23°26'14.18"
281	Latehar	Mahuadanr	Katho	84°04'06.66"	23°24'44.28"
282	Latehar	Mahuadanr	Kawarki	84°11'03.97"	23°25'24.58"
283	Latehar	Mahuadanr	Khajurtola (Putmadih)	84°05'52.41"	23°29'05.69"
284	Latehar	Mahuadanr	Kita	84°07'38.68"	23°24'24.88"
285	Latehar	Mahuadanr	Korgi	84°13'11.56"	23°32'10.54"
286	Latehar	Mahuadanr	Korwadih	84°07'50.61"	23°21'01.25"
287	Latehar	Mahuadanr	Korwatoli	84°05'15.17"	23°22'11.43"
288	Latehar	Mahuadanr	Kukud	84°00'43.14"	23°29'06.10"
289	Latehar	Mahuadanr	Kurokalan	84°07'44.03"	23°22'58.19"
290	Latehar	Mahuadanr	Kurokhurd	84°07'49.86"	23°23'29.73"
291	Latehar	Mahuadanr	Kurund	84°09'13.95"	23°21'16.30"
292	Latehar	Mahuadanr	Kutudiri	84°07'31.29"	23°28'20.82"
293	Latehar	Mahuadanr	Lakhepur	84°06'35.85"	23°29'32.54"
294	Latehar	Mahuadanr	Lodh	84°02'02.27"	23°28'09.09"
295	Latehar	Mahuadanr	Lurgumikalan	84°10'03.75"	23°28'17.83"
296	Latehar	Mahuadanr	Lurgumikhurd	84°11'06.64"	23°28'18.02"
297	Latehar	Mahuadanr	Mahuadanr	84°06'27.53"	23°24'29.37"
298	Latehar	Mahuadanr	Mail	84°11'44.30"	23°21'49.10"

[Handwritten signature]



37

**DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND
MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND**



299	Latehar	Mahuadanr	Maunadih	84°08'35.29"	23°29'03.84"
300	Latehar	Mahuadanr	Meram	84°06'05.34"	23°22'02.08"
301	Latehar	Mahuadanr	Merhar	84°02'34.07"	23°23'50.37"
302	Latehar	Mahuadanr	Merharua	84°09'17.72"	23°30'51.83"
303	Latehar	Mahuadanr	Mirgi	84°02'29.14"	23°26'38.69"
304	Latehar	Mahuadanr	Naina	84°13'38.11"	23°28'53.40"
305	Latehar	Mahuadanr	Nawadih	84°07'07.50"	23°28'51.51"
306	Latehar	Mahuadanr	Nawatoli (Pakripat)	84°14'26.95"	23°23'45.22"
307	Latehar	Mahuadanr	Netarhat	84°15'38.15"	23°28'39.09"
308	Latehar	Mahuadanr	Orsa	83°59'59.09"	23°24'11.59"
309	Latehar	Mahuadanr	Paharkapu	84°11'12.10"	23°24'30.35"
310	Latehar	Mahuadanr	Pakardih	84°10'36.59"	23°28'28.56"
311	Latehar	Mahuadanr	Parewa	84°02'38.16"	23°29'28.18"
312	Latehar	Mahuadanr	Parhatoli	84°08'39.94"	23°24'33.53"
313	Latehar	Mahuadanr	Parhi	84°04'27.20"	23°23'57.43"
314	Latehar	Mahuadanr	Partabpurnagar	84°08'20.56"	23°24'10.32"
315	Latehar	Mahuadanr	Patrungi	84°05'43.90"	23°22'46.56"
316	Latehar	Mahuadanr	Rajdanda	84°07'19.23"	23°25'47.53"
317	Latehar	Mahuadanr	Rampur	84°07'05.26"	23°24'42.51"
318	Latehar	Mahuadanr	Regain	84°05'13.23"	23°23'52.15"
319	Latehar	Mahuadanr	Sale	84°08'30.24"	23°28'21.59"
320	Latehar	Mahuadanr	Sarnadih (Bhenrital)	84°04'34.31"	23°29'57.18"
321	Latehar	Mahuadanr	Semarburchni	84°06'18.40"	23°28'00.57"
322	Latehar	Mahuadanr	Shahpur	84°09'35.68"	23°22'43.55"
323	Latehar	Mahuadanr	Sidra	84°06'57.02"	23°22'05.25"
324	Latehar	Mahuadanr	Sirsi	84°13'48.11"	23°26'30.49"
325	Latehar	Mahuadanr	Sohar	84°10'46.97"	23°20'29.77"
326	Latehar	Mahuadanr	Sugi	84°06'03.63"	23°25'25.24"
327	Latehar	Mahuadanr	Surkain	84°00'16.47"	23°21'51.86"
328	Latehar	Mahuadanr	Tahir	84°05'57.57"	23°20'36.27"
329	Latehar	Mahuadanr	Tamoli	84°04'00.69"	23°30'56.33"
330	Latehar	Mahuadanr	Tewahi	84°02'32.52"	23°27'18.67"
331	Latehar	Mahuadanr	Tisia	84°03'21.77"	23°34'47.50"
332	Latehar	Mahuadanr	Urumbi	84°04'09.57"	23°28'55.54"
333	Latehar	Manika	Amwatikar	84°20'34.55"	23°45'54.86"
334	Latehar	Manika	Antikheta	84°19'55.21"	23°46'35.12"



36

DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



335	Latehar	Manika	Barkadih	84°21'50.84"	23°46'04.03"
336	Latehar	Manika	Bhatko	84°18'50.44"	23°48'19.78"
337	Latehar	Manika	Dasdih	84°19'30.22"	23°48'17.53"
338	Latehar	Manika	Devbar R.F.	84°23'49.61"	23°46'27.33"
339	Latehar	Manika	Hatta	84°19'48.58"	23°45'20.35"
340	Latehar	Manika	Humamara	84°20'34.76"	23°46'57.72"
341	Latehar	Manika	Jagtu	84°18'34.96"	23°49'16.74"
342	Latehar	Manika	Jamuna	84°21'37.08"	23°48'55.67"
343	Latehar	Manika	Jerua	84°18'02.55"	23°48'55.98"
344	Latehar	Manika	Jobla	84°21'11.69"	23°46'09.58"
345	Latehar	Manika	Koili	84°17'08.41"	23°50'49.59"
346	Latehar	Manika	Kope	84°17'15.16"	23°49'04.50"
347	Latehar	Manika	Kui	84°17'46.27"	23°51'17.03"
348	Latehar	Manika	Kumand R.F.	84°22'23.54"	23°44'24.65"
349	Latehar	Manika	Kurumkheta	84°19'15.33"	23°44'59.96"
350	Latehar	Manika	Kurumkheta R.F.	84°18'55.17"	23°44'39.69"
351	Latehar	Manika	Lanka	84°16'13.19"	23°49'53.36"
352	Latehar	Manika	Lawagara	84°22'40.31"	23°45'54.80"
353	Latehar	Manika	Patki	84°21'27.78"	23°47'08.43"
354	Latehar	Manika	Rankikalan	84°16'07.25"	23°52'12.25"
355	Latehar	Manika	Sewadhara	84°16'14.19"	23°51'09.98"
356	Latehar	Manika	Simri	84°20'13.22"	23°48'57.09"
357	Latehar	Manika	Siwacharantola	84°20'42.21"	23°47'42.89"
358	Palamau	Chainpur	Ausane	84°08'03.72"	23°55'56.80"
359	Palamau	Daltonganj	Banua alias Sala	84°09'41.89"	23°57'21.38"
360	Palamau	Daltonganj	Chama	84°11'29.85"	23°57'14.72"
361	Palamau	Daltonganj	Hisra alias Pokhaha	84°09'10.52"	23°58'00.35"
362	Palamau	Daltonganj	Karma	84°11'39.78"	23°56'45.39"
363	Palamau	Daltonganj	Ledwakhar	84°12'16.16"	23°55'08.24"
364	Palamau	Daltonganj	Polpol kalan	84°10'15.48"	23°57'00.14"
365	Palamau	Satbarwa	Bari	84°12'35.78"	23°56'51.45"
366	Palamau	Satbarwa	Chetma	84°15'51.46"	23°53'36.48"
367	Palamau	Satbarwa	Dulsulmi	84°16'01.92"	23°54'35.59"
368	Palamau	Satbarwa	Hurmur	84°15'07.64"	23°54'08.55"
369	Palamau	Satbarwa	Jora Hunhe alias Jora	84°15'46.51"	23°54'48.81"

[Handwritten signature]



351

DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



370	Palamau	Satbarwa	Kamaru	84°18'00.64"	23°52'28.61"
371	Palamau	Satbarwa	Manasoti	84°12'30.09"	23°55'47.08"
372	Palamau	Satbarwa	Nalumanr	84°13'19.14"	23°55'20.19"
373	Palamau	Satbarwa	Rabda	84°14'05.16"	23°54'21.94"
374	Palamau	Satbarwa	Salaia	84°15'34.25"	23°53'09.24"
375	Palamau	Satbarwa	Tumagara	84°16'11.60"	23°54'02.76"
376	Palamau	Chainpur	Khapia	84°07'31.19"	23°54'27.91"
377	Latehar	Latehar	Patuki	84°25'35.26"	23°47'25.47"
378	Latehar	Latehar	Hotwag	84°27'26.61"	23°46'33.53"
379	Latehar	Latehar	Dumriyatnr	84°26'22.50"	23°46'24.47"
380	Latehar	Manika	Devbar R.F.	84°22'12.18"	23°47'46.87"
381	Latehar	Manika	Devbar	84°23'19.43"	23°47'32.84"
382	Palamau	Chainpur	Bairiya	84°06'42.20"	23°53'48.74"

(Source: MoEF & CC Notification S.O. 2898 (E), Dt. 9th August, 2019)

20.2 ESZ of Lawalong Wildlife Sanctuary:

Lawalong Wildlife Sanctuary is located in the Deccan Plateau Province of Chhotanagpur Plateau (SD) Bio-geographic Zone. The area is the habitat of leopards, wolves, cheetals, wild boars, sloth bears, jackals, porcupines, hyenas, hares, pangoline, etc. Movement of elephants from Palamau and Chatra are observed through this Sanctuary. The important bird species spotted frequently in the Sanctuary are serpent eagle, paradise fly-catcher, kingfisher, bee-eater, swift, different types of babbler, black drongo, wood pecker, lapwing, peafowl, pond heron, egret, etc. The forests of the Sanctuary also act as corridor connecting between forests of Palamau, Lawalong and Hazaribag for movement of elephant. Southern part of this Eco Sensitive Zone falls within Latehar District. The Eco-Sensitive Zone shall be to an extent of 1.80 km to 5 km around the boundary of Lawalong WLS and the area of ESZ is 570.19 km².



DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND

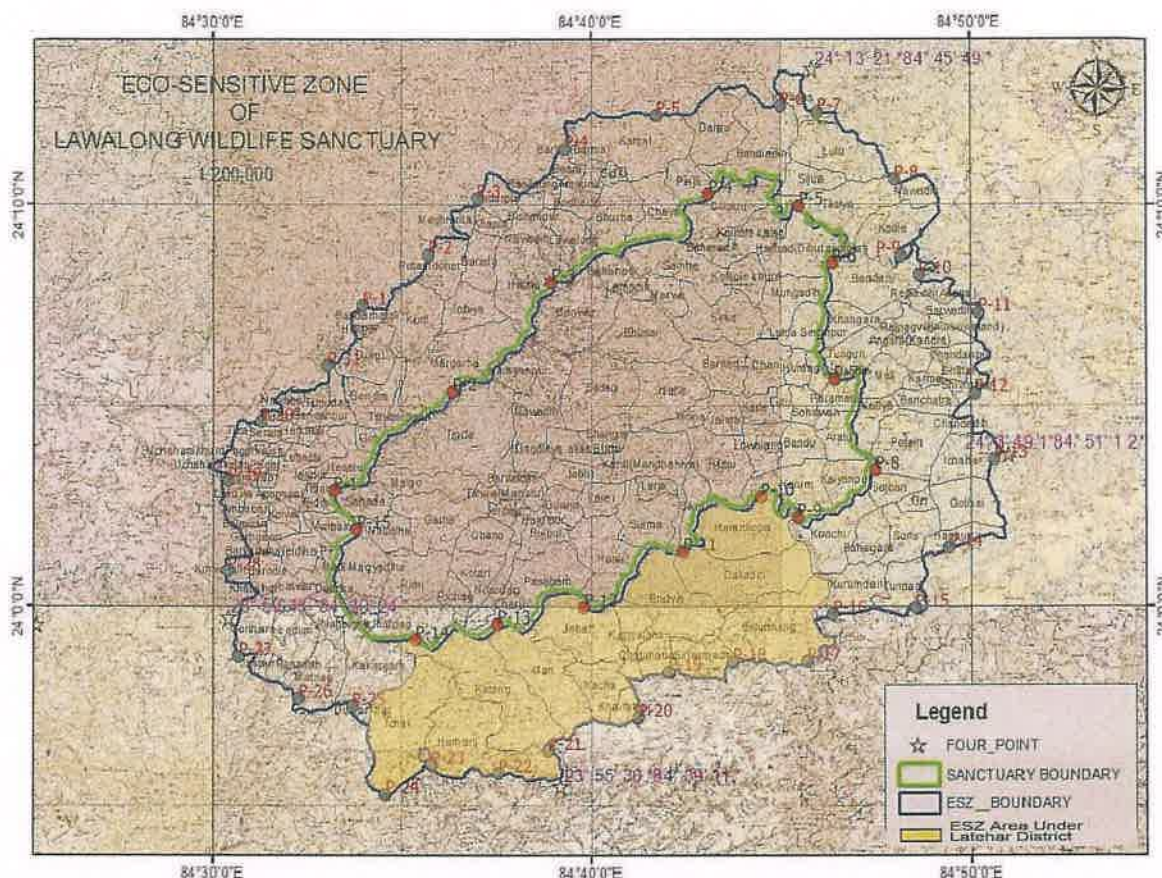


Fig. 20.3: Map Showing Lawalong Wildlife Sanctuary

(Source: MoEF&CC Notification S.O. 2896(E), Dt. 9th August 2019)

➤ Boundary Description of Eco-Sensitive Zone of Lawalong Wildlife Sanctuary in the State of Jharkhand

Boundary is marked in clockwise direction begin from the North Side, followed by East, South and West and in each side of the direction is also taken in clockwise direction. Revenue village name is in Italic.

North: - North and Northern-West part of *Potamdohar*, Northern-West part of *Meghrania* and *Khapia*, Northern part of *Madarpur*, *Kasilaung*, *Besra*, *Amauna*, *Barwa (Barma)* *Kamal*, *Danru*, *Bandiadih* and *Korhans* and Northern -East part of *Lutu* Revenue Villages.

East: - Eastern part of *Nawadih*, *Kadle*, *Bandaru*, *Rejhdih (Akona)*, *Barwadih*, *Angara (Kandra)*, *Chandanpur*, *Shivrajpur*, *Banchatra*, *Chandadih*, *Ichahar* and *Gothai* and Southern and Eastern part of *Haphua* and *Tundag* Revenue Villages.

South: - Southern part of *Kurumdari*, *Balubhang*, *Sirisamadhand* and *Chatuhaus*, South and Southern-East part of *Khairatanr* and Southern part of *Katang*, *Herhanjand* and *Ichak* Revenue Villages.

West: - Western part of *Dumarkhar*, Southern-West part of *Mutnag*, Western part of *Ranadah* then after it crosses the Panki river and enter into Western part of *Jaspur*, *Gorihara*, *Khankhar*, *Barodiri*, *Korwatanr*, *Barkadaha*, *Garhgaon*, *Ambabar*, *Lukuwa*, *Biharikhap*, and

DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



Pagarkalan, Western and Northern-West part of Pagar, Tilra, Seram, Bidra, Nawdiha, Tunudag, Durgi, Hindidi and Bandarhatoli Revenue Villages. **Fig.: 20.4**



Table No. 20.5
Geo-coordinates of Eco-Sensitive Zone Boundary within Latehar District

Point No.	Latitude	Longitude	Point No.	Latitude	Longitude
P-16	84°46'22"	23°59'47"	P-21	84°38'52"	23°56'23"
P-17	84°45'41"	23°58'38"	P-22	84°37'33"	23°55'49"
P-18	84°43'43"	23°58'37"	P-23	84°35'46"	23°56'2"
P-19	84°42'1"	23°58'22"	P-24	84°34'34"	23°55'17"
P-20	84°41'14"	23°57'13"	P-25	84°33'41"	23°57'30"

➤ List of villages in Latehar District falling within Lawalong Eco-Sensitive Zone:

Ichak, Herhanj, Kakang, Mari, Kacha, Jobar, Kkairatanr, Karmatanr, Chatuhaus, Sirisamadh, Endwa, Balubhang, Dakadiri, Heranhopa. **Table No. 20.6**

Sl. No.	Name of Village	Admm. Block	GPS Co-Ordinates	Town/Village Code as per Census of India, 2011
1	2	3	5	6
1	Nawadih	Chatra	24.1716N,84.8107 E	348566
2	Lutua	Chatra	24.1884N,84.7748 E	348675
3	Sijua	Chatra	24.1767N,84.7622 E	348721
4	Tilaia	Chatra	24.1662N,84.7775 E	348722



32

**DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND
MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND**



5	Kadle	Chatra	24.1561N,84.7998 E	348723
6	Korhans	Kunda	24.2106N,84.7578 E	348535
7	Danru	Kunda	24.1978N,84.7213 E	348533
8	Barwaalias Barma	Kunda	24.1893N,84.6597 E	348522
9	Bandiadih	Kunda	24.1929N,84.7401 E	348534
10	Kamal	Kunda	24.1927N,84.6859 E	348517
11	Amauna	Kunda	24.1781N,84.6676 E	348519
12	Kasilaung	Kunda	24.1723N,84.6478 E	348524
13	Bodhadih	Kunda	24.1677N,84.6606 E	348520
14	Bishunpur	Kunda	24.1673N,84.6403 E	348525
15	Khapia	Kunda	24.1588N,84.6222 E	348498
16	Besra	Kunda	24.1807N,84.6563 E	348521
17	Pinja	Kunda	24.1759N,84.7101 E	348532
18	Sidki	Kunda	24.1789N,84.6763 E	348518
19	Chaya	Kunda	24.1631N,84.6963 E	348531
20	Madarpur	Kunda	24.1691 N, 84.6259 E	348497
21	Bhurha	Kunda	24.1615 N, 84.6773 E	348530
22	Nawadih	Kunda	24.1519 N, 84.6445 E	348511
23	Meghrania	Kunda	24.1600 N, 84.6109 E	348499
24	Bajrahi	Kunda	24.1613 N, 84.6469 E	348526
25	Lawalong	Kunda	24.1516 N, 84.6592 E	348529
26	Bariatu	Kunda	24.1431 N, 84.6182 E	348500
27	Hisatu	Kunda	24.1355 N, 84.6364 E	348527
28	Potamdohar	Kunda	24.1411 N, 84.6023 E	348502
29	Jobeya	Kunda	24.1233 N, 84.6131 E	348501
30	Kutil	Kunda	24.1195 N, 84.5887 E	348504
31	Margarha	Kunda	24.1002 N, 84.6070 E	348508
32	Durgi	Kunda	24.1039 N, 84.5692 E	348505
33	Gendra	Kunda	24.0874 N, 84.5713 E	348506
34	Tithibhargaon	Kunda	24.0788 N, 84.5815 E	348507
35	Bandaru	Lawalong	24.1356 N, 84.7911 E	348613
36	Rejadih alias Akona	Lawalong	24.1311 N, 84.8194 E	348614
37	Khangara	Lawalong	24.1189 N, 84.7825 E	348612
38	Ratnag alias Bhurkuatanr	Lawalong	24.1145 N, 84.8142 E	348617
39	Tungun	Lawalong	24.1059 N, 84.7830 E	348618
40	Angara alias Kandra	Lawalong	24.1051 N, 84.8058 E	348619

