



## **A Geographical Study of Mineral Production in Eco-Sensitive Area in Kankavali Taluka, Maharashtra**

**Dr. Rajekhan Shikalgar**

Associate Professor,  
Rajaram College, Kolhapur.

**&**

**Priyanka Patil**

Research Student,  
Shivaji University, Kolhapur.

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### **Abstract:**

The Western Ghats is an important geological landmass on the west coast and a treasure trove of biodiversity. There is a need to conserve the unique biodiversity of the Western Ghats. Approximately 37% of the area in the Western Ghats is environmentally sensitive. There is a complete ban on mining, quarrying and sand mining in ecologically sensitive areas. No new thermal power projects and expansion of existing projects are allowed. All new 'red' category industries or expansion of existing industries are banned. The objective of this study is to assess the mining production in ecological sensitive villages in Kankavali taluka. The present research paper is based on secondary data. Information on mining permitted in Kankavali taluka has been obtained from Sub-divisional office, Kankavali and Tehsildar office, Kankavali. Kankavali taluka has silica sand, blackstone and laterite mines and large-scale mining. Eco-Sensitive area covers 39 villages in Kankavali taluka. In twenty of these eco-sensitive villages, laterite and blackstone are not allowed to be mined at present, but large-scale mining has already taken place.

**Keywords: Mining, Mineral, Eco-Sensitive Area.**

### **INTRODUCTION:**

Mineral reserves are a resource and useful for human beings. Minerals are unconventional resources and are used by humans for energy needs, survival and for life and material things. (Khoshoo) Mining is the extraction of valuable minerals or other geological important mineral from an ore body, vein or seam. The term also includes removal of soil. (Langer)

The Northeastern Plateau, the Southwest Plateau and the North-Western Plateau are the three major mineral belts in India. Out of the total area of Maharashtra, 19%

area is potential mineral holding area. Coal, Iron ore, Manganese, Limestone, Bauxite, Dolomite, Silica sand are the important minerals found in the State of Maharashtra. The other minerals occurring are Barytes, Limonite, Clay, Feldspar, Copper, Chromite, Graphite, Fluorite, Tungsten etc. The study area is famous for iron ore, silica sand, laterite and other minerals. (Khoshoo)

For the modern world, mining provides the materials needed to maintain a quality of life. But mining has a significant impact on the environment as well as the socio-economic status of the local people. (Vagolikar) Mining affects topography which leads to changes in topographic gradient, air quality, and noise level as well as groundwater quality in the mining area. (Asare ) Also, mining has an impact on the basic infrastructure such as roads due to heavy transport. Also mining in wildlife corridors can create a problem for wildlife migration. (Das)

The Western Ghats is an important geological landmass on the west coast and a treasure trove of biodiversity. The Western Ghats is the epicenter of many species includes flowering plants, endemic fish, amphibians, reptiles, birds, mammals, invertebrates as well as endemic species. The Western Ghats support not only the rich biodiversity but also the population. Therefore, there is a need to conserve the unique biodiversity of the Western Ghats. Approximately 37% of the area in the Western Ghats is environmentally sensitive. The 7340 sq. km. area of Western Ghats in the State of Maharashtra is Ecologically Sensitive. There is a complete ban on mining, quarrying and sand mining in ecologically sensitive areas. No new thermal power projects and expansion of existing projects are allowed. All new 'red' category industries or expansion of existing industries are banned. Eco-Sensitive area covers 39 villages in Kankavali taluka. In twenty of these eco-sensitive villages, laterite and blackstone are not allowed to be mined at present, but large scale mining has already taken place. Therefore, it is necessary to study the total amount of mining done in Ecological Sensitive area of Kankavali taluka. (The Gazette of India)

#### **OBJECTIVE:**

- To assess the mineral production in ecological sensitive areas in Kankavali taluka

#### **DATA SOURCES AND METHODOLOGY:**

The present research paper is based on secondary data. Mining permission is given by Sub-divisional office and Tehsildar office for mining in Kankavali taluka. From April 2006 to March 2021, information has been obtained from the Sub-Divisional Office and Tehsildar Office about the persons who have been given permission for mining. Information on Ecological Sensitive Villages is obtained from The Gazette of India. The collected information is finally classified, tabulated and applying cartographic techniques in GIS domain.

