



राज्य स्तरीय पर्यावरण समाघात निर्धारण प्राधिकरण  
(पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार)



पर्यावरण नियोजन एवं समन्वय संगठन  
पर्यावरण परिसर, ई-5, अरेरा कॉलोनी  
भोपाल-462016 (म.प्र.)

वेबसाइट- <http://www.mpseiaa.nic.in>

दूरभाष नं. - 0755-2466970, 2466859

No: 736 / SEIAA/2023

Date: 23/6/23

प्रति,

कलेक्टर  
जिला - मण्डला (म.प्र.)

विषय: संशोधित जिला सर्वेक्षण रिपोर्ट जिला- मण्डला (रेत खनिज)।

संदर्भ: आपका पत्र क्र. 987 दिनांक 07.06.2023


राज्य स्तरीय समाघात निर्धारण प्राधिकरण की 793<sup>वीं</sup> बैठक दिनांक 21.06.2023 में निम्नानुसार निर्णय लिया गया :-

राज्य स्तरीय विशेषज्ञ मूल्यांकन समिति (SEAC) की 650<sup>वीं</sup> बैठक दिनांक 08.06.2023 में मण्डला जिले की संशोधित जिला सर्वेक्षण रिपोर्ट (रेत खनिज) में निम्नानुसार सुझाव सहित अनुशंसा की गई है :

.....अतः समिति द्वारा सुझाई गई उपरोक्त अनुशंसाओं के साथ संशोधित जिला सर्वेक्षण रिपोर्ट जिला- मण्डला (रेत खनिज) की जिला सर्वेक्षण रिपोर्ट (रेत खनिज) अनुमोदन हेतु विचारार्थ एवं आगामी कार्यवाही हेतु राज्य स्तरीय पर्यावरण समाघात निर्धारण प्राधिकरण की ओर प्रेषित किया जाये।

राज्य स्तरीय समाघात निर्धारण प्राधिकरण (SEIAA) द्वारा विस्तृत चर्चा एवं विचार विमर्श उपरांत SEAC की 650<sup>वीं</sup> बैठक दिनांक 08.06.2023 के अनुमोदन प्रस्ताव को मान्य करते हुए मण्डला जिले की संशोधित जिला सर्वेक्षण रिपोर्ट (रेत खनिज) का अनुमोदन SEAC द्वारा सुझाई गई उपरोक्त अनुशंसाओं के साथ किया जाता है। तदनुसार जिला कलेक्टर, मण्डला को जिला सर्वेक्षण रिपोर्ट जिला पोर्टल पर अपलोड करवाये जाने एवं संचालक, भौमिकी तथा खनिकर्म को सूचित किया जाये।

उपरोक्त निर्णयानुसार कृपया संशोधित जिला सर्वेक्षण रिपोर्ट जिला- मण्डला (रेत खनिज) जिला पोर्टल पर अपलोड करने का कष्ट करें। सुलभ संदर्भ हेतु अनुमोदित नवीन जिला सर्वेक्षण रिपोर्ट की साफ्टकॉपी ई-मेल के माध्यम से आपकी ओर प्रेषित है।

  
(मुजीबुर्रहमान खान)  
सदस्य सचिव

क्र. / SEIAA / 2023 भोपाल दिनांक

प्रतिलिपि :-

1. प्रमुख सचिव, म.प्र. शासन, पर्यावरण विभाग, मंत्रालय, भोपाल की ओर कृपया सूचनार्थ ।
2. संचालक, प्रशासन/ तकनीकी, संचालनालय, भौमिकी तथा खनिकर्म, 29-ए, खनिज भवन, अरेरा हिल्स, भोपाल (म.प्र.)
3. सदस्य सचिव, राज्य स्तरीय विशेषज्ञ मूल्यांकन समिति (SEAC), अनुसंधान एवं विकास विंग, म.प्र. प्रदूषण नियंत्रण बोर्ड, पर्यावरण परिसर, ई-5, अरेरा कॉलोनी, भोपाल (म.प्र.) - 462016 की ओर सूचनार्थ ।

सदस्य सचिव





राज्य स्तरीय पर्यावरण समाघात निर्धारण प्राधिकरण  
(पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार)



पर्यावरण नियोजन एवं समन्वय संगठन  
पर्यावरण परिसर, ई-5, अरेरा कॉलोनी  
भोपाल-462016 (म.प्र.)

वेबसाइट- <http://www.mpseiaa.nic.in>

दूरभाष नं. - 0755-2466970, 2466859

No: / SEIAA/2023

Date:

प्रति,

कलेक्टर

जिला - मण्डला (म.प्र.)

विषय: संशोधित जिला सर्वेक्षण रिपोर्ट जिला- मण्डला (रित खनिज)।

संदर्भ: आपका पत्र क्र. 987 दिनांक 07.06.2023

राज्य स्तरीय समाघात निर्धारण प्राधिकरण की 793<sup>वीं</sup> बैठक दिनांक 21.06.2023 में निम्नानुसार निर्णय लिया गया :-

राज्य स्तरीय विशेषज्ञ मूल्यांकन समिति (SEAC) की 650<sup>वीं</sup> बैठक दिनांक 08.06.2023 में मण्डला जिले की संशोधित जिला सर्वेक्षण रिपोर्ट (रित खनिज) में निम्नानुसार सुझाव सहित अनुशंसा की गई है :

.....अतः समिति द्वारा सुझाई गई उपरोक्त अनुशंसाओं के साथ संशोधित जिला सर्वेक्षण रिपोर्ट जिला- मण्डला (रित खनिज) की जिला सर्वेक्षण रिपोर्ट (रित खनिज) अनुमोदन हेतु विचारार्थ एवं आगामी कार्यवाही हेतु राज्य स्तरीय पर्यावरण समाघात निर्धारण प्राधिकरण की ओर प्रेषित किया जाये।

राज्य स्तरीय समाघात निर्धारण प्राधिकरण (SEIAA) द्वारा विस्तृत चर्चा एवं विचार विमर्श उपरांत SEAC की 650<sup>वीं</sup> बैठक दिनांक 08.06.2023 के अनुमोदन प्रस्ताव को मान्य करते हुए मण्डला जिले की संशोधित जिला सर्वेक्षण रिपोर्ट (रित खनिज) का अनुमोदन SEAC द्वारा सुझाई गई उपरोक्त अनुशंसाओं के साथ किया जाता है। तदनुसार जिला कलेक्टर, मण्डला को जिला सर्वेक्षण रिपोर्ट जिला पोर्टल पर अपलोड करवाये जाने एवं संचालक, भौमिकी तथा खनिकर्म को सूचित किया जाये।

उपरोक्त निर्णयानुसार कृपया संशोधित जिला सर्वेक्षण रिपोर्ट जिला- मण्डला (रित खनिज) जिला पोर्टल पर अपलोड करने का कष्ट करें। सुलभ संदर्भ हेतु अनुमोदित नवीन जिला सर्वेक्षण रिपोर्ट की साफ्टकॉपी ई-मेल के माध्यम से आपकी ओर प्रेषित है।

(मुजीबुर्रहमान खान)

सदस्य सचिव

क्र. 736

/SEIAA/2023 भोपाल

दिनांक 23/6/23

प्रतिलिपि :-

1. प्रमुख सचिव, म.प्र. शासन, पर्यावरण विभाग, मंत्रालय, भोपाल की ओर कृपया सूचनार्थ।
2. संचालक, प्रशासन/तकनीकी, संचालनालय, भौमिकी तथा खनिकर्म, 29-ए, खनिज भवन, अरेरा हिल्स, भोपाल (म.प्र.)
3. सदस्य सचिव, राज्य स्तरीय विशेषज्ञ मूल्यांकन समिति (SEAC), अनुसंधान एवं विकास विंग, म.प्र. प्रदूषण नियंत्रण बोर्ड, पर्यावरण परिसर, ई-5, अरेरा कॉलोनी, भोपाल (म.प्र.) - 462016 की ओर सूचनार्थ।

  
सदस्य सचिव

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final

कार्यालय कलेक्टर (खनिज शाखा) मण्डला(म.प्र.)

क्रमांक/खनिज 01/2023/987  
प्रति.

मण्डला, दिनांक 07/06/2023

सदस्य सचिव,  
राज्य स्तरीय विशेषज्ञ मूल्यांकन समिति  
अनुरांधान एवं विकास विंग  
म. प्र. प्रदूषण नियंत्रण बोर्ड, पर्यावरण परिसर,  
ई-5 अरेरा कालोनी, भोपाल (म.प्र.)

विषय :- खनिज रेत की संशोधित जिला सर्वेक्षण रिपोर्ट (डी.एस.आर.) के अनुमोदन बाबत।  
संदर्भ:- राज्य स्तरीय विशेषज्ञ मूल्यांकन समिति की 649वीं बैठक दिनांक 07.06.2023


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उपरोक्त विषयांतर्गत संदर्भित राज्य स्तरीय विशेषज्ञ समिति की 649वीं बैठक दिनांक 07.06.2023 में जिला मण्डला की संशोधित जिला सर्वेक्षण रिपोर्ट (खनिज रेत) परीक्षण हेतु प्रस्तुत की गई थी जिसमें पूर्व की अनुमोदित एवं वर्तमान में प्रस्तुत जिला सर्वेक्षण रिपोर्ट (खनिज रेत) में कुछ खदानों के रकवे में परिवर्तन होने एवं मात्रा में अंतर परिलक्षित होने से आवश्यक सुधार कर प्रस्तुत किए जाने हेतु निर्देशित किया गया है।

उक्त के संबंध में निवेदन है कि मण्डला जिले की संशोधित जिला सर्वेक्षण रिपोर्ट (खनिज रेत) सरस्टेलेबल एण्ड माइनिंग मैनेजमेंट गाईड लाईन 2016 एवं इनफोर्समेंट मॉनिटरिंग फॉर सेण्ड माइनिंग 2020 गाईडलाइन के तहत तैयार की गई है। पूर्व अनुमोदित जिला सर्वेक्षण रिपोर्ट में उल्लेखित 06 रेत खदानों के रकवा में गाईडलाईन अनुसार पुल से प्रतिबंधित दूरियां छोड़ने एवं वर्ष भर जल भराव रहने वाले क्षेत्र को पृथक करने पश्चात रकवा संशोधन किया गया है, उक्त संशोधित खदानों में विगत 05 वर्षों से रेत खनन नहीं होने से तथा मानसून सत्र में रेत का निरंतर जमाव होने से खनन योग्य रेत की गहराई में वृद्धि होने से रिप्लेनिसमेंट स्टडी 2022 के अनुसार उपलब्ध रेत की मात्रा में वृद्धि हुई है। उक्त सभी 06 रेत खदानों में रकवा परिवर्तित होने से अक्षांश देशांश में भी परिवर्तन किया गया है। पूर्व अनुमोदित डी.एस.आर. एवं संशोधित डी.एस.आर. में किये गये परिवर्तन (रकवा, गहराई एवं मात्रा) का तुलनात्मक विवरण, उक्त परिवर्तन का कारण एवं संशोधित आदेशों की प्रतियों को भी सम्मिलित किया गया है। खदानों के भौतिक सत्यापन उपरांत जिला स्तरीय समिति द्वारा संशोधित जिला सर्वेक्षण रिपोर्ट (डी.एस.आर.) तैयार कर अनुमोदन प्राप्त किया गया है।


कृपया उक्त बैठक में दिये गये निर्देशानुसार संशोधित जिला सर्वेक्षण रिपोर्ट (डी.एस.आर.) में आवश्यक सुधार कर अनुमोदन हेतु प्रस्तुत है। यदि प्रस्तुत डी.एस.आर. में पोर्टल पर अपलोड होने के दिनांक से 21 दिवस के भीतर यदि कोई दावा आपत्ति/सुझाव प्राप्त होता है तो उन सुझावों का तदनुसार निराकरण किया जाकर पुनः डी.एस.आर. संशोधित कर अनुमोदन हेतु प्रस्तुत की जावेगी।

संलग्न:- संशोधित डीएसआर, संशोधित आदेशों की प्रति  
तुलनात्मक विवरण का चार्ट

  
07/06/23  
प्रभारी अधिकारी (खनिज)  
मण्डला  
मण्डला, दिनांक /06/2023

क्रमांक/खनिज-1-2023/987A  
प्रतिलिपि:-

सदस्य सचिव, म.प्र. राज्य स्तरीय पर्यावरण समाघात निर्धारण प्राधिकरण, (SEIAA), एफको पर्यावरण परिसर,  
ई-5 अरेरा कालोनी, भोपाल (म.प्र.) की ओर सूचनार्थ।

  
प्रभारी अधिकारी (खनिज)  
मण्डला

कार्यालय कलेक्टर (खनिज शाखा) मण्डला (म.प्र.)

modqmmad@mp.gov.in

कर्मचारी/खनिज 01/05/2023, 03:40  
प्रति,

मण्डला दिनांक 01/05/2023

सदरय सचिव

विशेषज्ञ मूल्यांकन समिति (SEAC), अनुराधान एवं विकास विंग

म. प्र. प्रदूषण नियंत्रण बोर्ड, पर्यावरण परिसर,

ई-5 अरेरा कालोनी, भोपाल (म.प्र.)