[Handwritten signature]





DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND

41	Karma	Lawalong	24.0954 N, 84.8134 E	348623
42	Banchatra	Lawalong	24.0856 N, 84.8148 E	348622
43	Chandanpur	Lawalong	24.1042 N, 84.8295 E	348625
44	Mali	Lawalong	24.0953 N, 84.7951 E	348620
45	Shivraipur	Lawalong	24.0919 N, 84.8319 E	348626
46	Chatar	Lawalong	24.0961 N, 84.8268 E	348624
47	Chandadih	Lawalong	24.0749 N, 84.8294 E	348633
48	Icha Ahar	Lawalong	24.0616 N, 84.8302 E	348635
49	Katia	Lawalong	24.0774 N, 84.7897 E	348621
50	Potam	Lawalong	24.0678N, 84.8064 E	348634
51	Ori	Lawalong	24.0434 N, 84.8097 E	348640
52	Jojbari	Lawalong	24.0492 N, 84.7994 E	348636
53	Konchi	Lawalong	24.0297 N, 84.7725 E	348638
54	Sons	Lawalong	24.0306 N, 84.8056 E	348639
55	Bahagara	Lawalong	24.0280 N, 84.7889 E	348637
56	Sarhachia	Lawalong	24.1180 N, 84.8170 E	348616
57	Barwadih	Lawalong	24.1223 N, 84.8240 E	348615
58	Gothai	Simaria	24.0427 N, 84.8312 E	349308
59	Haphua	Simaria	24.0287 N, 84.8280 E	349309
60	Tundag	Simaria	24.0077 N, 84.8035 E	349307
61	Kurumdari	Simaria	24.0070 N, 84.7813 E	349301
62	Endwa	Bariatu	24.0030 N, 84.7014 E	367427
63	Harauhopa	Bariatu	24.0323 N, 84.7345 E	367428
64	Dakadiri	Bariatu	24.0130 N, 84.7335 E	367429
65	Balu Bhang	Bariatu	24.9916 N, 84.7484 E	367430
66	Jaubar	Bariatu	24.9907 N, 84.6622 E	367424
67	Karmatanr	Bariatu	24.9882 N, 84.6846 E	367425
68	Sirismadh	Bariatu	24.9794 N, 84.7146 E	367426
69	Mari	Herhanj	24.9720 N, 84.6460 E	367493
70	Katang	Herhanj	24.9653 N, 84.6237 E	367480
71	Chatuhaus	Herhanj	24.9795 N, 84.6951 E	367494
72	Ichak	Herhanj	24.9512 N, 84.5848 E	367481
73	Kacha	Herhanj	24.9672 N, 84.6700 E	367492
74	Khairatanr	Herhanj	24.9580 N, 84.6814 E	367489
75	Harhenj	Herhanj	24.9434 N, 84.6179 E	367482
76	Tunudag	Panki	24.0847 N, 84.5549 E	366412
77	Ganeshpur	Panki	24.0831 N, 84.5453 E	366410

[Handwritten signature]



DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



78	Naudiha	Panki	24.0855 N, 84.5339 E	366406
79	Baherwatanr	Panki	24.0845 N, 84.5363 E	366407
80	Birtia	Panki	24.0810 N, 84.5369 E	366409
81	Bidra	Panki	24.0782 N, 84.5265 E	366382
82	Pardohar	Panki	24.0782 N, 84.5364 E	366405
83	Sirma	Panki	24.0717 N, 84.5227 E	366402
84	Pipratn	Panki	24.0708 N, 84.5422 E	366411
85	Baniadih	Panki	24.0825 N, 84.5411 E	366408
86	Harkhuwa	Panki	24.0727 N, 84.5340 E	366404
87	Tilra	Panki	24.0726 N, 84.5134 E	366401
88	Hesatu	Panki	24.0612 N, 84.5602 E	366414
89	Giri	Panki	24.0697 N, 84.5694 E	366413
90	Loharsi	Panki	24.0581 N, 84.5396 E	366419
91	Pagar Kalan	Panki	24.0632 N, 84.5152 E	366397
92	Gudipahari	Panki	24.0661 N, 84.5312 E	366403
93	Udih	Panki	24.0647 N, 84.5267 E	366399
94	Uchahra Khurd	Panki	24.0615 N, 84.5088 E	366396
95	Tilamba	Panki	24.0550 N, 84.5417 E	366418
96	Pachamba	Panki	24.0664 N, 84.5210 E	366400
97	Uchahra Kalan	Panki	24.0574 N, 84.5055 E	366395
98	Jaspur Alias Cheribar	Panki	24.0544 N, 84.5461 E	366371
99	Bihari Khap	Panki	24.0536 N, 84.5155 E	366394
100	Sarjamatu	Panki	24.0521 N, 84.5236 E	366393
101	Titlangi	Panki	24.0482 N, 84.5510 E	366415
102	Gareriadih	Panki	24.0507 N, 84.5184 E	366392
103	Bidra	Panki	24.0437 N, 84.5463 E	366416
104	Lukuwa	Panki	24.0423 N, 84.5090 E	366390
105	Aparmanri	Panki	24.0432 N, 84.5359 E	366420
106	Kelwa	Panki	24.0380 N, 84.5314 E	366423
107	Garhganw	Panki	24.0281 N, 85.188 E	366425
108	Karma	Panki	24.0494 N, 84.5075 E	366389
109	Ambabar	Panki	24.0404 N, 84.5175 E	366391
110	Ambalori	Panki	24.0330 N, 84.5537 E	366421
111	Teldiha	Panki	24.0342 N, 84.5402 E	366422
112	Balmuwan	Panki	24.0315 N, 84.5290 E	366424
113	Barkadaha	Panki	24.0242 N, 84.5268 E	366426
114	Barodiri	Panki	24.0143 N, 84.5231 E	366427

(Signature)



-29-

DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



115	Korwatanr	Panki	24.0152 N, 84.5111 E	366340
116	Hatwar	Panki	24.0080 N, 84.5379 E	366429
117	Duwarika	Panki	24.0020 N, 84.5526 E	366376
118	Khankhar	Panki	24.0030 N, 84.5242 E	366428
119	Gorihara	Panki	24.9905 N, 84.5191 E	366370
120	Ranadah	Panki	24.9732 N, 84.5281 E	366372
121	Jolah Bigha	Panki	24.9930 N, 84.5503 E	366375
122	Herum	Panki	24.9880 N, 84.5366 E	366373
123	Kakargarh	Panki	24.9755 N, 84.5701 E	366377
124	Matnag	Panki	24.9703 N, 84.5467 E	366374
125	Jasipur	Panki	24.9763 N, 84.5211 E	366417
126	Dumar Khar	Panki	24.9561 N, 84.5661 E	366378

Table No. 20.7: Geo Co-ordinates of Lawalong Wildlife Sanctuary

Point No.	Longitude (E)	Latitude (N)
P-1	84°33'12"	24°02'53"
P-2	84°36'20"	24°05'22"
P-3	84°38'57"	24°08'05"
P-4	84°43'05"	24°10'15"
P-5	84°45'29"	24°09'58"
P-6	84°46'21"	24°08'33"
P-7	84°46'24"	24°05'40"
P-8	84°47'29"	24°03'24"
P-9	84°45'26"	24°02'13"
P-10	84°44'28"	24°02'44"
P-11	84°42'25"	24°01'22"
P-12	84°39'48"	23°59'58"
P-13	84°37'31"	23°59'33"
P-14	84°35'21"	23°59'11"
P-15	84°33'49"	23°01'55"

Table No. 20.8: Geo-coordinates of Eco-Sensitive Zone Boundary

Points	Latitude (N)	Longitude (E)
P-1	24°07'30"	84°33'58"
P-2	24°08'45"	84°35'41"
P-3	24°10'09"	84°36'58"
P-4	24°11'23"	84°39'17"
P-5	24°12'13"	84°41'42"
P-6	24°12'27"	84°44'59"
P-7	24°12'18"	84°45'58"
P-8	24°10'37"	84°47'60"
P-9	24°08'44"	84°48'10"
P-10	24°08'16"	84°48'38"
P-11	24°07'20"	84°50'13"

[Handwritten signature]



28

DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



P-12	23°05'19"	84°50'07"
P-13	23°03'40"	84°50'38"
P-14	23°01'27"	84°39'26"
P-15	23°59'57"	84°48'32"
P-16	23°59'47"	84°46'22"
P-17	23°58'38"	84°45'41"
P-18	23°58'37"	84°43'43"
P-19	23°58'22"	84°42'01"
P-20	23°57'13"	84°41'14"
P-21	23°56'23"	84°38'52"
P-22	23°55'49"	84°37'33"
P-23	23°56'02"	84°35'46"
P-24	23°55'17"	84°34'34"
P-25	23°57'30"	84°33'41"
P-26	23°57'42"	84°32'16"
P-27	23°58'45"	84°30'40"
P-28	23°00'52"	84°30'22"
P-29	23°03'07"	84°30'23"
P-30	23°04'36"	84°31'15"
P-31	23°05'60"	84°33'02"

Table No. 20.9:

List of Prohibited & Regulated Activities in Lawalong Eco-Sensitive Zone

Sl. No. (1)	Activity (2)	Description (3)
A. Prohibited Activities		
1.	Commercial mining, stone quarrying and crushing units.	(a) All new and existing mining (minor and major minerals), stone quarrying and crushing units are prohibited with immediate effect except for meeting the domestic needs of bonafide local residents including digging of earth for construction or repair of houses and for manufacture of country tiles or bricks for housing and for personal consumption; (b) The mining operations shall be carried out in accordance with the order of the Hon'ble Supreme Court dated the 4th August, 2006 in the matter of T. N. Godavarman Thirumulpad Vs. UOI in W.P.(C) No. – 202 of 1995 and dated the 21st April, 2014 in the matter of Goa Foundation Vs. UOI in W.P.(C) No. 435 of 2012.