### STUDY AREA:

Kankavli taluka is situated in Konkan region of Sindhudurg District in Maharashtra. The Kankavli taluka is located 16 degree 31' North latitude and 73 degree 38' to 73 degree 55' East longitude. The total area of Kankavli is 784 sq.km. The Kankavli taluka is surrounded by the Sahyadri Hill ranges to the east, Malvan and Devgad taluka on the west, the Vaibhavawadi taluka on the north, Kudal taluka on the south. There are 105 villages and 2 towns in Kankavli taluka. As per 2011 census, the total population of taluka is 1,35,295. Kankavli's climate is a blend of coastal and inland climate of Maharashtra. The predominant soil in the taluka is laterite and extensive spreads of laterites throughout the taluka. (District census handbook, 2011)

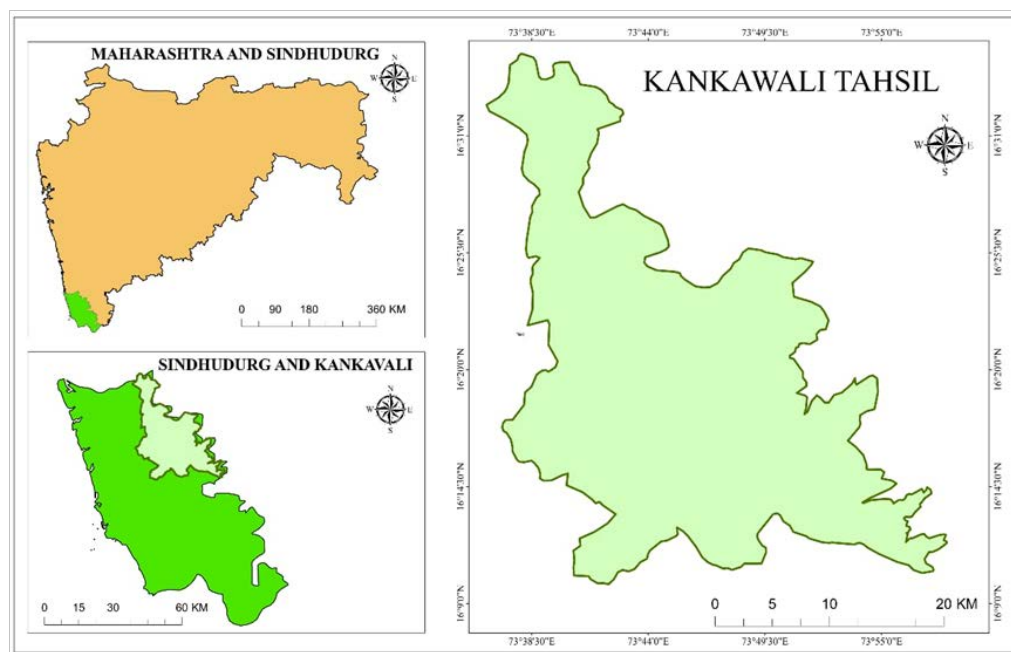


Figure 1 Study Area

**RESULT AND DISCUSSION:****I) Number of Mines:**

The total number of mines allowed in Kankavali taluka is 1157. There are 11 long-term mines, Silica Sand and Black Stone. The number of mines allowed for a period of less than 1 month is highest (66.46%) among the short term mines. The number of mines permitted for a period of 1 to 3 months is 17.63%. The number of mines allowed to excavate laterite rock is 711 and the number of black rock mines is 442. (Table 1)

Duration / Mineral	Short Duration				Long Duration			Total
	Below 1Month	1 to 3 Months	3 to 6 Months	6 to 12 Months	05 Years	10 Years	20 Years	
Silica sand	-	-	-	-	01	02	01	04 (0.34)
Black Stone	315	83	27	10	07	-	-	442 (38.20)
Laterite	454	121	80	56	-	-	-	711 (61.45)
Total	769 (66.46)	204 (17.63)	107 (9.24)	66 (5.70)	8 (0.69)	2 (0.17)	1 (0.08)	1157 (100)

*Source: Compiled by author*  
N.A. – Not Available  
Note - Figures in brackets show percentages

**II) Mineral Production:**

A total of 2,77,600 brasses have been permitted for laterite and Blackstone mining in Kankavali taluka. Of these, 1,85,625 (66.86%) are allowed to produce laterite and 91,975 (33.13%) are allowed to produce Blackstone. (Table 2)

Laterite is mined in 25 villages of Main, Osargaon, Darum, Phondaghat, Pise Kamate, Ulhasnagar, Damare, Humarat, Karanje, Kasavan, Shivdav, Tondavali, Bavshi, BelneKh, Nandgaon, Satral, Humbarne, Bordave, Asalade in Kankavli taluka. (Figure 2) Kankavali taluka has a total of 185625 brass mines of laterite out of which the highest mining is in Main village which is 42.82%. Osargaon, Darum villages have excavated 22.89%.