विषय:-

अनुमोदित जिला सर्वेक्षण रिपोर्ट (रेत खनिज) में आवश्यक संशोधन उपरांत प्रस्तुत किए जाने बाबत।

संदर्भ:-

संचालक, प्रशासन एवं खनिकर्म भोपाल का पत्र क्र. 5175, दिनांक 28.04.2023 एवं आपका पत्र क्र. 209, दिनांक 21.04.2023

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उपरोक्त विषयांकित संदर्भ में लेख है कि राज्य स्तरीय पर्यावरण समाघात निर्धारण प्राधिकरण म.प्र. द्वारा पत्र क्र. 1886 दिनांक 20/10/2022 से SEAC की 594वीं बैठक दिनांक 21.09.2022 में की गई अनुसंधान एवं SEIAA की 751वीं बैठक दिनांक 14.10.2022 में लिए गए निर्णय अनुसार मण्डला जिले की रेत खनिज की जिला सर्वेक्षण रिपोर्ट अनुमोदित की गई है। इन्फोर्समेंट एंड मॉनिटरिंग गार्डिलाइन फॉर सैंड माइनिंग 2020 में विहित प्रावधानों के अनुसार में जिला स्थित निम्नानुसार 6 रेत खदानों के रकबे एवं अक्षांश-प्रासा में परिवर्तन हुआ है -

क्र.	खदान का नाम	खसरा न.	रकबा	संशोधित रकबा	जी.पी.एस. कार्डिनेट्स
1	शिलगौ न. 1	01	8.00	2.40	(1) 22°30'21.18"N 80°22'34.20"E (2) 22°30'14.60"N 80°22'15.63"E (3) 22°30'11.93"N 80°22'12.88"E (4) 22°30'22.25"N 80°22'16.03"E
2	उरका	969	5.20	2.40	(1) 22°30'21.17"N 80°22'15.19"E (2) 22°30'13.13"N 80°22'12.26"E (3) 22°30'13.77"N 80°22'09.22"E (4) 22°30'21.34"N 80°22'13.00"E (5) 22°30'21.68"N 80°22'11.87"E (6) 22°30'22.19"N 80°22'12.16"E
3	ठिकरखारा	298/1	6.00	1.00	(1) 22°31'56.47"N 80°23'13.69"E (2) 22°31'52.41"N 80°23'14.43"E (3) 22°31'52.01"N 80°23'11.71"E (4) 22°31'53.94"N 80°23'11.40"E (5) 22°31'55.25"N 80°23'11.81"E (6) 22°31'56.31"N 80°23'11.60"E
4	हिरदनगर	220	8.00	1.50	(1) 22°32'02.88"N 80°23'15.78"E (2) 22°32'00.14"N 80°23'16.92"E (3) 22°32'00.66"N 80°23'16.58"E (4) 22°32'00.29"N 80°23'14.69"E (5) 22°32'02.74"N 80°23'12.94"E
5	भगवत	412	5.10	2.00	(1) 22°32'43.67"N 80°23'18.62"E (2) 22°32'36.62"N 80°23'19.14"E (3) 22°32'44.25"N 80°23'14.80"E (4) 22°32'49.73"N 80°23'13.73"E
6	भगवत	325	6.00	1.00	(1) 22°32'30.48"N 80°23'10.69"E (2) 22°32'35.82"N 80°23'13.20"E (3) 22°32'35.60"N 80°23'13.37"E (4) 22°32'38.14"N 80°23'12.99"E

इसके अतिरिक्त निम्नानुसार 02 खदानों में इन्फोर्समेंट एंड मॉनिटरिंग गार्डिलाइन फॉर सैंड माइनिंग 2020 में विहित प्रावधानों के कारण खनन योग्य क्षेत्र उपलब्ध नहीं हो रहा है -

स.क्र.	खदान का नाम	खसरा न.	रकबा	संशोधित रकबा	टिप्पणी
1	दमहनी न. 04	670	2.023	0.00	शायद स्वीकृत खदान के समीप मुख्य पुल 1 कि मी. की पारिवी के भीतर स्थित होने से खनन योग्य क्षेत्र उपलब्ध नहीं होता है।
2	भडिया	01	1.44	0.00	

उक्तानुसार परिवर्तनों को जिला सर्वेक्षण रिपोर्ट में समावेश कर संशोधित किया गया है। उक्त संशोधित जिला सर्वेक्षण रिपोर्ट (District Survey Report) (रेत खनिज) को नगरीय समिति द्वारा अनुमोदन हेतु आगम कार्यवाही हेतु सार्वजनिक से अनुसंधान की गई है। इसके अतिरिक्त संशोधित जिला सर्वेक्षण रिपोर्ट

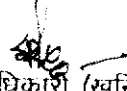


(रित खनिज) को आम जनो के दावा/आपत्ति/सुझाव हेतु जिले के पोर्टल पर भी अपलोड कर दिया गया है। शासन स्तर से शीघ्र ही रित खनिजों को आगामी अवधि हेतु निविदा कर कार्यवाही की जानी है, अतः कृपया उक्त संशोधित जिला सर्वेक्षण रिपोर्ट को अनुमोदित किए जाने का अनुरोध है।

यदि आम जनो के दावा/आपत्ति/सुझाव समय सीमा में प्राप्त होते ह, ऐसी स्थिति में प्राप्ता दावा/आपत्ति/सुझाव का नियमानुसार निराकरण कर जिला सर्वेक्षण रिपोर्ट (रित खनिज) में समावेश कर जिला सर्वेक्षण रिपोर्ट (रित खनिज) पुन अनुमोदन हेतु प्रेषित की जावेगी।

अतः संशोधित जिला सर्वेक्षण रिपोर्ट (रित खनिज) अनुमोदन हेतु आपकी ओर सादर प्रेषित है।


संलग्न:- संशोधित जिला सर्वेक्षण रिपोर्ट (रित खनिज)

  
प्रभारी अधिकारी (खनिज)  
मण्डला

मण्डला, दिनांक 01/08/2023

सू.क्र./संशोधित खनिज 01/2023  
प्रतिलिपि,

1. सादरस्य सचिव, म.प्र. राज्य स्तरीय पर्यावरण संसाधन निर्धारण प्राधिकरण, (SI IAA) एफको, पर्यावरण परिसर, ई-5 अरसा कालोनी, भोपाल (म.प्र.) की ओर सूचनाार्थ।
2. सहायक महोदय, प्रशासन एवं खनिकर्म, 29 ए अरसा हिल्स, खनिज भवन भोपाल (म.प्र.) की ओर सूचनाार्थ।

  
प्रभारी अधिकारी (खनिज)  
मण्डला



**संशोधित जिला सर्वेक्षण रिपोर्ट (रेत खनिज) की अनुशंसा हेतु आयोजित बैठक का कार्यवाही विवरण**


राज्य स्तरीय पर्यावरण समाघात निर्धारण प्राधिकरण म.प्र. द्वारा पत्र क्र. 1886 दिनांक 20/10/2022 से SEAC की 594वीं बैठक दिनांक 21.09.2022 में की गई अनुशंसा एवं SEIAA की 751वीं बैठक दिनांक 14.10.2022 में लिए गए निर्णय अनुसार मण्डला जिले की रेत खनिज की जिला सर्वेक्षण रिपोर्ट अनुमोदित की गई है। इन्फोर्समेंट एंड मानिट्रिंग गाईडलाइन फार सेंड माइनिंग 2020 में विहित प्रावधानों के अनुसार में जिले स्थित निम्नानुसार 6 रेत खदानों के रकबे एवं अक्षांश-देशांश में परिवर्तन हुआ है -

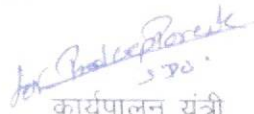
क्र.	खदान का नाम	खसरा न.	रकबा	संशोधित रकबा	जी.पी.एस. कार्डिनेट्स
1	सिलगी नं. 1	01	6.00	2.40	(1) 22°30'21.48"N 80°22'19.26"E (2) 22°30'13.60"N 80°22'15.63"E (3) 22°30'13.93"N 80°22'12.88"E (4) 22°30'22.29"N 80°22'16.03"E
2	ठरका	969	5.20	2.40	(1) 22°30'21.17"N 80°22'15.19"E (2) 22°30'13.13"N 80°22'12.26"E (3) 22°30'13.77"N 80°22'09.22"E (4) 22°30'21.34"N 80°22'12.00"E (5) 22°30'21.68"N 80°22'11.87"E (6) 22°30'22.19"N 80°22'12.16"E
3	टिकरवारा	298 / 1	6.00	1.00	(1) 22°31'56.47"N 80°23'13.99"E (2) 22°31'52.03"N 80°23'14.43"E (3) 22°31'52.61"N 80°23'11.71"E (4) 22°31'53.94"N 80°23'11.40"E (5) 22°31'55.28"N 80°23'11.81"E (6) 22°31'56.31"N 80°23'11.60"E
4	हिरदेनगर	220	8.00	1.50	(1) 22°32'02.88"N 80°23'15.25"E (2) 22°32'00.14"N 80°23'16.62"E (3) 22°31'56.66"N 80°23'16.75"E (4) 22°31'56.29"N 80°23'14.49"E (5) 22°32'02.74"N 80°23'12.94"E
5	भपसा	412	5.10	2.00	(1) 22°32'53.39"N 80°21'08.02"E (2) 22°32'56.92"N 80°21'10.14"E (3) 22°32'53.25"N 80°21'14.80"E (4) 22°32'49.73"N 80°21'13.23"E
6	भंवरदा	325	6.00	1.00	(1) 22°32'46.48"N 80°21'30.99"E (2) 22°32'17.52"N 80°21'35.29"E (3) 22°32'35.61"N 80°21'34.37"E (4) 22°32'38.14"N 80°21'29.99"E


इसके अतिरिक्त निम्नानुसार 02 खदानों में इन्फोर्समेंट एंड मानिट्रिंग गाईडलाइन फार सेंड माइनिंग 2020 में विहित प्रावधानों के कारण खनन योग्य क्षेत्र उपलब्ध नहीं हो रहा है-


स.क्र.	खदान का नाम	खसरा न.	रकबा	रिमार्क
1	बम्हनी नं. 04	670	2.023	उक्त स्वीकृत खदान के समीप मुख्य पुल 1 कि. मी. की परिधी के भीतर स्थित होने से खनन योग्य क्षेत्र उपलब्ध नहीं होता है।
2	भडिया	01	1.44	


उक्तानुसार परिवर्तनों को जिला सर्वेक्षण रिपोर्ट में समावेश कर संशोधित किया गया है। उक्त संशोधित जिला सर्वेक्षण रिपोर्ट (District Survey Report) (रेत खनिज) की अनुशंसा हेतु गठित समिति की बैठक आयोजित की गई। संशोधित सर्वेक्षण रिपोर्ट का परीक्षण किया गया, उक्त संशोधित जिला सर्वेक्षण रिपोर्ट (रेत खनिज) पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय की अधिसूचना दिनांक 25.07.2018 में विहित प्रावधानों के अनुरूप है। उक्त संशोधित जिला सर्वेक्षण रिपोर्ट (रेत खनिज) के अनुमोदन हेतु अग्रिम कार्यवाही हेतु सर्वसम्मति से अनुशंसा की जाती है।

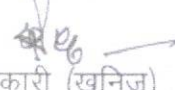
  
अनुविभागीय अधिकारी (रा.)  
मण्डला

  
कार्यपालन यंत्री  
जल संसाधन विभाग मण्डला

  
उप वनमण्डलाधिकारी (प)  
(सामान्य वनण्डल) मण्डला

  
क्षेत्रीय अधिकारी  
म.प्र. प्रदूषण नियंत्रण बोर्ड जबलपुर

  
उप वनमण्डलाधिकारी  
जलमण्डल  
(रा.) वनमण्डल मंडला

  
प्रभारी अधिकारी (खनिज)  
मण्डला





**DISTRICT SURVEY REPORT**  
of  
**RIVER BED SAND MINING**  
for  
**MANDLA DISTRICT, MADHYA PRADESH**

As per gazette Notification No. S.O. 3611 (E) New Delhi dated 25th July 2018 of Ministry of Environment , Forest and Climate Change, Government of India, "Sustainable Sand Mining guidelines 2016" and EMGSM 2020



  
State Level Environment Impact  
Assessment Authority, M.P.  
(EPCO)

**YEAR 2023**

Paryavaran Parisar  
E-5, Arera Colony, Bhopal (M.P.)




## PREFACE


The present District Survey Report is prepared in compliance of interim order passed by the Hon'ble Supreme Court on 10-11-21 in the case of Civil Appeal No. 3661-3662/2020, State of Bihar & Others vs. Pawan Kumar & Others. The District Collector through letter Khanij/1/2022/615 Mandla, dated 02-05-2022 had constituted the sub-divisional committee to prepare the District Survey Report.