[Handwritten signature]



-27-

**DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND
MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND**



2.	Setting of industries causing pollution (Water, Air, Soil, Noise, etc.).	New industries and expansion of existing polluting industries in the Eco-Sensitive Zone shall not be permitted: - Provided that non-polluting industries shall be allowed within Eco-Sensitive Zone as per classification of Industries in the guidelines issued by the Central Pollution Control Board in February, 2016, unless so specified in this notification and in addition the non-polluting cottage industries shall be promoted.
3.	Establishment of major hydro-electric project.	Prohibited (except as otherwise provided) as per the applicable laws.
4.	Use or production or processing of any hazardous substances.	Prohibited (except as otherwise provided) as per the applicable laws.
5.	Discharge of untreated effluents in natural water bodies or land area.	Prohibited (except as otherwise provided) as per the applicable laws.
6.	Setting up of new saw mills.	New or expansion of existing saw mills shall not be permitted within the Eco-Sensitive Zone.
7.	Setting up of brick kilns.	Prohibited (except as otherwise provided) as per the applicable laws.

B. Regulated Activities

8.	Commercial establishment of hotels and resorts.	No new commercial hotels and resorts shall be permitted within one kilometer of the boundary of the protected area or up to the extent of Eco-Sensitive Zone, whichever is nearer, except for small temporary structures for eco-tourism activities: - Provided that, beyond one kilometer from the boundary of the protected area or up to the extent of Eco-sensitive Zone whichever is nearer, all new tourist activities or expansion of existing activities shall be in conformity with the Tourism Master Plan and guidelines as applicable.
9.	Construction activities.	(a) New commercial construction of any kind shall not be permitted within one kilometre from the boundary of the protected area or up to extent of the Eco-Sensitive Zone, whichever is nearer: -Provided that, local people shall be permitted to undertake construction in their land for their use including the activities mentioned in sub-paragraph (1) of paragraph 3 as per building bye-laws to meet the residential needs of the local residents. -Provided further that the construction activity related to small scale industries not causing pollution shall be regulated and kept at the minimum, with the prior permission from the competent authority as per applicable rules and regulations, if any.

[Handwritten signature]





DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND

10.	Small scale non-polluting industries.	Non-polluting industries as per classification of industries issued by the Central Pollution Control Board in February, 2016 and non-hazardous, small-scale and service industry, agriculture, floriculture, horticulture or agro-based industry producing products from indigenous materials from the Eco-sensitive Zone shall be permitted by the competent Authority.
11.	Felling of trees.	(a) There shall be no felling of trees in the forest or Government or revenue or private lands without prior permission of the Competent Authority in the State Government. (b) The felling of trees shall be regulated in accordance with the provisions of the concerned Central or State Act and the rules made thereunder.
12.	Collection of Forest produce or Non-Timber Forest produce.	Regulated as per the applicable laws.
13.	Erection of electrical and communication towers and laying of cables and other infrastructures.	Regulated under applicable laws (underground cabling may be promoted).
14.	Infrastructure including civic amenities.	Taking measures of mitigation as per and applicable laws, rules and regulations & available guidelines.
15.	Widening and strengthening of existing roads and construction of new roads.	Taking measures of mitigation as per and applicable laws, rules and regulation and available guidelines.
16.	Undertaking other activities related to tourism like flying over the Eco-sensitive Zone area by hot air balloon, helicopter, drones, Microlites, etc.	Regulated as per the applicable laws.
17.	Protection of hill slopes and riverbanks.	Regulated as per the applicable laws.
18.	Movement of vehicular traffic at night.	Regulated for commercial purpose under applicable laws.
19.	Ongoing agriculture and horticulture practices by local communities along with dairies, dairy farming, aquaculture and fisheries.	Permitted as per the applicable laws for use of locals.
20.	Establishment of large-scale commercial livestock and poultry farms by firms, corporate and companies.	Regulated (except as otherwise provided) as per applicable laws except for meeting local needs.

[Handwritten signature]





DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND

21.	Discharge of treated waste water or effluents in natural water bodies or land area.	The discharge of treated waste water or effluents shall be avoided to enter into the water bodies and efforts shall be made for recycle and reuse of treated waste water. Otherwise the discharge of treated waste water or effluent shall be regulated as per the applicable laws.
22.	Commercial extraction of surface and groundwater.	Regulated as per the applicable laws.
23.	Open Well, Bore Well etc. for agriculture or other usage.	Regulated and the activity should be strictly monitored by the appropriate authority.
24.	Solid waste management.	Regulated as per the applicable laws.
25.	Introduction of exotic species.	Regulated as per the applicable laws.
26.	Eco-tourism.	Regulated as per the applicable laws.
27.	Use of polythene bags.	Regulated as per the applicable laws.
28.	Commercial sign boards and hoardings.	Regulated as per the applicable laws.

C. Promoted Activities

29.	Rain water harvesting.	Shall be actively promoted.
30.	Organic farming.	Shall be actively promoted.
31.	Adoption of green technology for all activities.	Shall be actively promoted.
32.	Cottage industries including village artisans, etc.	Shall be actively promoted.
33.	Use of renewable energy and fuels.	Bio-gas, solar light etc. shall be actively promoted.
34.	Agro-Forestry.	Shall be actively promoted.
35.	Plantation of Horticulture and Herbals.	Shall be actively promoted.
36.	Use of eco-friendly transport.	Shall be actively promoted.
37.	Skill Development.	Shall be actively promoted.
38.	Restoration of degraded land/forests/habitat.	Shall be actively promoted.
39.	Environmental awareness.	Shall be actively promoted.



-24-



DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND

Map of Eco-Sensitive Zone of Palamau Wildlife Sanctuary, Betla National Park

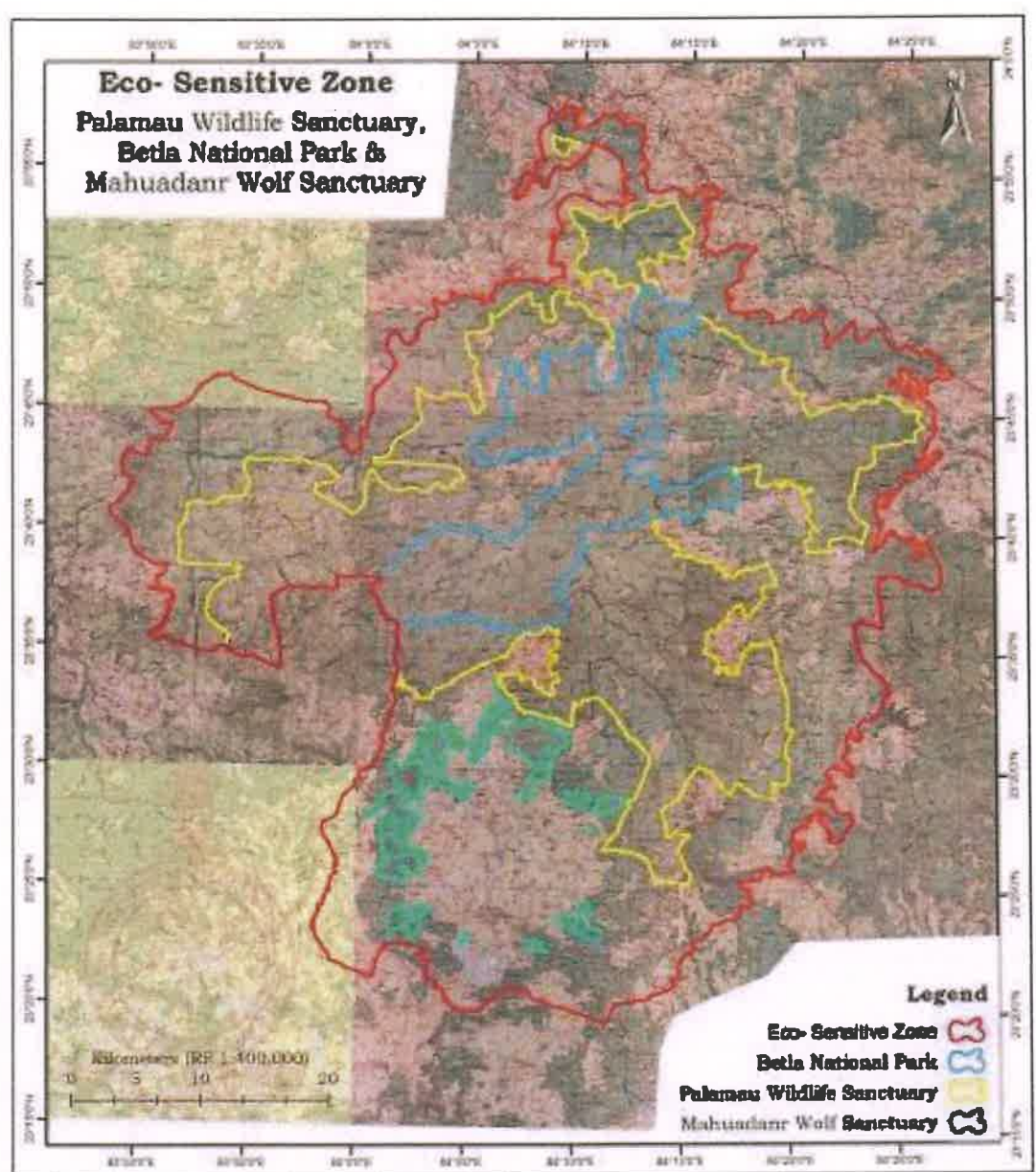


Figure No. 20.5: Eco-Sensitive Zone of Palamau Wildlife Sanctuary, Betla National park & Mahuadani Wolf Sanctuary