Blackstone is mined in 35 villages of Shivdav, Ulhasnagar, Bordave, Kasavan, Halaval, Digavale, Karanje, Darum, Savdav, Pimpaleshwar Nagar, Osargaon, Kondye, Dariste, HarkulKh., Wagade, Ghonsari, Phondaghat, Asalade, Humarat, Kalasuli,

Avaleshwar, Main, Nadgive, Tarandale, Tondavali, Bavshi, Damare, Harkul Bk., Janavali, Kurangavne, Shiraval, Wargaon, Nandgaon, Ozaram, Koloshi in Kankavli taluka. (Figure 3) Out of total 91,975 brass mines of Blackstone in Kankavli taluka, the highest mining is in Shivdav village which is 29.24%. Mining is 25.11% in Ulhasnagar, Bordave and 17.64% in Kasavan, Halaval.

Duration / Mineral	Short Duration				Long Duration			Total
	Below 1Month	1 to 3 Months	3 to 6 Months	6 to 12 Months	5 Years	10 Years	20 Years	
Silica sand	-	-	-	-	N.A.	N.A.	N.A.	-
Black Stone	35325	27050	15300	14300	N.A.	N.A.	N.A.	91975 (33.13)
Laterite	49425	36050	43350	56800	N.A.	N.A.	N.A.	185625 (66.86)
Total	84750	63100	58650	71100	-	-	-	277600

*Source: Compiled by author*  
N.A. – Not Available  
Note - Figures in brackets show percentages

### III) Mineral Production in Ecological Sensitive Area:

Notification of Ecological Sensitive Area has been published in The Gazette of India on October 3, 2018. Accordingly, Ecological Sensitive area includes 39 villages of Waingani, Sherpe, Jambhalnagar, Darum, Dhareshwar, Ozaram, Nagsawantwadi, Ghonsari, Koloshi, Phondaghat, Damare, Ayanal, Uttar Bajarpeth, Kondye, Harkul Kh., Savdav, Main, Bharni, Kumbhavade, Tarandale, Gandhinagar, Rameshwarnagar, Bhiravande, Humbarane, PiseKamate, Varavade, Natal, Dariste, Digavale, Shiraval, Ranjangaon, Kasavan, Pimpalgaon, Osargaon, Bhairavgaon, Yevteshwargaon, Nardave, Jambhalgaon, Kalasuli in Kankavli taluka. (Figure 4)

Although mining is not permitted at present in 20 Ecological Sensitive Villages, Ayanal, Damare, Dariste, Darum, Digavale, Ghonsari, HarkulKh., Humbarane, Kalasuli, Kasavan, Koloshi, Kondye, Main, Osargaon, Ozaram, Phondaghat, PiseKamate, Savdav, Shiraval, Tarandale in Kankavli taluka, mining has been allowed earlier. (Figure 5)

Mining for Laterite and Blackstone in Ecological Sensitive area of Kankavli taluka has been allowed for 1,47,600 Brass (79.51%) and 26,225 Brass (28.51%)

respectively. There are also Blackstone and Laterite mines in 17 (48%) and 11 (44%) villages in the Ecological Sensitive Area of the Kankavali taluka respectively. There are also Blackstone and Laterite mines in Damare, Darum, Kasavan, Main, Osargaon, Phondaghat, Savdav, Tarandale in Ecological Sensitive Area. (Table 3)

Villages	Blackstone		Laterite		Silica Sand	
	Production	Villages	Production	Villages	Production	Villages
EcoSensetive Villages	26225 (28.51)	17 (48.57)	147600 (79.51)	11 (44.00)	NA	0 (0.0)
Total Mining Villages	91975	35	185625	25	NA	5

*Source: Compiled by author*  
 N.A. – Not Available  
 Note - Figures in brackets show percentages

In Eco-Sensitive Villages, Kasavan was allowed to mine the highest amount of 8625 brass (9.37%) of Blackstone and Main had the highest permission of 79,500 brass (42.82%) of laterite. Apart from this, mining was allowed for Blackstone in Harkul Kh., Dariste, Kondye, Osargaon, Darum, Savdav, Digavale and laterite mining in Eco-Sensitive Villages of Humbarane, Savdav, Ayanal, Tarandale, Osargaon, Darum.

#### **Conclusion and suggestion:**

- Kankavali taluka has mineral deposits like blackstone, laterite and silica sand. Most of them are of laterite mines.
- The villages of Main, Osargaon and Darum have the highest laterite production and Shivdav, Ulhasnagar and Bordave have the highest production of blackstone.
- Thirty-nine villages in Kankavli taluka consist of Eco-Sensitive area. In twenty of these eco-sensitive villages, laterite and Blackstone are not allowed to be mined at present, but large-scale mining has already taken place.
- In Kankavali taluka only silica sand mines are allowed for long term mining and none of these mines come under Eco-Sensitive Villages.
- The village of Kasavan in the eco-sensitive area has the highest blackstone mining and Main has the highest laterite mining.