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 Reports has been introduced. Subsequently, Ministry of Environment, Forest and Climate Change has published Notification No. 3611 (E), dt. 25th July, 2018 regarding inclusion of the —Minerals Other than Sand and format for preparation of the DSR has been specified. Enforcement & Monitoring Guidelines for Sand Mining (EMGSM) January 2020, Issued by Ministry of Environment, Forest and Climate Change is prepared in consideration of various orders/directions issued by Hon'ble NGT in matters pertaining to illegal sand mining and also based on the reports submitted by expert committees and investigation teams. This DSR has been prepared in conformity with the 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 Madhya pradesh Sand (Mining, Transportation, Storage and trading) Rules, 2019.

The purpose of DSR is to identify the mineral potential areas where mining can be allowed; and also, to distinguish areas where mining will not be allowed due to proximity to infrastructural structures and installations, areas of erosion, areas of environmental sensitivities etc. The DSR would also help to estimate the annual rate of replenishment wherever applicable and allow time for replenishment.

The DSR of Mandla District also describes the general geographical profile of the district, distribution of natural resources, livelihood, climatic condition and sources of revenue generation.

  
State Level Environment Impact  
Assessment Authority, M.P.  
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Paryavaran Parisar  
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प्रभारी अधिकारी (खनिज)  
जिला-मण्डला (म.प्र.)

## DISCLAIMER

The data may vary due to flood, heavy rains and other natural calamities. Therefore, it is recommended that SEIAA may take into consideration all its relevant aspects / data while scrutinizing and recommending the application for EC to the concerned authority.

State Level Environment Impact  
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जिला-मण्डला (म.प्र.)



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## Chapter-1 Introduction


The District Survey Report of Mandla District has been prepared in compliance of interim order passed by the Hon'ble Supreme Court on 10-11-21 in the case of Civil Appeal No. 3661-3662/2020, State of Bihar & Others vs. Pawan Kumar & Others and as per the guide line of Ministry of Environment, Forests & 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.

The main objective of DSR is to identify the areas of aggradations or deposition where mining can be allowed; and identification of areas of erosion and proximity to infrastructural structures and installations where mining should be prohibited and estimation of annual rate of replenishment and allowing time for replenishment after mining in that area. The DSR would also help to calculate the annual rate of replenishment wherever applicable and allow time for replenishment. Besides the sand mining, the DSR also include the potential development scope of insitu minor minerals. 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 Sand & Gravel 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 sand mining at each step.
4. District Survey report shall enable Environmental Clearance for cluster of Sand & Gravel Mines. It shall assist concern Department during post Environmental Clearance Monitoring.
5. To control the instance of illegal mining.
6. To control the flood in the area.
7. To maintain the livelihood of aquatic habitat.
8. To protect the incursion of ground water in the area. Limiting extraction of material in floodplains to an elevation above the water table generally disturbs more surface area than allowing extraction of material below the water table.
9. To keep accumulated data records viz. details of Mineral Resource, potential area, lease, approved mining plan, co-ordinates of a district at one place.
10. To maintain the records of revenue generation.
11. In-stream extraction of gravel from below the water level of a stream generally causes more changes to the natural hydrologic processes than limiting extraction to a reference point above the water level.
12. In-stream extraction of gravel below the deepest part of the channel generally causes more changes to the natural hydrologic processes than limiting extraction to a reference point above the thalweg.
13. Excavating sand and gravel from a small straight channel with a narrow floodplain generally will have a greater impact on the natural hydrologic processes than excavations on a braided channel with a wide floodplain.
14. Extracting sand and gravel from a large river or stream will generally create less impact than extracting the same amount of material from a smaller river or stream.

  
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जिला-मण्डला (म.प्र.)



15. A concise guide line can be framed considering the point discussed in the DSR for sand and or minor mineral 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, land form, forest, rivers, soil, agriculture, road, transportation, irrigation etc. Data on lease and mining activities in the district, revenue etc. are collected and collated from concern district Head Quarter.

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जिला-मण्डला (म.प्र.)

## ABOUT DISTRICT


The Mandla district lies in the Southeast part of the state of Madhya Pradesh spanning over an area of about 7544 km<sup>2</sup>. Mandla district is situated in the south eastern part of Madhya Pradesh and cover an area of 7544 sq km falling in survey of India degree sheet no 64A, B, E and F, 55 N between north latitudes 22 12': 23 22'' 02' and longitude 79 59'23" : 81 44 22 E. It is bounded by Jabalpur on the north west, Dindori and Seoni district in south west and Kawardha district and Chhatisgarh state on the south east. Mandla is well connected with all parts of country by Rail and roads. It lies on Jabalpur-Balaghat narrow gauge railway line. One State highway SH 37 (Jabalpur - Raipur) passes through Mandla town. The geogenic problem of high concentration of fluoride in ground water widely affect the quality life of the people of region. As per 2011 census, the population of Mandla district is about 1053522 . The district is primarily a tribal district. The district is divided into 6 tehsil and 9 blocks. There are one city (Mandla), three town (Mandla,Nainpur,Bamhni) and 1239 villages.


### Historical Prospective :

Writers such as Alexander Cunningham, John Faithfull Fleet, Moti Raven Kangali, Girija Shankar Agrawal and Brajesh Mishra identify Mandla as the location of ancient Mahishmati. Gondwana queen, Rani Durgavati shah ruled Mandla province and fought against Akbar in her valiant effort to save her kingdom; which is still subject to folklore. Rani Avantibai of Ramgarh later fought with the British to save her kingdom from annexation. The Gondwana dynasty of Garha Kingdom commenced, according to an inscription in the palace of Ramnagar, in the fifth century, with the accession of Jadho Rai, an adventurer who entered the service of an old Gond king, married his daughter and succeeded him to the throne. Alexander Cunningham placed the date two centuries later in 664. The Garha-Mandla kingdom was a petty local chiefship until the accession of Raje Sangram Shah, the forty-seventh king, in 1480. This prince extended his dominions over the Narmada Valley, and possibly Bhopal, Sagar, and Damoh and most of the Satpura hill country, and left fifty-two forts or districts to his son. In addition to Mandla, Jabalpur and Garha in Jabalpur District and Ramnagar in Mandla District served at times as capitals of the kingdom.

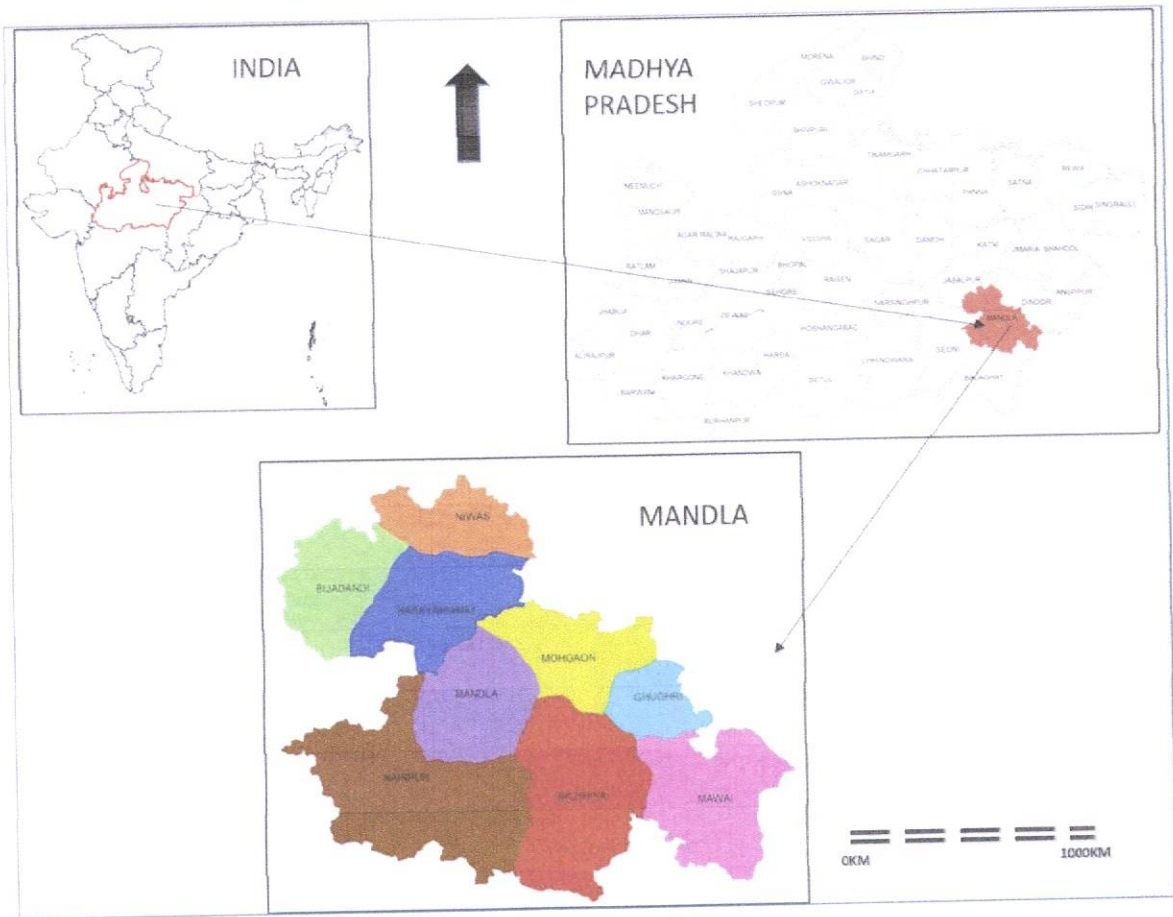
### Location and Geographical Data:

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### **Demography of the Mandla District:**

As of 2011 India census, Mandla had a population of 1054905. Males constitute 51% of the population and females 49%. In 2011 Mandla has an average literacy rate of 68.3%, higher than the national average of 59.85%: male literacy is 79.5%, and female literacy is 57.2%. Scheduled tribes dominate the population, so there is a Special education programs to promote them. In Mandla, 13.7% of the population is under 6 years of age. 90% of the population are Hindus, 4% Christians, 5% Muslims and 1% are of other faiths.

As per the official census data 2011 of Mandla district, total population is 1,054,905 and population density is 120/km<sup>2</sup>. Total no. of male population is 525,272 and female population is 529,633. 12.34% of total population, i.e., 130,189 comes under urban population and the remain g 87.66% i.e., 924,716 comes under rural population.

The district is sub divided into seven administrative 9 blocks and 6 Tehsils. There are 278-gram panchayats and 1221 villages in the district. As per census 2011, the total population of the district is 1053522.

### **Drainage System:**

The district falls under two major drainage basins - the Narmada in the north and the Godawari in the south. It shows a typical dendritic drainage pattern of river network. The general slop of the Narmada valley is towards west. The Narmada river & its tributaries drain in northern and northwestern part of area. The Wainganga river flowing southerly and its tributaries drain the south western part They have broad, flat, shallow valleys with low imperceptible gradients, because their channels have reached the base level of erosion. Vertical erosion has ceased and lateral erosion is taking place.

### **Soil:**

The soils in the area are generally of clayey loam types with sandy loam soil in some areas. In the northern and central parts of the District, the undulating plateau with mounds are covered with slightly deep soil, well drained, fine to fine loamy soils on gentle slopes marked by moderate erosion. The southern hilly region is covered by very shallow loamy soils, some what excessively drained. The soils developed on moderately steep slopes are marked by severe erosion. The soils have been classified as Ustocherpts/ Ustorthents/ Rhodustalfs/ Haplustalfs/ Haplusterts, as per pedological taxonom

**Climate:**

Climate of the district is tropical with moderate winter and severe summers and well distributed rainfall received from southwest monsoon. However due to higher general elevation and abundance of forests, summer temperature do not rise as much as in other areas. The normal annual rainfall of Mandla district is 1427.7 mm.

**Connectivity:**

• **By Air**


Nearest Airport is Dumna Airport, situated at Jabalpur, which is 100 km away from Mandla.


• **By Rail**

Nearest Railway Stations are at Mandla.

• **By Road**

Mandla is connected by road to nearby cities like Jabalpur, Nagpur and Raipur through NH-30 (National Highway). From Jabalpur to Mandla, it takes more than 4 hours by bus (96 km approx.) as the road condition is very poor. Earlier Mandla has been connected by Indian Railway's Narrow Gauge Track via Nainpur to Jabalpur, Gondia, Chhindwara. Mandla is connected by Indian railway Broad gauge Track & Traveler can travel by train from Chiraidongri to Jabalpur via Nainpur, as soon as the covid restriction is over.

  
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## CHPATER -2

### OVERVIEW OF MINING ACTIVITY IN THE DISTRICT

The major part of study area is characterized by a typical trappean-basaltic geomorphology comprising extensive plain, low lying hills and hill clusters with gentle Southerly slope. Eastern, South-eastern and Northern parts are highly undulating terrains with broad pointed topped hills of granites, terraces and isolated hills constituting mesas and butte. Central, Southwestern and Western parts of the district forms flat landmass having a moderately rolling topography with small mounds and hillocks and plains of Gondwana beds.

The study area is a part of the Satpura Region with an elevation range of 364 to 958m aMSL and the average relief is 604 m aMSL. Maximum elevation is towards Mawai in Southeast, Bichhiya in South and Gughri in Northeast directions. Minimum elevation is towards Mandla and Nainpur in Central parts.