(Source – Gazette Notification August 9, 2019)





DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND

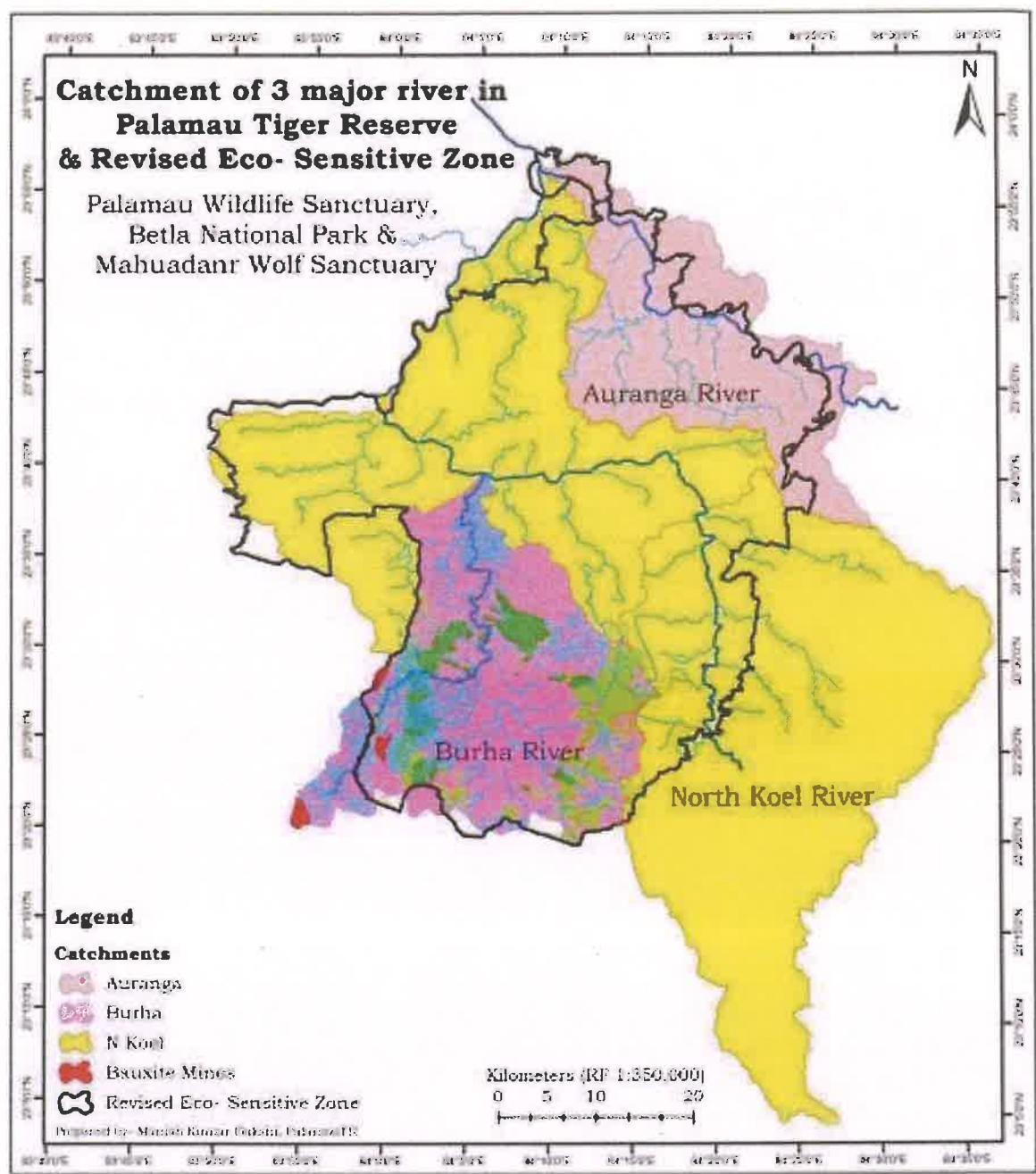


Figure No. 20.6: Catchment of 3 major Rivers in Palamau Tiger Reserve & Revised Eco-Sensitive Zones; Palamau Wildlife Sanctuary, Betla National Park & Mahuadanr Wolf Sanctuary

(Source – Gazette Notification August 9, 2019)

[Handwritten signature]





DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND

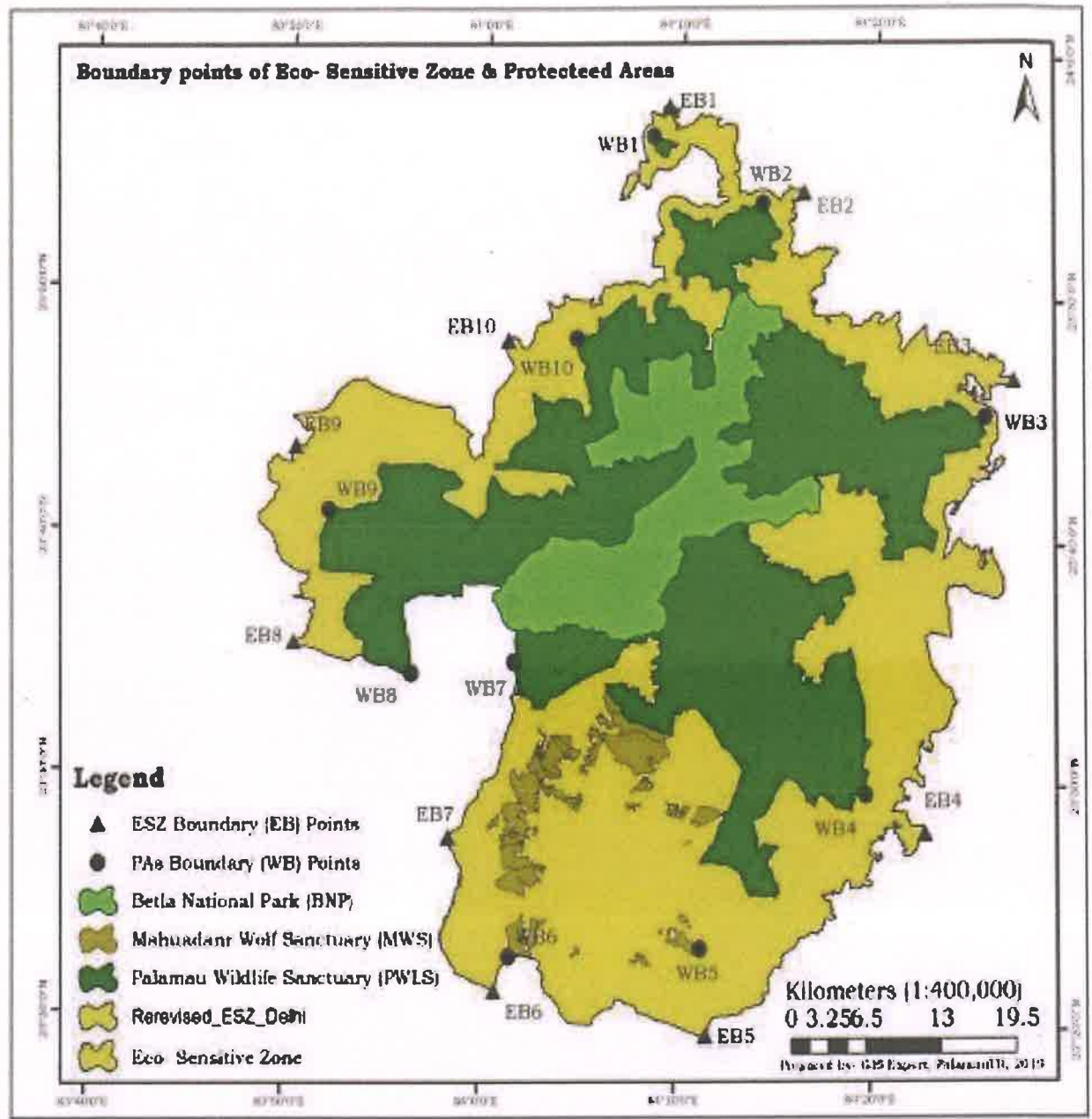


Figure No. 20.7: Boundary Points of Eco-Sensitive Zone & Protected Areas

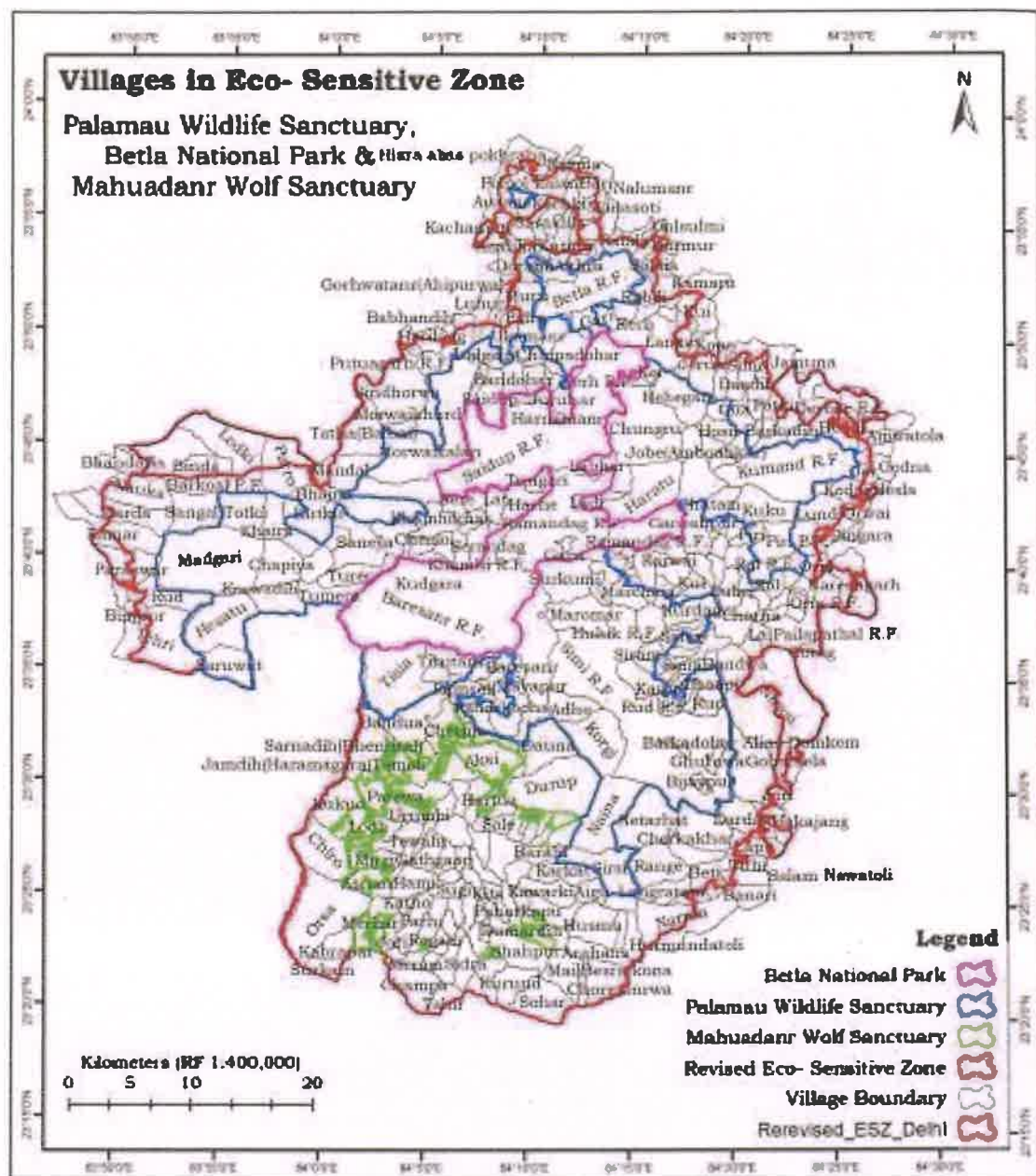
(Source – Gazette Notification August 9, 2019)

[Handwritten signature]





DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



Boundary description of Eco-Sensitive Zone:

(Source – Gazette Notification August 9, 2019)

[Handwritten signature]





21. IMPACT ON THE ENVIRONMENT DUE TO MINING

21.1 Impact on the Environment (Air, Water, Noise, Soil, Flora & Fauna, land use, agriculture, forest etc.) due to mining activity;

Impact on Air Environment

The mine sites of Latehar district are located in barren small hilly area and located in remote village where limited agriculture is practiced during rainy season only. In some lease surroundings only a few households are living in the area and population density of village is very less. The area does not have any industrial activity in the core/buffer zone and hence, the ambient air quality of the area is good. Mining will be carried out in a limited area with OTFM mining method. Hence, impact on air quality due to mining will not be significant.

Impact on Water Environment

Surface Water

There is no any surface water body in and around the lease area of Latehar district. Hence, effect on surface water quality will be negligible. In order to arrest rain water flowing from the lease boundary to surrounding area, a garland drain will be recommended & constructed in the lower side of the all the leasehold area and runoff water will be accumulated in the settling pond/water harvesting pit. Rainwater accumulated in the mine pit will be pumped to the settling pond before discharging into the agricultural field during heavy rainfall. Many rivers are flowing in and around the mine site, but all are far away from the mine leases and effect on water quality of the river is not expected as no water is allowed to flow directly from the mine site.

Ground Water

Mining operation will be carried out in limited scale on a small hilly area above groundwater level in Latehar district. The mineral formation does not contain any harmful elements; hence no contamination will take place into ground water. Moreover, settling pond/pit sump will be constructed for rain water harvesting and ground water recharge. Finally, all the mine pits will be converted into pond after mine closure, which will further help in ground water recharge and utilization of pond water for irrigation and other domestic uses.

Impact on Noise Level

Noise will be created by the movement of the tractors/dumpers/heavy machines etc. However, noise generated by these will be occurring at the very low level and ambient noise level in the buffer zone shall be within permissible limit of CPCB. Noise level in the core zone shall be maintained as per DGMS standard for continuous noise exposure level. Controlled blasting is proposed, hence effect of ground vibration and blasting generated noise shall be within in the DGMS standard.

Impact on Land Environment

Mining operation in Latehar district will be carried out in limited scale on a small barren hilly area only. Very little amount of soil is present in small patches. Soil within the leasehold area will be used for plantation purpose. In order to arrest siltation during rainy season, runoff water will be accumulated in the settling pond/water harvesting pit. Further, plantation/green belt shall be developed along transport road. The open pit will be converted into pond after mine closure, which will further help in use of water for agriculture for local people. Hence, no negative impact on land environment is expected.



19

DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



Impact on Biological Environment

All the leasehold area in Latehar district is barren. Hence, impact on biological environment is not expected. As mentioned earlier, it is proposed to develop a green belt around along both sides of transport road. This will help in improving biological environment of the area.

Impact on Socio-economic Environment

There is no habitat in the lease hold area as well as within 500 m from lease boundary. There will be no adverse impact of mining but up to some extent socio-economic environment of the area will improve as, the mining activity and green belt development will create new job opportunities for the local people. The pit pond after mine closure shall be used for agricultural purpose, growing of fish, drinking water for animal and other domestic uses. Further, applicant will provide the occupational health and safety by providing regular medical check-up and medicine distribution. Mining operation will improve the financial status of the local people.

Impact on Agriculture

Some form of agricultural use may be possible in sites that are adjacent to farmland provided the soil and topography are favorable. Agricultural and horticultural crops can be grown in a variety of materials. The range of possibilities include arable cropping, grazing in either productive low land or over upland pasture. The only constraint apart from the site is that there must be some integration into the local rural agricultural pattern. But it would be inappropriate to establish pasture in an area of arable cropping, even though the grazed pasture would recreate the soil structure more rapidly.



DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



AMBIENT AIR QUALITY	
IMPACT	MITIGATION MEASURES
Typical impact on Air Quality due to mining activities are; ☐ Dust Generation due to ✓ Site Preparation ✓ Drilling ✓ Blasting ✓ Crushing ✓ Transportation on haul road or unpaved road ☐ Emission of Noxious Gases ✓ Operation of mining equipment ✓ Blasting ✓ Transportation	To mitigate the impact some suggestive measures are; ☐ Dust Generation ✓ Adopt a wet drilling system this will minimize dust generation during drilling process . ✓ Practice controlled blasting to minimize generation of dust. ✓ Regular water sprinkling on haul road. ✓ Install wet dust suppression system in crushing and screening plant. ✓ Regular water sprinkling on unpaved roads. ✓ Dust generation from road also depends on speed of transport vehicles. There should be speed restriction of 20 KMPH on unpaved road ☐ Emission of Noxious Gases ✓ Use of optimal quantity of explosive in blasting. ✓ To ensure that transportation vehicles have "Pollution Under Control Certificate". ✓ Regular repair and maintenance of mining equipment & transportation vehicle. ✓ Proper repair and maintenance of road. ❖ Raise Green Belt in safety zone. ❖ Avenue plantation along a both sides of Link Road

[Handwritten signature]



17-

**DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND
MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND**



WATER QUALITY	
IMPACT	MITIGATION MEASURES
Typical impact on Water Quality due to mining activities are; ☐ Run-off of sediments due to ✓ Site Preparation ✓ Dumping of OB ✓ Crushing ✓ Drilling ☐ Contamination of oil or chemical in water (surface & ground water) due to ✓ Dumping of OB ✓ Drilling ✓ Blasting ✓ Spills due to transportation	To mitigate the impact some suggestive measures are; ☐ Run-off ✓ Provide garland drains around quarry to intercept surface run-off from high elevation to quarry and divert it to collection cum desilting pond. ✓ Provide foot drain along toe of external dump. Foot drain will collect run-off from external dump and divert to storage cum desilting pond for proper treatment ☐ Water Contamination ✓ Water pump out from quarry will need to be diverted to storage cum desilting pond for treatment. ✓ Proposed effluent treatment plant (ETP). ✓ Regular repair & maintenance of equipment & vehicles. ✓ Movement of heavy vehicles may be restricted to lease area and road so that leaking oil & grease may not contaminate water quality. ☐ PROMOTE ZERO LIQUID DISCHARGE (ZLD).