- Large-scale mining has taken place in the eco-sensitive area, which is likely to cause significant damage to biodiversity. Therefore, environmental impact assessment of the mining area in the eco-sensitive area is required.

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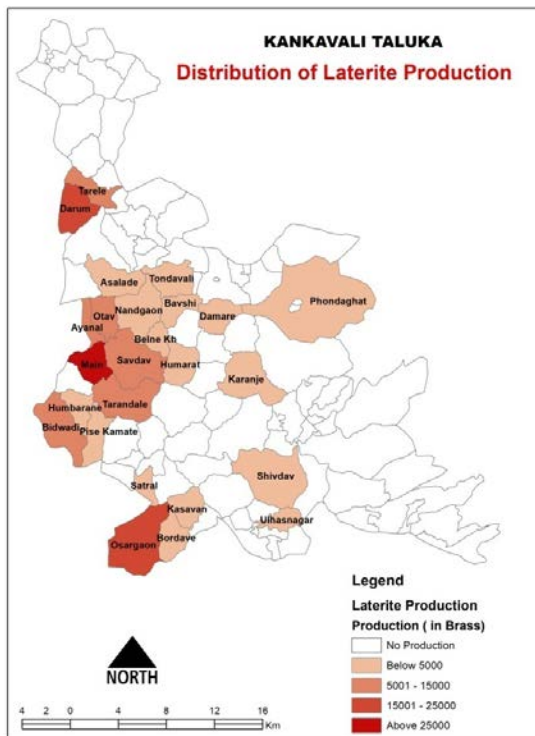


Figure 2

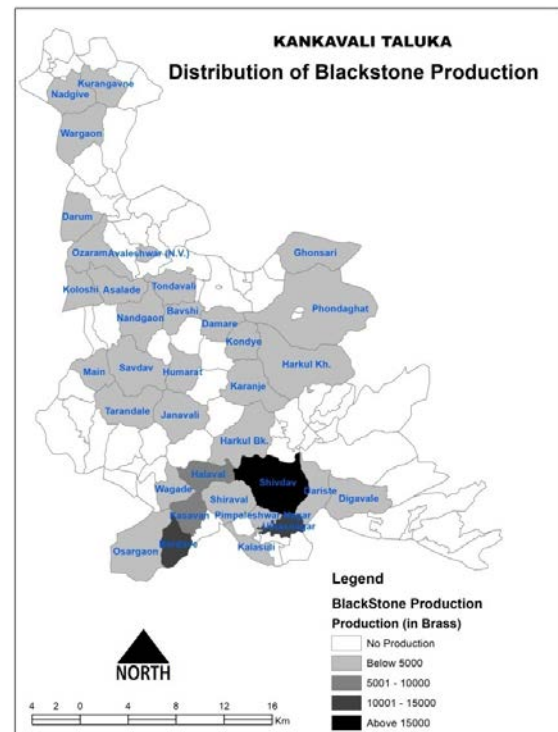


Figure 3

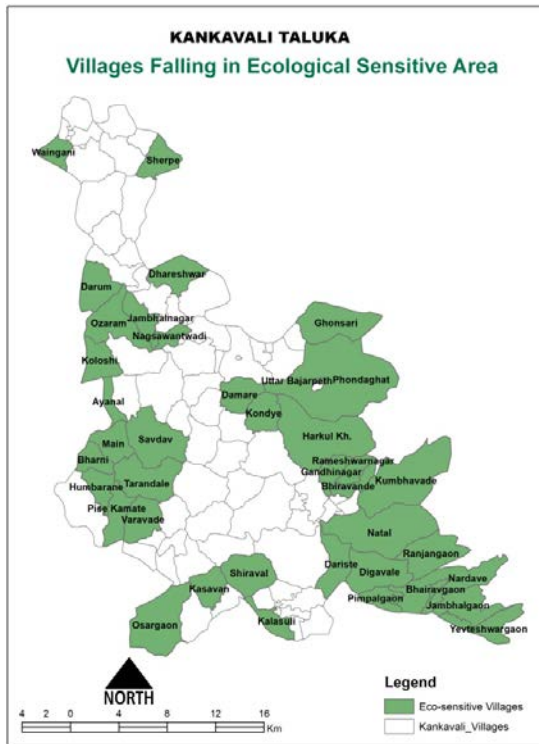


Figure 4



Figure 5