The major hydro-geomorphological units in the study area can be classified into depositional landforms including alluvial plains and valley fills, structural landforms including lineaments and intrusive landforms consisted of basaltic dykes. The basaltic up-lands and Deccan plateau basalts are main physiographic units in the study area which are acting as good groundwater occurring and control units along with Gondwana and granite.

There are no major mineral mines operating in Mandla district. At present 26 mines of sand minerals, 45 Mines of Dolomite, 88 Mines of stone quarries are present in the district. In the last year 2021-22, Rs. 46.3 Crore revenue has been received from minor mineral against the revenue target Rs.48.0 Cr fixed for the district by MP Govt. Also mineral based industries are likely to come to this district in the near future due to the commencement of mining of major minerals.

#### Approach to Sand Mining:

River sand mining is a common practice as habitation concentrates along the rivers and the mining locations are preferred near the markets or along the transportation route, for reducing the transportation cost. River sand mining can damage private and public properties as well as aquatic habitats. Excessive removal of sand may significantly distort the natural equilibrium of a stream channel.

Mainly three types of minor minerals constituents such as sand, stone and Bajri are required for any type of construction apart from other material like cement and steel. In earlier times, the houses/buildings were constructed in form of small dwellings with walls made up of mud plaster, stone and interlocking provided with wooden frames and there were negligible commercial as well as developmental activities resulting in less demand of building material. However with the passage of time, new vistas of developmental activities were started. The quantity of minor minerals consumption in a particular area is a thermometer to assess the development of the area. Thus with the pace of development activities, the consumption of minor minerals also increased. As such the demand of minor minerals in the district has started an increasing trend. In order to meet the requirement of raw material for construction, the extraction of sand is being carried out exclusively from the river beds. In Mandla district, the demand of sand (river borne collection) and of Bajri/Grit (river borne collection or through manufactured grit by stone crushers) is mainly met by the supply from Narmada, Banjar and Budner river beds.

CHPATER -3

LIST OF EXISTING AND PROPOSED SAND GHATS WITH LOCATION, AREA AND OTHER DETAILS

Sr No.	Mine Name	Tehsil	Khasra No.	Area In Ha	GPS Coordinates		Existing/ Proposed
					Latitude	Longitude	
1	Silgi No. 2	Mandla	786	3.800	22°29'33.50"N	80°22'24.69"E	Existing
					22°29'33.71"N	80°22'27.72"E	
					22°29'50.63"N	80°22'25.02"E	
					22°29'50.47"N	80°22'22.75"E	
2	Naara	Bichhiya	348	2.000	22°31'11.08"N	80°25'8.66"E	Existing
					22°31'11.68"N	80°25'9.55"E	
					22°31'16.45"N	80°24'56.08"E	
					22°31'14.61"N	80°24'56.41"E	
3	Poudimal	Ghughri	1	3.000	22°48'38.67"N	80°39'50.92"E	Existing
					22°48'41.00"N	80°39'52.80"E	
					22°48'47.76"N	80°39'44.51"E	
					22°48'45.45"N	80°39'42.83"E	
4	Mainpuri	Bichhiya	165	1.800	22°32'15.27"N	80°52'40.07"E	Existing
					22°32'6.88"N	80°52'50.52"E	
					22°32'5.78"N	80°52'49.43"E	
					22°32'13.92"N	80°52'39.11"E	
5	Pipri Raiyat	Bichhiya	259	1.000	22°32'14.45"N	80°52'31.75"E	Existing
					22°32'15.70"N	80°52'32.01"E	
					22°32'12.80"N	80°52'41.53"E	
					22°32'11.66"N	80°52'40.79"E	
6	Karegaon	Ghughri	62	4.000	22°48'29.92"N	80°40'14.38"E	Existing
					22°48'15.16"N	80°40'24.46"E	
					22°48'14.47"N	80°40'22.15"E	
					22°48'27.55"N	80°40'13.07"E	

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7	Kisli	Ghughri	486	2,000	22°38'25.77"N 22°38'27.28"N 22°38'24.85"N 22°38'23.72"N	80°47'40.25"E 80°47'49.72"E 80°47'50.23"E 80°47'40.55"E	Existing
8	Ghughri	Ghughri	807	3,240	22°40'50.99"N 22°40'46.02"N 22°40'43.93"N 22°40'48.76"N	80°42'5.79"E 80°42'20.63"E 80°42'19.63"E 80°42'5.07"E	Existing
9	Indri	Nainpur	719	4,680	22°23'13.58"N 22°23'12.89"N 22°23'4.76"N 22°23'5.86"N	80°21'19.33"E 80°21'21.05"E 80°20'37.44"E 80°20'37.06"E	Existing
10	Raygaon	Ghughri	275	2,900	22°44'19.94"N 22°44'9.75"N 22°44'8.67"N 22°44'18.69"N	80°34'25.49"E 80°34'30.93"E 80°34'28.47"E 80°34'22.72"E	Existing
11	Gariya	Ghughri	01	2,000	22°44'8.00"N 22°44'0.71"N 22°44'0.22"N 22°44'7.57"N	80°41'53.71"E 80°41'54.85"E 80°41'52.01"E 80°41'50.64"E	Existing
12	Devgaon	Mandla	01	2,000	22°30'54.94"N 22°30'51.91"N 22°30'57.02"N 22°31'00.04"N	80°22'48.07"E 80°22'48.16"E 80°22'55.36"E 80°22'54.99"E	Existing
13	Bakcheradona	Mandla	370	3,700	22°39'53.50"N 22°39'54.90"N 22°39'43.61"N 22°39'42.24"N	80°28'52.76"E 80°28'55.63"E 80°29'02.14"E 80°28'59.17"E	Existing
14	Baheri	Nainpur	100	1,000	22°24'27.44"N 22°24'27.23"N 22°24'17.98"N 22°24'18.52"N	80°22'14.36"E 80°22'15.96"E 80°22'12.48"E 80°22'11.49"E	Existing

  
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15	Silgi No. 1	Mandla	1	2.400	22°30'21.18"N 22°30'13.60"N 22°30'13.93"N 22°30'22.29"N	80°22'19.26"E 80°22'15.63"E 80°22'12.88"E 80°22'16.03"E	Existing
16	Tharka	Mandla	969	2.400	22°30'21.17"N 22°30'13.13"N 22°30'13.77"N 22°30'21.34"N 22°30'21.68"N 22°30'22.19"N	80°22'15.19"E 80°22'12.26"E 80°22'09.22"E 80°22'12.00"E 80°22'11.87"E 80°22'12.16"E	Existing
17	Tikarwara	Mandla	298/1	1.000	22°31'56.47"N 22°31'52.03"N 22°31'52.01"N 22°31'53.94"N 22°31'55.25"N 22°31'56.31"N	80°23'13.99"E 80°23'14.43"E 80°23'11.71"E 80°23'11.40"E 80°23'11.81"E 80°23'11.60"E	Existing
18	Hirdenagar	Mandla	220	1.500	22°32'02.88"N 22°32'00.14"N 22°31'56.66"N 22°31'56.29"N 22°32'02.74"N	80°23'15.25"E 80°23'16.62"E 80°23'16.75"E 80°23'14.49"E 80°23'12.94"E	Existing
19	Bhapsa No. 01	Mandla	412	2.000	22°32'53.39"N 22°32'56.92"N 22°32'53.25"N 22°32'49.73"N	80°21'08.02"E 80°21'10.14"E 80°21'14.80"E 80°21'13.23"E	Existing
20	Bhavarda	Mandla	325	1.000	22°32'40.48"N 22°32'37.52"N 22°32'35.61"N 22°32'38.14"N	80°21'30.99"E 80°21'35.29"E 80°21'34.37"E 80°21'29.99"E	Existing
21	Chiblatola	Ghughri	450	2.000	22°44'17.83"N 22°44'17.92"N 22°44'19.96"N 22°44'19.98"N	80°41'46.62"E 80°41'50.13"E 80°41'49.44"E 80°41'47.44"E	Existing



22	Khairimal	Ghughri	258	1.000	22°48'46.35"N 22°48'44.03"N 22°48'41.94"N 22°48'44.72"N	80°39'49.65"E 80°39'53.47"E 80°39'51.64"E 80°39'47.71"E	Existing
23	Gurarkheda	Mandla	228	1.000	22°36'27.60"N 22°36'26.63"N 22°36'22.05"N 22°36'23.00"N	80°28'57.30"E 80°28'59.13"E 80°28'55.92"E 80°28'53.98"E	Existing
24	Koko	Bichhiya	417	2.000	22°28'42.39"N 22°28'42.54"N 22°28'40.83"N 22°28'40.48"N	80°46'27.36"E 80°46'38.81"E 80°46'38.86"E 80°46'27.28"E	Existing
25	Barbaspur	Bichhiya	699	4.000	22°27'58.46"N 22°27'57.08"N 22°27'50.03"N 22°27'51.85"N	80°23'24.13"E 80°23'26.24"E 80°23'08.73"E 80°23'07.81"E	Proposed
26	Mugdata	Nainpur	968	2.800	22°27'42.39"N 22°27'41.80"N 22°27'30.84"N 22°27'31.49"N	80°22'44.18"E 80°22'46.88"E 80°22'45.11"E 80°22'42.51"E	Proposed

Note- 1. Area of Sand mines mentioned in Serial No. 15,16,17, 18, 19 & 20 has been reduced as per clause 4.3 (h) of EMGSM 2020.

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**CHAPTER-4**  
**DETAILS OF ROYALTY OR REVENUE**  
**RECIEVED IN LAST THREE YEARS**

Financial Year	Revenue Target (in Cr)	Revenue From Major Mineral (in Cr)	Revenue From Minor Mineral (in Cr)	Total Revenue (in Cr)
2019-20	18.00	0.00	11.33	11.33
2020-21	14.00	0.00	14.06	14.06
2021-22	48.00	0.00	46.23	46.23


  
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CHAPTER-5  
DETAILS OF PRODUCTION OF SAND OR BAJRI OR MINOR  
MINERAL IN LAST THREE YEARS

Year	Sand (In Cum)	Stone (in Cum)	Dolomite ( in Metric Tonne)
2019-20	238276.11	112037.313	419803.92
2020-21	27324.0	130895.458	328113.86
2021-22	288644.94	116866.30	623671.74

  
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## CHPATER - 6

### REPLENISHMENT REPORT / PROCESS OF DEPOSITION OF SEDIMENTS IN THE RIVERS OF THE DISTRICT

#### 7.1 General

Sediment refers to the conglomerate of materials, organic and inorganic, that can be carried away by water, wind or ice. While the term is often used to indicate soil-based, mineral matter (e.g. clay, silt and sand), decomposing organic substances and inorganic biogenic material are also considered sediment. Most mineral sediment comes from erosion and weathering, while organic sediment is typically detritus and decomposing material such as algae. Sediment particles come in different sizes and can be inorganic or organic in origin. These particulates are typically small, with clay defined as particles less than 0.00195 mm in diameter, and coarse sand reaching up only to 1.5 mm in diameter. However, during a flood or other high flow event, even large rocks can be classified as sediment as they are carried downstream. Sediment is a naturally occurring element in many bodies of water, though it can be influenced by anthropogenic factors.

In an aquatic environment, sediment can either be suspended (floating in the water column) or bedded (settled on the bottom of a body of water). In other words, waterflow tries to scour its surface whenever it flows in the channel. Silt or gravels even larger boulders are detached from its bed or banks. The moving water sweeps these detached particles in downstream along its flow. Silting and scouring is not very uncommon and must be avoided by proper designs. It reduces supply level of water. The channel section gets reduced by silt and reduces discharging capacity. Sediments seriously threaten various projects due to silt carried out by rivers up to point of interceptions. Sediment is also threatening denudation of forests. Sediment is a major obstruction on the flow line. It shortens longevity of channel. It causes soil erosion. Therefore data base must be needed for policy making and planning.

The mineral potential is calculated based on field investigation and geology of the catchment area of the river/ streams. As per the policy of the State and location, depth of minable mineral is defined. The area for removal of mineral in a river or stream can be decided depending on geomorphology and other factors, it can be 50% to 60% of the area of a particular river/stream, e.g. in river mineral constituents like sand up to a depth of three meter are considered as resource mineral. Other constituents like clay and silt are excluded as waste while calculating the mineral potential of particular river/ stream.

The specific gravity of each mineral constituent is different. The percent of mineral constituent like boulder, river Bajri, and sand also varies for different river and streams. While calculating the mineral potential, the percentage of each mineral constituent is taken as 25-30% for sand and 5- 10% for silt and clay.

The quantum of deposition varies from stream to stream depending upon factors like catchment lithology, discharge, river profile and geomorphology of the river course. There are certain geomorphological features developed in the river beds such as channel bar, point bar etc where annual deposition is more even two to three meters.



## 7.2 Process of Deposition:-

Sediment is a naturally occurring material that is broken down by processes of weathering and erosion, and is subsequently transported by the action of wind, water and/or by the force of gravity acting on the particles. Sediments are most often transported by water. Sediment is transported based on the strength of the flow that carries it and its own size, volume, density, and shape. Stronger flows will increase the lift and drag on the particle, causing it to rise, while larger or denser particles will be more likely to fall through the flow.