[Handwritten signature]



-16-

**DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND
MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND**



NOISE LEVEL	
IMPACT	MITIGATION MEASURES
Increase in noise level due to various mining activities such as operation of mining equipment, movement of vehicles, drilling, blasting & crushing.	To mitigate the impact some suggestive measures are; ✓ Mining operation to be confined to day shift only ✓ At machineries to be repaired and maintained regularly. ✓ Raise Green Belt in safety zone. ✓ Avenue plantation along a both sides of Link Road ✓ Regular repair and maintenance of mining equipment & transportation vehicle. ✓ Proper repair and maintenance of road. ✓ Speed restriction of 20 KMPH on unpaved road. ✓ Acoustic Barrier along the periphery of mining lease at critical points.



[Handwritten signature]

DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



SOIL QUALITY	
IMPACT	MITIGATION MEASURES
Mining Activities are likely to impact on soil quality as; ☐ Loss of topsoil ☐ Productivity of Soil ☐ Contamination of oil or chemical in Soil	To mitigate the impact some suggestive measures are; ☐ Loss of topsoil ✓ Topsoil are to be removed & stored in an identified area. In order to conserve the quality of topsoil, grass cover are to be developed on topsoil dumps, Such conserved topsoil may be used for land reclamation & development of greenbelt. ☐ Productivity of Soil ✓ Movement of heavy mining machineries on agriculture land and productive land should be restricted. ☐ Contamination of oil or chemical in Soil ✓ Movement of heavy vehicles may be restricted to lease area and road so that leaking oil & grease may not contaminate soil quality.



[Handwritten signature]



DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND

BIO-DIVERSITY	
IMPACT	MITIGATION MEASURES
Mining Activities are likely to impact on Bio-Diversity of the region as; ☐ Habitat Destruction ☐ Ecosystem Disruption ☐ Damaging	Considering importance of impact of environmental impact on eco-system in the study area, a series of mitigation measures are incorporated in planning of stone mine & its operation such mitigation measures are given below; ✓ Mine site are selected considering siting criteria prescribed by Government (JSEIAA / JSPCB / MOEF & CC). ✓ Avoid site which have tree cover. ✓ Avoid site through which drainage channels passes through. ✓ Ecological Assessment: Conduct a thorough ecological survey to identify species and habitats present. ✓ Buffer Zones: Establish buffer zones around sensitive habitats to minimize disturbance. ✓ Minimize Habitat Destruction: Plan site layout to avoid key habitats and minimize vegetation clearing. ✓ Translocation: Consider translocating significant flora and fauna to safe areas. ✓ Restoration Plans: Develop a habitat restoration plan for post-mining activities. ✓ Wildlife Corridors: Ensure wildlife corridors are maintained to facilitate animal movement. If a wildlife corridor passes through or around a mining lease area, a Wildlife Conservation Plan will be prepared. These measures help protect biodiversity and mitigate the environmental impact of stone mining.

[Handwritten signature]





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

22.1 Remedial Measures for other than Sand Mining:

➤ Remedial Measures for Air Pollution:

- All machineries and transport vehicles will be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kuccha' road shall be done.
- Water sprinkling at loading area.
- Tree plantation along the haul roads & approach road will be done. Plantation along the mine boundary shall be done with tree density of 2000 trees per Hectare as per the norms of MoEF & CC, to control dust & noise.
- Use of personal protective equipment like dust mask.
- Ambient air pollution monitoring will be carried out.

➤ Remedial Measures for Water Pollution:

- Mining is proposed to plan above the ground water table. Therefore, pumping of ground water from mine pit does not arise in this mine. The rain water during rainy season is proposed to settle in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system.
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.

➤ Remedial Measures for Noise Pollution:

- Diesel powered machineries, which is major source of noise in open cast mining shall be properly maintained. Attention shall be paid towards rigorous maintenance of the silencer of the diesel engines.
- Protective devices shall be provided for use of persons employed in the vicinity of high noise areas.
- With the adoption of controlled blasting techniques, the ground vibrations will be minimized.
- Plantation around the lease boundary will cut the noise levels.

➤ Remedial Measures for Land Environment:

Some of the measures followed to minimize the impacts are as follows:

- The mining activities will be restricted within the lease area only.
- The waste material will be utilized for the construction of road and also will be used by the local people for construction work.
- The surface run off from the lease area will be retain within the lease and used for plantation, dust suppression and block cutting. So, there will be no soil erosion from the lease area and its surrounding due to mining activity.
- The dump will have inward slope with catch drains at inward side of the terrace and the catch drain of the individual terrace will be connected to the garland drain outside the periphery of the dump. Retaining wall and garland drain will be constructed around the



12-

DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



dumps and the surface runoff water pass through the garland drain and finally settled in a settling pit before released outside.

- Retaining wall and garland drains for the proposed waste dump will be constructed to arrest wash offs from the dump.
- Maintenance/repair of vehicles and machineries will not be inside the mining area. However, steel trays will be used for any emergency repair and sudden leakage of oil.

➤ Remedial Measures for Waste Management:

The solid waste shall be dumped systematically with proper repose angle and stabilization as follows:

- Gradation of dump shall be done automatically as coarser materials go to the bottom and finer at the top and therefore drain of rain water flow freely to the bottom without endangering the stability of dump.
- Stabilization of dump with top soil and tree plantation shall make the dump more stable on long. Dump should be terraced for every 5 m height and stabilized
- 1m height parapet shall be constructed for dumps more than 6m height along the toe to prevent and control wash out from dumps entering into natural system through rain water.
- Garland drainage around dump shall prevent under wash of dump by hydrostatic pressure to be developed by surface water and control wash outs and collapse.

➤ Remedial Measures for Flora and Fauna:

Extensive plantation comprising of pollutant resistant trees will be undertaken, which will serve not only as pollution sink but also as a noise barrier. It is proposed to include azadirachta Indica, and ficus Religiosa in the plantation program as they serve as sinks for gaseous emissions.

The impact on the fauna due to the mining activity will be insignificant. The progressive plantation over a period of time will reduce the impact, if any, on the fauna.





23. RECLAMATION OF MINED-OUT AREA

23.1 Reclamation of Mined out area (best practice already implemented in the district, requirement as per rules and regulation, proposed reclamation plan);

Reclamation of mined-out area:

Importance

It is necessary to reclaim the land affected by mining due to following reasons:

- To put the land into productive use like agriculture, forestry or recreational purposes.
- To check soil erosion from dump leading to destruction of watersheds and siltation of river.
- Accumulation of huge quantity of water in worked out pits may pose threat to life and property.
- To combat adverse visual impact.

This requires two stage planning i.e. pre mining planning and post mining land use and monitoring. First stage considers all necessary measures to be taken for making second stage effective. This requires Environmental Impact Assessment (EIA) to be prepared. This should clearly bring out the likely impact of mining on environment, both biotic and a biotic and the likely extent of degradation, which may occur to the environment in the absence of any abatement measures. And to prepare this statement baseline information are required which includes geology/geomorphology, climate, hydrology/hydrogeology, hydro geochemistry and soil. Generation of information may also be required on quality of water, air and noise level, topography, land use pattern, demography of the area etc.

Components

For successful reclamation following points are to be considered

- Listing inventory of pre mining condition.
- Monitoring flexibility of mining programme in the light of efficient land reclamation.
- Evaluation of the post mining requirements of the region and to decide on the needs and desire of the affected ground.
- To make reclamation planning suitable to techno-economical and socio political environment.
- To assess the physio-chemical characteristics of overburden.
- Extra cost of preservation, re-handling, spreading and levelling of subsoil and topsoil.
- Knowledge of hydrogeological/geomorphological conditions. Aesthetic and/or historic value of land.





24. RISK ASSESSMENT & DISASTER MANAGEMENT PLAN

The area is hilly area. No possibility to flooding the area. Since, the pits are developed on the hard compact and medium grain rocks hence, there are no possibilities of slope failure. The Risk Assessment & Risk Management Plan will be prepared for safety of man & machinery deployed in the mining activities as per Mining Act, Rules, and Regulations & DGMS circulars.

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 taking into account 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 many 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 to check if the person is wearing a personal protective equipment or not is essential. 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



-9-

DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



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, the steps should be taken to reduce the hazards such as for dust suppression system should be installed.

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 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 hotter 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





25. DETAILS OF THE OCCUPATIONAL HEALTH ISSUES IN THE DISTRICT

26.1 Details of the Occupational Health issues in the District. (Last five-year data of number of patients of Silicosis & Tuberculosis is also needs to be submitted);

Occupational Health Hazard and Remedial Measures

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. Pneumoconiosis

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 audiometric.
- (c) Classification of chest radiographs of workers as per ILO Classification.
- (d) Medical examination within one year of superannuation.
- (e) 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.



7-

**DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND
MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND**



As discussion with Latehar district Civil Surgeon Office, there are not any cases of Silicosis & Tuberculosis, due to Stone mining activity in last five-years in Latehar district and further the data of number of patients of Silicosis & Tuberculosis, due to Stone mining activity are not found.





26. PLANTATION AND GREEN BELT DEVELOPMENT

26.1 Plantation and Green Belt Development in respect of leases already granted in the District;

Green belt along lease boundary and both sides of transportation road shall be developed in almost all the existing leases in the district. Maximum numbers of plants shall be planted in each year around the lease boundary and both sides of transportation road as mentioned in mining plan. Some mine owner also planted a large number of plants outside the lease area to develop green belt in the district. Neem, Sheesham, Aam, Sal, Arjun, Teak, Mahua, Ashoka, Jamun, Pipal, Banyan etc. are some important plants commonly planted in mine site of Latehar district.