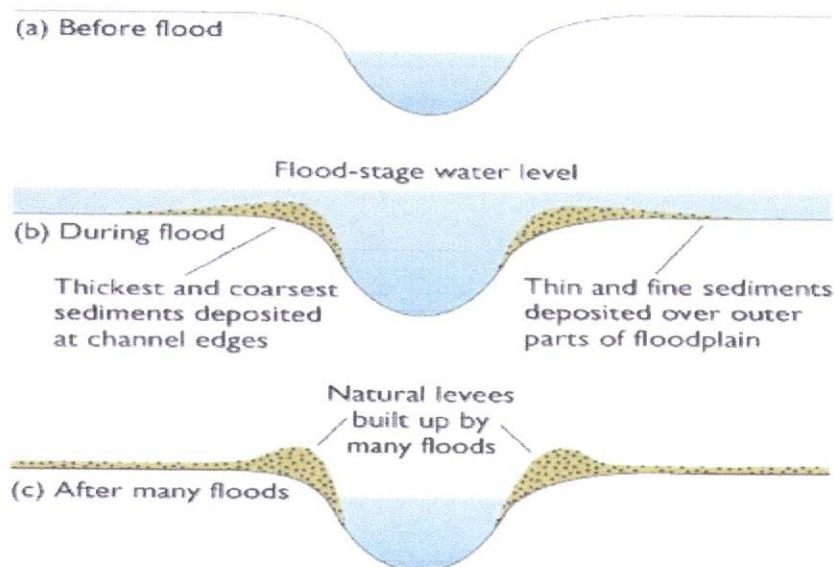
Deposition is the processes where material being transported by a river is deposited. Deposition occurs when a river loses energy. This can be when a river enters a shallow area (this could be when it floods and comes into contact with the flood plain) or towards its mouth where it meets another body of water.


Deposition is the geological process in which sediments, soil and rocks are added to a landform or land mass. Wind, ice, and water, as well as sediment flowing via gravity, transport previously eroded sediment, which, at the loss of enough kinetic energy in the fluid, is deposited, building up layers of sediment.


Rivers flood on a regular basis. The area over which they flood is known as the floodplain and this often coincides with regions where meanders form. Meanders support the formation of flood plains through lateral erosion.

When river floods the velocity of water slows. As the result of this the river's capacity to transport material is reduced and deposition occurs. This deposition leaves a layer of sediment across the whole floodplain. After a series of floods, layers of sediment form along the floodplain.

## Formation of Natural Levees



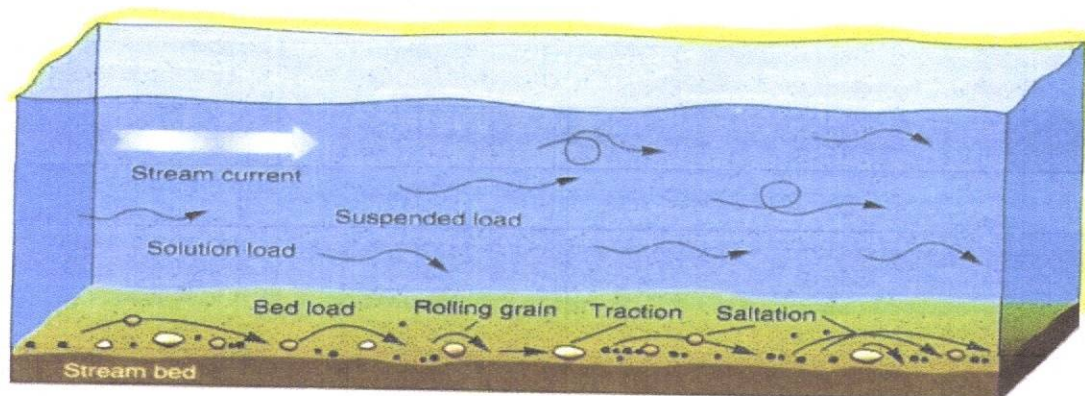
  
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### 7.3 Modes of Sediment Transport

The sediment load of a river is transported in various ways although these distinctions are to some extent arbitrary and not always very practical in the sense that not all of the components can be separated in practice:

- ✓ Dissolved load
- ✓ Suspended load
- ✓ Intermittent suspension (saltation) load
- ✓ Wash load
- ✓ Bed load



The sand deposits being an integral part of the dynamic river system to which it belongs. Therefore, as a part of natural cycle, the monsoon flow of every river carries with it replenishment of silt and washed-out soil and clay from upstream areas in the catchment. This silt shall be removed during the sieving of sand before it is loaded into truck/tipper/trailer to carry to the consumers.

Sand mining is critical to infrastructure development around the globe. Sand is an essential minor mineral used extensively across the country as a useful construction constituent and variety of other uses in sports, agriculture, glass making (a form of sand with high silica content) etc. The rivers are the most important source of Sand. It acts as source of transportation and deposition of sand etc.

### 7.4 Annual Replenishment of Mineral in River Bed Area/ Sedimentation

The deposition in a river bed is more pronounced during rainy season although the quantum of deposition varies from stream to stream depending upon numbers of factors such as catchment, lithology, discharge, river profile and geomorphology of the river course where annual deposition is one meters, but it is noticed that during flood season whole of the pit so excavated is completely filled up and as such the excavated area is replenished with new harvest of minerals.

In order to calculate the mineral deposits in the stream beds, the mineral constituents have been categorized as clay, silt, sand, Bajri and boulder. However, during present calculation, the waste material i.e. silt which varies from 10 to 20% in different streams has also been included in the total production. Further, the Survey of India Topo-Sheets has been used as base map to know the extent of river course. The mineral reserves have been calculated only upto 3.0 meter depth although there are some



portions in the river beds such as channel bars, point bars and central islands where the annual deposition is raising the level of river bed thus causing shifting of the rivers towards banks resulting in to cutting of banks and at such locations, removal of this material upto the bed level is essential to control the river flow in its central part to check the bank cutting. While calculating the mineral potentials, the mineral deposits lying in the sub-tributaries of that particular stream/river has not been taken into consideration. Since these mineral deposits are adding annually.

Sedimentation is generally considered by geologists in terms of the textures, structures, and fossil content of the deposits lay down in different geographic and geomorphic environments. The factors which affects the "Computation of Sediment":

- Geomorphology & Drainage Pattern: The following geomorphic units plays important role:
  - Structural Plain
  - Structural Hill
  - Structural Ridge
  - Denudation Ridge & Valley
  - Plain & Plateau
  - Highly Dissected pediment
  - Undissected pediment
- Distribution of Basin Area River wise
- Drainage System/Pattern of the area, Rainfall & Climate: Year wise Rainfall data

### 7.5 Replenishment Study (As per EMGSM guidelines, 2020)

Replenishment study for a river solely depends on estimation of sediment load for any river system and the estimation is a time consuming and should be done over a period. The process in general is very slow and hardly measurable on season-to-season basis except otherwise the effect of flood is induced which is again a cyclic phenomenon. Usually, replenishment or sediment deposition quantities can be estimated in the following ways as given below:

A. Direct measurement of the sand bar upliftment, monitoring of the new sand bars created in the monsoon within the channel, elimination of sand bars during the monsoon etc. With systematic data acquisition, over a period, regression equations can be developed for modeling of the sediment yield and annual replenishment with variable components. In this report, for volume estimation of sand, —Depth x Area has been followed. The sand bars are interpreted with the help of satellite imageries. Ground truthing done for 100% of the total identified sand bars. While ground truthing, width and length of each segment were physically measured. It has also been observed that in few cases, sand bars have attained more than 3 meters height from the average top level of the river beds. Considerations of sand resources have been restricted within 3 meters from the average top surface of the river bed. Thus, in few occasions, heights for sand reserve estimation are found to be more than 3 meters.

B. The replenishment estimation based on a theoretical empirical formula with the estimation of bed-load transport comprising of analytical models to calculate the replenishment estimation.

## Replenishment estimation

Sedimentation in any river is dependent on sediment yield and sediment yield depends on soil erosion in river's catchment area. Catchment yield is computed using Strange's Monsoon runoff tables for runoff coefficient against rainfall return period. Peak flood discharge calculated by using Dickens, Jarvis and Rational formula at 25, 50 and 100 years return period. The estimation of bed load transport using Ackers and White Equation.

- **Assessment of sediment load in the river:**

Assessment of sediment load in a river is subjective to study of the whole catchment area, weathering index of the various rock types which acts as a source of sediments in the specific river bed, rainfall data over a period not less than 20 years, and finally the detail monitoring of the river bed upliftment with time axis. Again, the sediment load estimation is not a dependent variable of the imaginary district boundary, but it largely depends upon the aerial extents of the catchment areas, which crossed the district and state boundaries.

- **Estimation of annual sand deposition:**

The major sand producing river of the Mandla district is Banjar, Budner & Narmada. Planning has been done for systematic sand mining in the rivers.

As discussed in the previous sections, sand production in the district has been planned from mostly Banjar, Budner & Narmada rivers. Altogether 28 ghats has been planned for production and mining operation strated only in 17 sand Ghats.

While calculation of the areas of sand bar, a classification system has been adopted with three categories of land identified within the channel areas. the class which followed for classification are as follows:

- a. The untapped Sand Bars.
- b. The Sand bars worked in the pre-monsoon period.
- c. Main channel course within the channel.

Details of sand replenishment in each sand mine in district with their sand resources in pre monsoon and post monsoon period are provided in below table:


  
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REPLENISHMENT STUDY FOR YEAR 2022


Sr No	River Name	Mine Name	Area (Ha)	Pre Monsoon			Post Monsoon			Mineable mineral potential (in Cubic meter) (60% of total mineral potential)
				Total Area (in Sqm)	Average depth of Sand Deposit (in meters)	Total Quantity of Sediment Load (in cum)	Total Area (in Sqm)	Average depth of Sand Deposit (in meters)	Total Quantity of Sediment Load (in cum)	
1	Banjar	Silgi No. 2	3.800	38000	2.5	95000	38000	3.0	114000	68400
2	Surpan	Nara	2.00	20000	2.0	40000	20000	3.0	60000	36000
3	Budhner	Paudimal	3.000	30000	2.0	60000	30000	3.0	90000	54000
4	Budhner	Mainpuri	1.800	18000	1.0	18000	18000	1.5	27000	16200
5	Budhner	Pipri Raiyat	1.000	10000	1.5	15000	10000	2.0	20000	12000
6	Budhner	Karegaon	4.000	40000	1.5	60000	40000	2.0	80000	48000
7	Budhner	Kisli	2.000	20000	1.5	30000	20000	1.8	36000	21600
8	Budhner	Gughari	3.240	32400	1.5	48600	32400	2.0	64800	38800
9	Banjar	Indri	4.680	46800	1.5	70200	46800	1.8	84240	41040
10	Budhner	Raygaon	2.900	29000	1.5	43500	29000	2.0	58000	34800
11	Budhner	Garaiya	2.000	20000	1.2	24000	20000	1.5	30000	18000
12	Banjar	Devgaon	2.000	20000	1.5	30000	20000	2.0	40000	24000


  
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13	Narmada	Bakchheradona	3.700	37000	2.0	74000	37000	2.0	74000	44400
14	Banjar	Baheri	1.000	10000	1.8	18000	10000	1.8	18000	10800
15	Banjar	Silgi No. 1	2.400	24000	1.5	36000	24000	2.8	67200	40320
16	Banjar	Tharka	2.400	24000	1.0	24000	24000	2.7	64800	38880
17	Banjar	Tikarwara	1.000	10000	1.0	10000	10000	2.6	26000	15600
18	Banjar	Hirdenagar	1.500	15000	1.0	15000	15000	2.4	36000	21600
19	Banjar	Bhapsa	2.000	20000	0.8	16000	20000	2.4	48000	28800
20	Banjar	Bhawarda	1.000	10000	1.0	10000	10000	2.6	26000	15600
21	Budhner	Chhibiatola	2.000	20000	1.5	30000	20000	1.5	30000	18000
22	Budhner	Khairimal	1.000	10000	1.8	18000	10000	1.8	18000	10800
23	Narmada	Gurarkheda	1.000	10000	2.0	20000	10000	2.0	20000	12000
24	Halon	Koko	2.00	20000	1.2	24000	20000	1.2	24000	14400
25	Banjar	Barbaspur	4.00	40000	1.5	60000	40000	2.8	112000	67200
26	Banjar	Mugdara	2.80	28000	1.5	42000	28000	3.0	84000	50400

Note-

- Normal date of onset of monsoon for year 2022 is 30 June.
- Normal date of offset of monsoon for year 2022 is 01 October.

  
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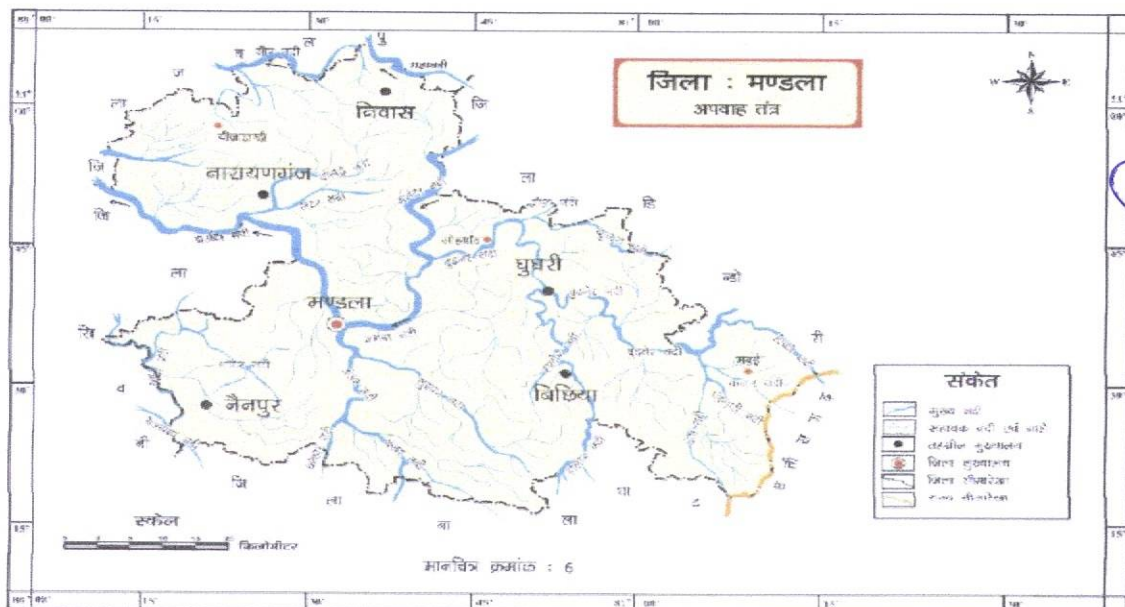
## CHAPTER -7

### GENERAL PROFILE OF THE DISTRICT

Mandla district, in Jabalpur Revenue Division is situated on the east- central part of the State and lies between  $22^{\circ} 12'$  and  $23^{\circ} 22'$  north latitude and  $79^{\circ} 57'$  and  $81^{\circ} 45'$  east Longitude. The district is bounded by Jabalpur district on the north-west; Shahdol district on the north-east; Bilaspur and Rajnandgaon on the south east; Balaghat on the south and Seoni districts on the south west., Its extreme length is about 133 Kms from north to south, and extreme breadth 182 kms from east to west. The tropic of cancer passes from about 5 Kms distance of the northern west boundary. The district can be called a mountainous tract, comprising the valleys of numerous rivers and is endowed with rich forests.

Mandla district is situated in the south eastern part of Madhya Pradesh and cover an area of 7544 sq km falling in survey of India degree sheet no 64A, B, E and F, 55 N between north latitudes  $22^{\circ} 12'$ :  $23^{\circ} 22' 02''$  and longitude  $79^{\circ} 59' 23''$  :  $81^{\circ} 44' 22''$  E. It is bounded by Jabalpur on the north west, Dindori and Seoni district in south west and Kawardha district and Chhatisgarh state on the south east. Mandla is well connected with all parts of country by Rail and roads. It lies on Jabalpur-Balaghat narrow gauge railway line. One State highway SH 37 (Jabalpur - Raipur) passes through Mandla town. The geogenic problem of high concentration of fluoride in ground water widely affect the quality life of the people of region. As per 2011 census, the population of Mandla district is about 1053522 . The district is primarily a tribal district. The district is divided into 6 tehsil and 9 blocks. There are one city (Mandla), three town (Mandla, Nainpur, Bamhni) and 1239 villages.

**DRAINAGE:** The district falls under two major drainage basins - the Narmada in the north and the Godawari in the south. It shows a typical dendritic drainage pattern of river network. The general slop of the Narmada valley is towards west. The Narmada river & its tributaries drain in northern and northwestern part of area. The Wainganga river flowing southerly and its tributaries drain the south western part They have broad, flat, shallow valleys with low imperceptible gradients, because their channels have reached the base level of erosion. Vertical erosion has ceased and lateral erosion is taking place.



स्रोत : स्थलाकृतिक मानचित्र क्रमांक SSM, 55N, 64A, 64B, 64E, 64F

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Stream	area		hkm			formation
	Km <sup>2</sup>	% Of total				
Narmada	3130	35.90	150	1000	Perennial	Basalt/Sand
(i) Banjar Surpan	1520.0	31.07	62	1 in 3650	Ephemeral	Granite/Sand
(ii) Burhner	2708.0	17.44	12	1 in 3650	Perennial	Basalt
(iii) Balai	412.0	4.73	9	1 in 1000	Perennial	Basalt
(iv) Bijra			41	1 in 500	Ephemeral	Basalt
(v) Hingra Newari			-	1 in 250	Ephemeral	Basalt
(vi) Gaur	217.0	2.49	3	1 in 300	Perennial	Basalt
			2	1 in 350	Ephemeral	Basalt
Godawari Basin						
Wainganga	730.0	8.36	35	1 in 600	Perennial	Archaean
Halen				1 in 1250	Perennial	Archaean
Thanwar				1 in 250	Perennial	Basalt
Chaknamla				1 in 250	Ephemeral	Basalt

### Climate and Rainfall:

Climate of the district is tropical with moderate winter and severe summers and well distributed rainfall received from southwest monsoon. However due to higher general elevation and abundance of forests, summer temperature do not rise as much as in other areas. The normal annual rainfall of Mandla district is 1427.7 mm.

### Flora And Fauna:

The other species which are commonly found in the forests of this districts are Tinsa (ongeinia-dalbergioides), Dhaura (Anogissus Latifolia), Dhamin (Grewia teliaefolia), Bija (Pterocarpus marsupium, India (Lagerstroelema porviflora), Haedu (Adina cardifolia), Koehar, (Teminalian AlJuna), Palas (tlutea trondosas), Harra (Terrninalia Chebula) Mahua (Bassia latifolla), Nonia (phyllanthus omblica), tendu (Diespyres tomentosa), Khamer (Gmelina arberea), Jamun (Eugenia Jamboland) and achar (Buchananis larifollas). Bambee forests are not common, though bamboos are found here and there in the forests of the district. It may be interesting to note that babul (Acacia-arabica) and nim (Melia azadirachta) are very rare but bar (Ficus bengh-lensis), Pi pal (Ficus religiosa) are found in open country.

FAUNA: The district is famous for its rich wild life as the famous Kanha National park is situate in the district which has once been the best shooting ground in the State. Among the camiverous fauna tiger (felis tigris), panther (felis pardus) the wi~d dogs (kuon rutilans), the bear (melursus ursinus labiatus), the wolf (Ganis pallipes) are found in the thick forests of the district. Jackal (Canis aurens), fox (Vulpes bengalensis, hyena (Hyenastriata) and wild cats are found throughout the district.

### Temperature:

The climate of Mandla district characterized by a hot summer and general dryness except during the southwest monsoon season. The year may be divided into four

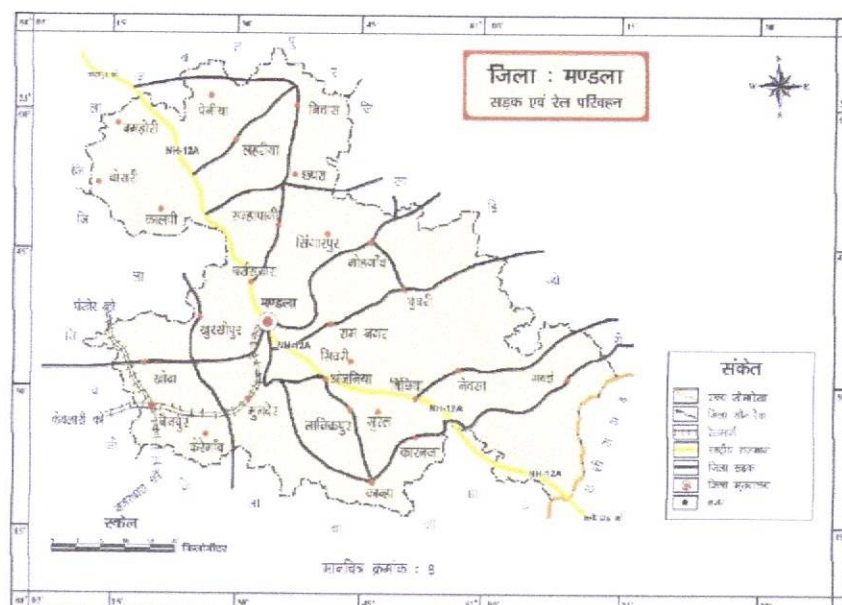


seasons. The cold season, December to February is followed by the hot season from March to middle of June. The period from the middle of June to September is monsoon season. October and November form the post monsoon or transition period. The January is the coldest month of the year. The individual day temperature comes as low as 1- 2°C. From March onwards, the temperature starts rising and maximum temperature is observed during the month of May upto 44°C. On the arrival of monsoon, the weather becomes pleasant. In October, on the retreating of monsoon the temperature rises slightly during the day time.


**Humidity & Wind:**

During the southwest monsoon season the relative humidity generally exceeds 88% (August month). In rest of the year is drier. During summer season, relative humidity is less than 38% and April is the driest month of the year. The wind velocity is higher during the pre-monsoon period as compared to post monsoon period. The maximum wind velocity of 6.8 km/hr. is observed during the month of June and minimum 2.3 km/hr. during the month of December. The average normal annual wind velocity of Mandla district is 4.3 km/hr.

**Mining:** There are no major mineral mines operating in Mandla district. At present 26 mines of sand minerals, 45 Mines of Dolomite, 88 Mines of stone quarries are present in the district. In the last year 2021-22, Rs. 46.3 Crore revenue has been received from minor mineral against the revenue target Rs.48.0 Cr fixed for the district by MP Govt. Also mineral based industries are likely to come to this district in the near future due to the commencement of mining of major minerals.



स्रोत : स्थलाकृतिक मानचित्र क्रमंक SSM, SSN, 64A, 64B, 64E, 64F

  
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## CHPATER -8

### LAND UTILIZATION PATTERN IN THE DISTRICT : FOREST, AGRICULTURE, HORTICULTURE, MINING ETC

Mandla district is a pride district in agriculture. There are two principal cropping regions: Alluvial on the northern part and laterite on the southern part, and about 69 percent of the total population depends on agriculture. Primary crop of the district are rice, gram and wheat. According to Madhya Pradesh agriculture contingency plan for Mandla district there has been 28.78 percent of cultivable land, 61.43 percent forest land, 2.22 percent cultivable waste land and 3.25 percent current fellow land in the district.


Land use pattern of the district	Geographical area	Cultivable land	Forest area	Land under non agricultural use	Permanent pastures	Cultivable waste land	Land under mixed tree crop and groves	Barren and uncultivable land	Current fellow	Other fellow
Area ('000ha.)	965.6	277.9	593.2	42.4	19.9	21.5	0.1	10.6	31.4	32.2


**Irrigation :** The area irrigated by borewell is 106300 ha (41.4% of the total irrigated area), by open-wells 42700 ha (16.6%), irrigated by canals is 39900 ha (15.5% of the total irrigated area) and by tanks 4800 ha (1.8%). The net area under irrigation is 255500 ha and the area under rainfed irrigation is 275900 ha.

**Forest :** The forest survey of India was established in 1981. The first report on the forest cover of the country was published in 1987. Using land sat data of us satellite through visual interpretation techniques on 1:1 million scales. From the second assessment of forest cover the resolution of the sensor improved to 30m and the scale of interpretation to 1:25,000. The India Remote Sensing (IRS P6LISS III) satellite data having a resolution of 23.5m has been used in the analysis of data (State Forest Report, 2011). Total recorded forest land in the district is 2830 km<sup>2</sup> which about 48.79 percent of the total geographical area of the district. According to FSI assessment in 2011 there were 751 km<sup>2</sup> very dense, 1204 km<sup>2</sup> moderate and 875 km<sup>2</sup> open forest cover of the district.

**Mining:** There are no major mineral mines operating in Mandla district. At present 26 mines of sand minerals, 45 Mines of Dolomite, 88 Mines of stone quarries are present in the district. In the last year 2021-22, Rs. 46.3 Crore revenue has been received from minor mineral against the revenue target Rs.48.0 Cr fixed for the district by MP Govt. Also mineral based industries are likely to come to this district in the near future due to the commencement of mining of major minerals.