It is proposed to have a detailed record of plantation to be kept by the respective owner/agent/manager of the mine every year, which has been planted in the safety zone area and transport route, which is statutorily required. As per the norms of the Forest department, the plantation has to be carried out at the rate of 2500 local plants per hectare and along the road side, at an interval of 2 meters in the zig-zag manner in both sides.

Sl No.	Mines Name	Address of Mines	Status of Mines	Area of Mines (Ha.)	Total Plantation as per Guidelines	No of Plantation at site	Remarks
1	M/s Balram Stone Mines, Pro-Kanhaiya Prasad Singh	Pro-Kanhaiya Prasad Singh, Vill+P.O.-Bariyatu, Dist Latehar	Temp-Non-working	1.153	952		
2	M/s Santosh Construction, Prop-Sri Santosh Kumar Singh	Vill-Kamta, P.O.+P.S.-Chandwa, Dist- Latehar	Working	2.128			
3	Smt. Rita Devi, W/O.- Sri Ajay Kumar Pathak	Vill-Banpur, P.O.+P.S.+Dist-Latehar	Working	0.971			
4	Sri Shatrughan Prasad, S/O-Sri Triveni Sav	Vill-Jalimkhurd, P.O.-Jalim, P.S.- Latehar	Working	1.440			

5	Md Mustafa, S/o- MD Jalil, Vill- Tarwadih	Vill-Tarwadih, Po- Nawagarh, P.S.+Dist- Latehar	Temp- Non- working	2.719			
6	Ashok Prasad, S/o-Sri Shivnath Prasad	Vill+P.O.+P.S.-Manika	Working	2.096			
7	Sri Amit Kumar, S/o-Sri Dinesh Prasad,	Vill+P.O.+P.S.-Bariyatu	Working	1.299			
8	Md Azad, S/o- Saud Ahmed,	Vill-Redma, P.O.- G.L.A. College, Daltonganj, P.S.+ Dist-Daltongaj	Working	1.853			
9	Maa Ugratara Construction, Partner- Sri Shailesh Kumar Singh,	Vill-Komar, PO+P.S.- Balumath	Working	1.464			
10	Sri Rohit Yadav, S/O- Late Nandu Yadav	Vill+P.o.- Nindra, P.S.- Chandwa, Dist- Latehar	Temp- Non- working	1.889			
11	Sri Sanjay Kumar Singh, S/O-Sri Shambhu Singh, partner- Shamshad Ansari, S/O- Late Asim Miyan,	Sri Sanjay Kumar Singh, S/O-Sri Shambhu Singh, Vill- Bhatchatra, P.O.- Besra, P.S. Balumath, partner-Shamshad Ansari, S/O- Late Asim Miyan, Vill- Nawagarhw, P.O.+ P.S. +District- Latehar	Working	1.873			
12	Sri Ajay Kumar Pathak, S/o- Late-Vijay Narayan Pathak,	Vill-Banpur, P.O+P.S.- Latehar, Dist-Latehar	Working	2.452			
13	Sri Umesh Kumar Singh, S/o-Late Ganesh Singh,	Vill-Rampur, P.O.-Bari, P.S.-Chandwa, Dist- Latehar	Temp- Non- working	1.072			
14	Sristi Works Private LTD, Pro-Sri Abhishek Anand, Authorized Sri Rajnish Kumar	Vill-Lakhipur Kolo, P.O.-Fatehpur	Working	1.064			
15	Smt Indu Devi, W/O-Sri Ramchandra Singh	Vill-Mangra, P.O.+P.S.- Barwadih, Dist-Latehar	Temp- Non- working	1.634			



[Handwritten signature]

-4-

16	Bhaskar Kumar, S/o-Prahlad Singh	Vill-Jabra, Post- Barikhap, P.S. - Bariyatu, Dist- Latehar	N.A.	1.116			
17	Lotus Minerals- Partner- Manoj Kumar, and Sri Sanjay Kumar Pandey,	Daltonganj, Palamu	N.A.	2.464			
18	M/s A.K. Construction, Partner 1. A.K. Dubey and 2. A.K. Pandey, Baralota, Daltongunj	Baralota, Daltongunj	N.A.	0.890			
19	Banwar Stone Chips, Partner-1. Shailendra Kumar Mehta, 2. Kumar Vinay, 3. Vikki Kumar	Balumath	N.A.	2.185			
20	Banwar Stone Chips, Partner-1. Shailendra Kumar Mehta, 2. Kumar Vinay, 3. Vikki Kumar	Balumath	N.A.	1.578			
21	M/s Bhardwaj Stone Works, Prop- Shri Ritesh Kumar Bhardwaj	Village-Banalat, P.O.- Chedra, Thana- Balumath, District- Latehar, Jharkhand	N.A.	0.659			



[Handwritten signature]

3

DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



27. ADDITIONAL INFORMATION

27.1 Details of identified Potential Stone Deposits in Latehar District of Jharkhand State:

IDENTIFIED POTENTIAL STONE DEPOSITS				
Sl. No.	Name of the Mineral	Area of Mining Lease to be allotted (Acres)	Address of the Mining Lease	Location of the Mining Lease (Coordinates)
1	2	3	4	5
1	Stone	5.40	Mouza - Banwar P.S. - Balumath Thana No. - 51 Khata No. - 55, 49, 50 & 69 Plot No. - 543, 544, 550, 551, 552(P), 553(P) & 542	23° 52' 23.83" N to 23° 52' 30.70" N & 84° 55' 40.90" E to 84° 55' 50.20" E
2	Stone	3.9	Mouza - Chadra P.S. - Balumath Thana No. - 54 Plot No. - 1397, 1399, 1400, 1401 & 1402	23° 52' 03.43" N to 23° 52' 03.78" N & 84° 55' 22.36" E to 84° 55' 24.98" E
3	Stone	5.27	Mouza - Banwar P.S. - Balumath Thana No. - 51 Khata No. - 34 & 49 Plot No. - 512, 512/655, 527	23° 52' 32.64" N to 23° 52' 36.57" N & 84° 55' 49.13" E to 84° 55' 55.21" E
4	Stone		Circle - Manika Mouza - Palheya P.S. - Khata No. - Plot No. -	23° 53' 52" N to 23° 54' 01" N & 84° 25' 13" E to 84° 25' 27" E
5	Stone		Circle - Manika Mouza - Dundu 1 P.S. - Khata No. - Plot No. - 1596	23° 49' 09" N to 23° 49' 16" N & 84° 25' 01" E to 84° 25' 09" E
6	Stone		Circle - Manika Mouza - Dundu 2 P.S. - Khata No. - Plot No. - 2000	23° 49' 33" N to 23° 49' 39" N & 84° 25' 32" E to 84° 25' 40" E
7	Stone		Circle - Chandwa Mouza - Ganiyari P.S. - Khata No. - Plot No. -	23° 37' 07.1" N to 23° 37' 12.1" N & 84° 49' 12.7" E to 84° 49' 18.2" E
8	Stone		Circle - Chandwa Mouza - Loharsi	23° 38' 37.26" N to 23° 38' 43.49" N &



DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR LATEHAR DISTRICT OF JHARKHAND



			P.S. - Khata No. - Plot No. -	84° 49' 02.09" E 84° 49' 15.36" E
9	Stone		Circle - Chandwa Mouza - Malhan P.S. - Khata No. - Plot No. -	23° 38' 19.77" N to 23° 38' 30.69" N & 84° 49' 06.31" E to 84° 49' 12.05" E
10	Stone		Circle - Barwadih Mouza - Kusahabayan P.S. - Khata No. - Plot No. -	23° 55' 01.6" N to 23° 55' 12.8" N & 84° 11' 09.3" E to 84° 11' 21.3" E
11	Stone	4.87	Circle - Manika Mouza - Betla P.S. - Manika Khata No. - 92, 72, 31 & 76 Plot No. - 543, 544, 545, 539 & 537	
12	Stone	4.91	Circle - Manika Mouza - Betla P.S. - Manika Khata No. - 35, 117, 107, 104 & 14 Plot No. - 335, 336, 341, 338, 339 367 & 340	
13	Stone	2.27	Circle - Chandwa Mouza - Nidra P.S. - Chandwa Khata No. - 98 Plot No. - 136	

Note: Any other area which may be found feasible for Stone mining shall be included in the DSR prospectively.

References:

- www.Latehar.nic.in
- District Mining Office – Latehar
- District Forest Office – Latehar
- CGWB Report of Latehar
- India State of Forest Report, 2021
- Geology of Bihar and Jharkhand by T. M. Mahadevan
- National Institute of Disaster Management Report
- Report of Central Ground Water Board, Ministry of Water Resources – State Unit Office,
- JSAC, Deptt. of Mines & Geology, Govt. of Jharkhand
- <http://www.jharkhandminerals.gov.in>
- India State of Forest Report, 2021
- <https://en.climate-data.org/asia/india/jharkhand/Latehar-969182/>
- <https://en.wikipedia.org/wiki/Latehar>
- District Statistical Office, Latehar
- District Irrigation Plan – Latehar, Govt. of Jharkhand
- https://sameti.org/Soil_Inventory/LateharSoil_Analysis.pdf
- JSMDC site
- census2021.co.in
- National Informatics Centre



(Signature)

Application Individual (499 KB) Bio-data (174 KB) Index Company (318 KB) Index Firm (249 KB) Index HUF (129 KB) Index Individual (108 KB) View (257 KB)				
Notice for PM National Apprenticeship Fair on Dated- 18.08.2025 in the campus of B.S. Degree College Latehar.	13/08/2025	18/08/2025		
District Survey Report of Minor Minerals (Stones) other than Sand Mining or River-Bed Mining of Latehar District.	02/07/2025	31/07/2025		
General Notice for settlement of various Salwats under Zila Parishad, Latehar.	09/07/2025	30/07/2025		View (310 KB)



1