Sr No.	Mineral	Area (in Hectare)
1	Dolomite	153.218
2	Stone	155.51
3	Sand	89.89

  
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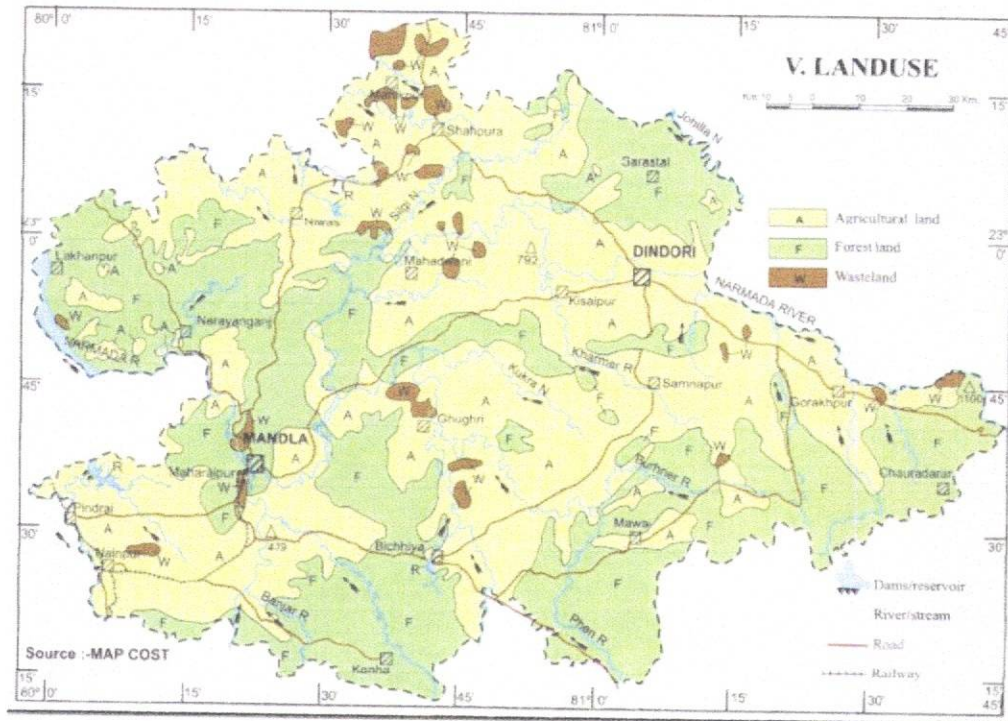


Fig : Land Use/ Land Cover Map of Mandla District

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## CHAPTER - 9


### PHYSIOGRAPHY OF THE DISTRICT

Mandla district is hilly and forested (Satpura hill range) and highly undulating with narrow strip of cultivated plains in the valley portion of river and nala. The plateau is in the northern part formed by basalt and east west trending hill in the southern part. The highest elevation 934 m amsl in the northern part and lowest elevation in around 400 m amsl in northwestern part of area.

The district can be called a mountainous tract, comprising the valleys of numerous rivers; these valleys being broken into irregular sizes and shaped by the spurs of low hills running down from the main ranges towards the larger rivers. The most important range of the Satpura in the district is Maikal, which forms a watershed between western and eastern India which is well known in ancient Sanskrit literature as the source of the holy Narmada. The altitude is the least in the south-west corner of the district which consists of a complex block of about two hundred prosperous villages, known as the 'Haveli' or the rice and wheat growing tract round Hirdenagar and Pathar the open wheat plain round Nainpur. The extreme upper valley of the Narmada in Dindori, Niwas and shahpura tahsils is an undulating plain, without much forest, broken by curious flat

topped hills which enclose patches of fertile black soil; A long spur of the Amarkantak, starting from north of Shahpura running out west towards the region between villages Junawani and kosumghat for about 64 Kms. separates the upper Narmada Valley, from the narrow but fertile valley of river kharmer. Many smaller spurs run north from this long spur, forming short valleys of some fertility. To the south of kharmer Valley is a fine plateau containing the Baiga Chak, and a long and rugged strip of Sal Jungle. The mean height of the plateau is well over about 600 metres in Niwas tahsil, Narmada flows through a rugged and inaccessible tract between high rocky banks till it enters the rough about 32 kms, of forest and hill country, and then forms the boundary of Mandla district and tahsils parallel to the Mandla Jabalpur road for a few kilometres. The southern portion of eastern Mandla tahsil is covered by the undulating grass prairies of Raigarh Bichhia tract. It is in this area the famous forest sanctuaries of Kanha the tiger reserved and Kisli-home of countless deer and antelope and a variety of other wild fauna which attract tourists; from far and wide.

The soils in the area are generally of clayey loam types with sandy loam soil in some areas. In the northern and central parts of the District, the undulating plateau with mounds are covered with slightly deep soil, well drained, fine to fine loamy soils on gentle slopes marked by moderate erosion. The southern hilly region is covered by very shallow loamy soils, some what excessively drained. The soils developed on moderately steep slopes are marked by severe erosion. The soils have been classified as Ustocherpts/ Ustorthents/ Rhodustalfs/ Haplustalfs/ Haplusterts, as per pedological taxonom

  
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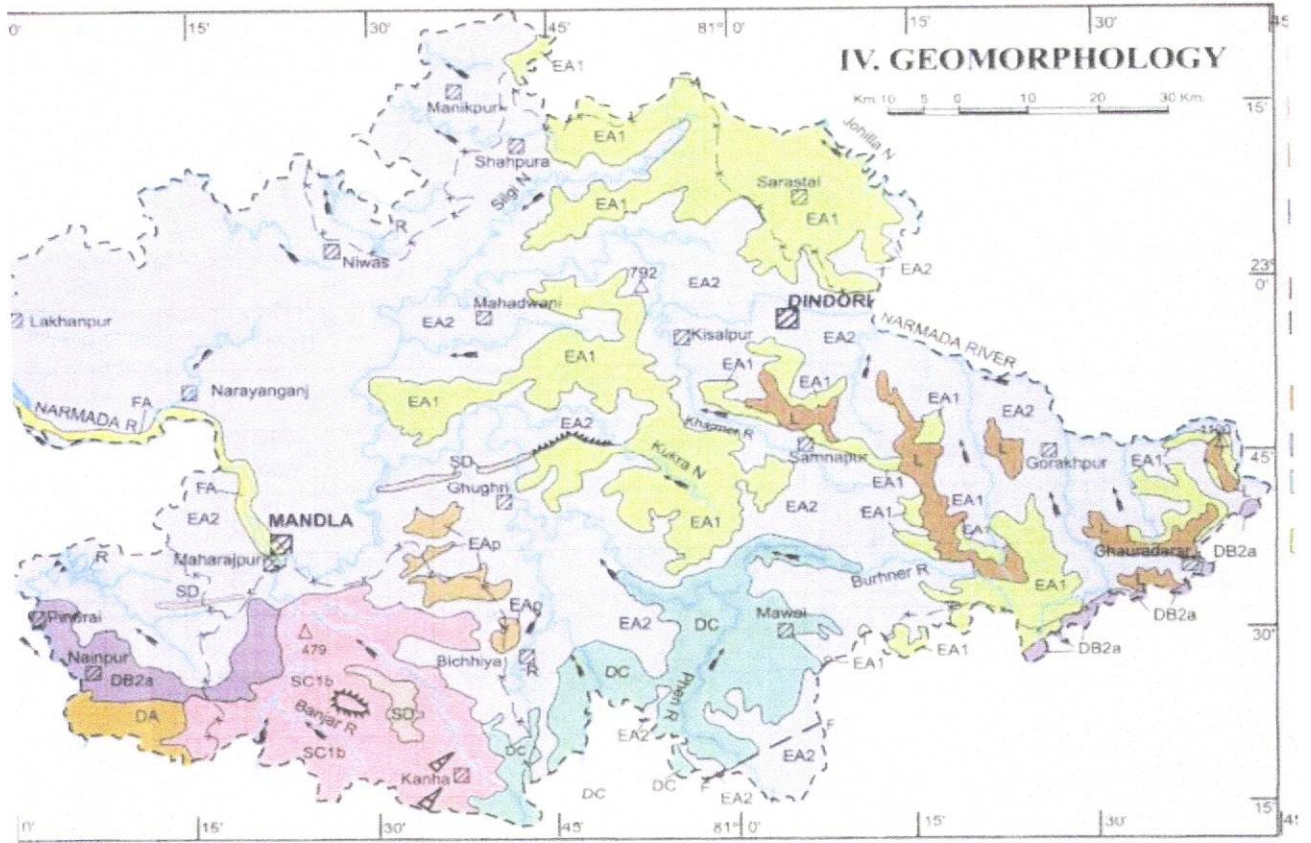



Fig : Map Showing Geomorphological Setup of Mandla District


  
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**CHPATER -10**  
**RAINFALL: MONTH-WISE**

Climate of the district is tropical with moderate winter and severe summers and well distributed rainfall received from southwest monsoon. However due to higher general elevation and abundance of forests, summer temperature do not rise as much as in other areas. The normal annual rainfall of Mandla district is 1427.7 mm. The district has three clearly distinguishable seasons which divide the year into three more or less equal parts. They are the rainy season, the winter and the Summer roughly corresponding to June-September, November, February and March-May respectively. The month October-winter witnesses a transition from the rainy to the cold weather.

Sr No.	Month	Annual Rainfall (mm)		
		Year 2019	Year 2020	Year 2021
1	January	14.4	26.2	0.0
2	February	7.7	39.9	20.6
3	March	18.09	47.3	10.6
4	April	8.0	15.0	0.4
5	May	0.0	12.6	77.3
6	June	81.2	210.6	243
7	July	443.2	237.7	294.3
8	August	556.7	664	179
9	September	526.6	131	254.9
10	October	41.4	45.2	24.2
11	November	0.0	8.1	10.3
12	December	19.9	0.0	22.2
Total		1117.39	1810.1	1406.5

  
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**CHAPTER -11**  
**GEOLOGY AND MINERAL WEALTH**

**Geology of Mandla District**

Geological succession of Mandla


AGE	LITHOSTRATIGRAPHIC UNIT	LITHOLOGY
Recent to subrecent	Alluvium, Laterite	Sandy loam, silty sand, coarse medium laterite
Cretaceous to Eocene	Deccan Trap	Basaltic lava flows and older dolerite dykes and sills.
Lower Cretaceous	Gondwana	White clays and medium grained sandstone
Late Norian to Rhaetic	Mandla formation of Amarkantak group	Coarse-grained sandstone variegated shale and clays.
Upper Permian	Lameta group	Coarse grained sandstone grey shale, red shale, red green and mottled clay with thin coal bands
Late Permian	Barakar	Sand stone, Shales and Coalseams
Upper Carboniferous to Lower Permian	Talchir	Tillite, sandstone and green shale

**Archean:**

The oldest rock in the area belongs to the Archean that comprises granite Gneisses and schist. These rocks occur in the southwestern part of Mandla area. Granite rock is generally well-jointed and fractured up to depth to 10 to 150 m bgl.

**Lameta bed**

This group of rocks is formed of sedimentary laid prior to the eruption of lava flows to the Deccan traps. It unconformably overlies the granite gneisses and is mainly exposed below Deccan trap in the central and eastern part of Mandla area. Its contact with Deccan trap slopes from east (510 m amsl) to west (430m amsl). In the eastern part due to step faults this contact goes up to 680 m amsl. These rocks occur as small pockets bordering the great mass of lava flow along its northern boundary. The rocks comprise limestone and sandstone and occur over an area of about 90 sq. km. The rock is fine to medium grained and compact in nature and form thickness in the range of 1 to 6 m thickness.

  
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### **Deccan traps:**

Deccan trap are the most extensive geological formation of the Mandla district. They are differentiated into a succession of basaltic flows as interflow zone of red/green below of varying thickness. The 500 m thick lava sequence of Mandla area has been divided into four formations on the basis of lithic characters, type of flow and their long-distance continuity. All the formation exhibits thickening in the centre, thinning out in the marginal area.

### **Characteristic of basaltic flows:**

Basaltic lava flows of Narmada basin of Mandla area mainly of two types

1. Simple flow and
2. Compound flow

The simple flows are characterized by 1-7 m thick vesicular and amygdular and 20-70 cm thick lower vesicular zone. The compound flows comprise number of flow unity and show large variation in thickness and aerial extent as well as thinning and pinching units. These units exhibit pahohoe character such as chilled and ropy surface basalt zones of pipe amygdular, vesicle cylinder etc.

### **Intertrappean bed**

Intertrappean beds mark definite Stratigraphic horizons in the lava sequence and have been used to divide the lava sequence into four formations. Episodic nature of volcanism is also evident from the presence of fairly persistent Intertrappean beds these bed form 1-10 thick sedimentary sequence consisting of limestone, chart clay. It is exposed all along the valley of Narmada and Banjar River. Along Chalked to Malpur, Bamhni banjar to Mugdare and exhibit thickening in the centre area. It also shown a gradient of 1:200 toward WSW. The limestone of this bed shows development of nodules at places.

### **Infratrappian bed:**

The lava pile is underlain by 2-3 m thick sequence of sedimentary rocks which are fairly persistent as to area and have been correlated with the lameta bed of Jabalpur are it comprise hard sandstone occurs along Ganghi, Chechile along chakar nala near Nainpur.

### **Structure:**

The Deccan lava pile of Mandla area is bounded by Narmada - Son lineament to the north and Tapti lineament to the south. The reactivation of these lineaments during upper cretaceous period result into **formation of a rift basin**. The initial volcanism, which follows the deposition of lameta formation, was sub aqueous in nature as evident from the presence of Pillow lava in many parts of the area and gradient of lava pile suggest easterly source.

### **Intrusive:**

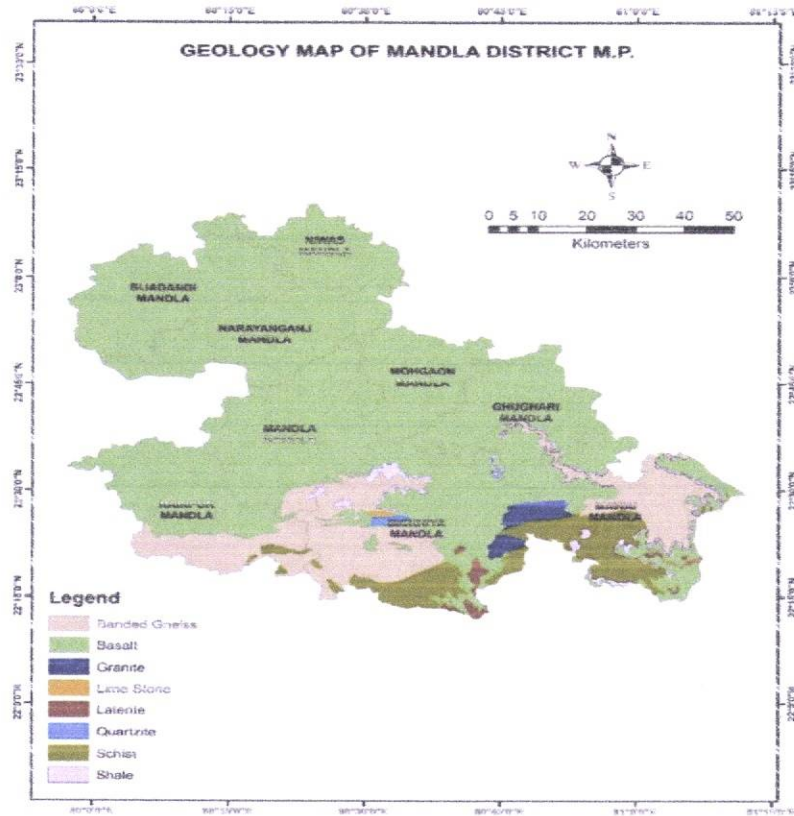
A few thin ENE-WSW trending basaltic dykes interlude the lava sequence. These dykes are confined to the marginal area along major ENE-WSW trending faults. A porphyritic dyke has been observed is Burner River section Jhingartola in the southern part of area and abets 2-3 km length of dyke in the area below Chairaidongri, Bamhni.

  
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Detailed geological map of Mandla district is given as fig.no.8.



### Regional Geology Classification of lava flows

GSI has carried out extensive mapping of Mandla. The Southern fringe of Son Narmada (SONATA) lineament zone, the ENE-WSW trending major technique zone activity from plateau porters to the recent. ENE-WSW trending central Indian technique zone CCITE is located in southern part. This sub divided the area into two major crystal provinces. The area to the south of the ITE from part of deccan lava sequence of Mandla region.

The lava sequence consists mainly of pahohoe flows which are simple and compound nature. A flow is rise the gradient of flows varies from 1:200 to 1: 500 towards north west and west coinciding with the paleo slope based on the presence of inter trappean beds, mega scope character of flows such as grain size porphyricity and mineralogical constituents, presence of bole beds. The lava sequence of the area has been classified as given in table 11. Flows showing highly porphyritic and glomeroporphyritic texture form marker flow for correction of the flow sequence.

Table 11: Classification lava sequence.

	Lava stratigraphy	Lava flows	Nature & character
Amarkantak group (Deccan trap)	Linga formation	Non porphyritic lava flows 4 flows	Dark brownish black greenish non porphyritic hard & compact rock

Creteceous	Piparde hi formati on	Highly porphyritic basalt fen (3 fen)	Dark grey, fine to medium grain porphyritic ha & compact rock
	Dhuma formation	"Aa" and compounds "pahoehoe" basalt flow (8 flow)	Black to greyish black non porphyritic hard & compact with porphyritic texture in flow
	Mandla formation	Basaltic flows	Dark grey fine to medium grain highly pumping hand campus.

### Mandla Formation

It occurs in the north-central and eastern part and unconformably over the lameta group and granite gneiss. It consists of one compounded flow and three to four simple flows (table 12).

Table: 12 Lava sequence & Deccan traps of Mandla area.

Formation	Flows	Type of flow & litho characters	Thickness (m)
	Kosamghat	Chert limestone clay/ red bole	1-10
Mandla flows	Chabi	Compound aphyric	20-40
	Bataundha	Compound porphyritic aphyric/aphyric	10-20
	Sarwahi	Compound porphyritic aphyric	20-40
	Kathautiya	Compound porphyritic aphyric/aphyric	20

In the eastern part of the area, the basalt flow is highly porphyritic simple. The thickness decreases from 40 m in the west to 15 m in the central part the rock is fine grain to medium grained hard, compact, highly porphyritic with feldspar phenocryst varying in length from 1 mm to 7mm. The rock at place is characterized by glomero phytic texture compound flow of the Mandla formation consists of 2-7 flow units and show variation thickness from 20 m to 100 m due to pinching and swelling of different units within short distances. The basalt flows commonly show pahoehoe characters with ropy structure, pipe vesicle and bun structures. Some of the flow short acylindrically vesicles at the base.

### Dhuna formation:

It comprises two flows and varies in thickness from 50 m to 80m. the lower flow shows glomeroporphyritic texture correlation of the flows. it is developed mainly in the central and north eastern part with thickness varying from 50 m in the east to 15; m in the west. In the east central part this shows thinning and pinches at ultimately. This flow forms liner ridges of 15 km to 30 km length which possible



represent structurally controlled paleo channel filled by this flow. The channel show gradient 1:2000 towards WSW.

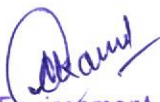
### **Linga formation:**

It forms the top most part of the lava sequence and consists of flow in the section 2-3 flow are generally exposed and their top is covered with lateritic. This is mainly exposed in the northern part. Fairly persistent Intertrappean bed marks the lower contact of this formation this contact is exposed between 780-800m amsl in north-eastern part and between 660 m – 700 m amsl in the north central part. All the flows are dark brownish black to greyish black fine to medium grained and non-porphyrific the top of this formation is character by the presence of laterite which varies in thickness from 2 m to 70 m.

### **Mining:**

There are no major mineral mines operating in Mandla district. At present 26 mines of sand minerals, 45 Mines of Dolomite, 88 Mines of stone quarries are present in the district. In the last year 2021-22, Rs. 46.3 Crore revenue has been received from minor mineral against the revenue target Rs.48.0 Cr fixed for the district by MP Govt. Also mineral based industries are likely to come to this district in the near future due to the commencement of mining of major minerals.

Sr No.	Mineral	Area (in Hectare)
1	Dolomite	153.218
2	Stone	155.51
3	Sand	89.89

  
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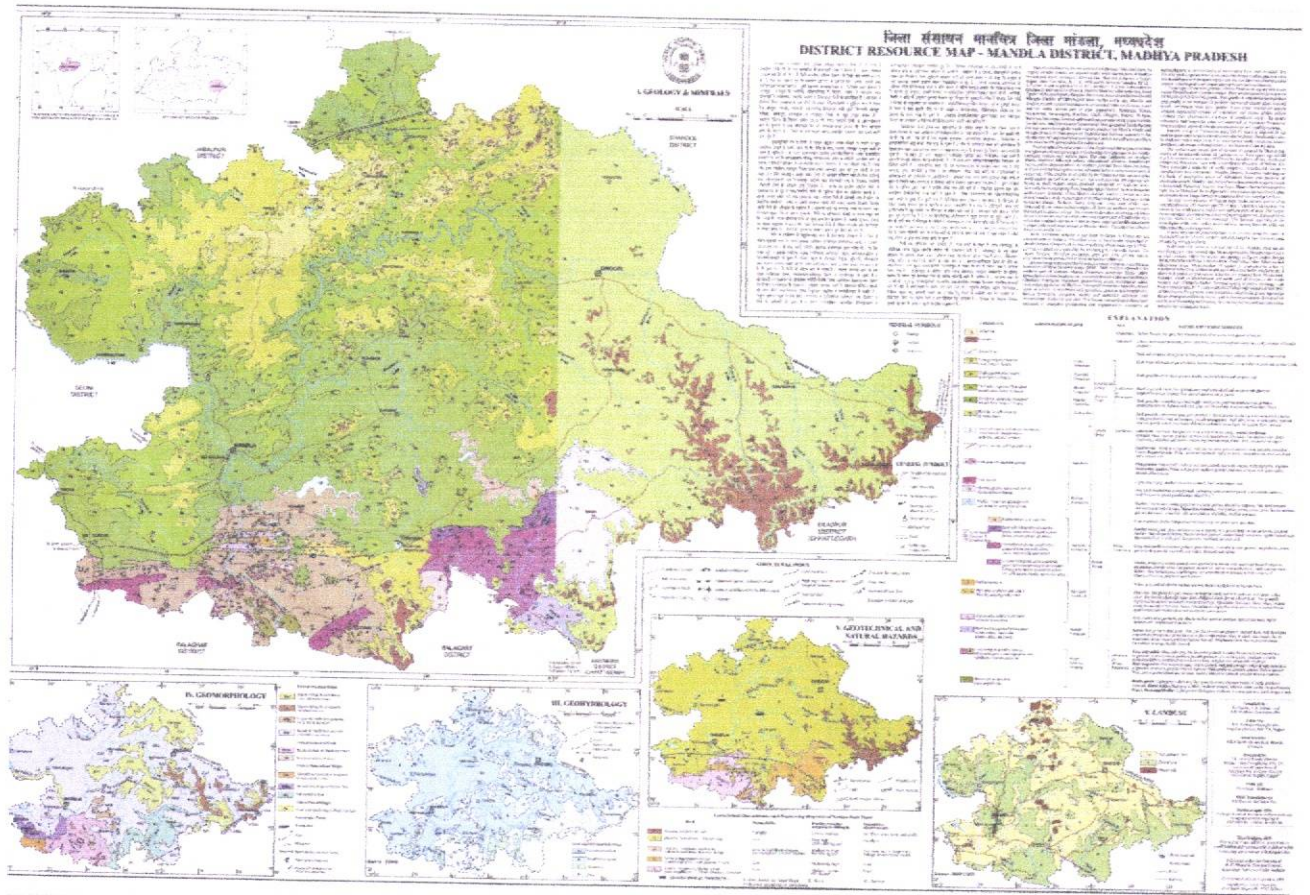



Fig : Map Showing District Resource map of Mandla

  
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**CHAPTER -12**  
**RECOMMENDATION OF ENFORCEMENT &**  
**MONITORING GUIDELINES FOR SAND MINING BY**  
**MOEF&CC- 2020**

**4.1 Introduction**

India is developing at a faster pace and much technological advancement has already been taken place in the surveillance and remote monitoring in the field of mining. Thus, it is prudent to utilize the technological advancement for the effective monitoring of the mining activity particularly sand mining in the country.

Following a series of orders by the National Green Tribunal in 2018, the Ministry of Environment, Forests and Climate Change has for the first time released guidelines to monitor and check illegal sand mining in the country. The Enforcement and Monitoring (EM) Guidelines for Sand Mining 2020 released by the Ministry include directions to states to carry out river audits, put detailed survey reports of all mining areas online and in the public domain, conduct replenishment studies of river beds, constantly monitor mining with drones, aerial surveys, ground surveys and set up dedicated task forces at district levels. The guidelines also push for online sales and purchase of sand and other riverbed materials to make the process transparent. They propose night surveillance of mining activity through night-vision drones.

While the MoEF&CC has already put in place the Sustainable Sand Management Guidelines 2016, which focus on the management of sand mining in India, that there is an urgent need to have guidelines for effective enforcement of regulatory provisions and their monitoring.

**4.2 Background**

The Mines and Minerals (Development and Regulation) Act, 1957 has empowered state governments to make rules to prevent illegal mining, transportation and storage of minerals. "But in the recent past, it has been observed that there were a large number of illegal mining cases in the country and in some cases, many of the officers lost their lives while executing their duties to curb illegal mining. Illegal and uncontrolled illegal mining leads to loss of revenue to the State and degradation of the environment. The enforcement guidelines focus on the "effective monitoring of sand mining from the identification of sand mineral sources to its dispatch and end-use by consumers and the general public and looks at a uniform protocol for the whole country".

The need for replenishment study for river bed sand is also required in order to "nullify the adverse impacts arising due to excessive sand extraction". No riverbed mining will be allowed during the monsoon. In cases where rivers become district boundaries or state boundaries, the districts or states sharing the boundary shall constitute the combined task force for monitoring of mined materials, mining activity and participate in the preparation of District Survey Reports (DSR) by providing appropriate inputs.

The guidelines say the detailed survey needs to be carried out for quantification of minerals and the demand and supply of the riverbed material through market survey, including the future demand for the next five years.



The guidelines also push for the sale and purchase of sand and river bed material (RBM) online to make the process more transparent. "In order to curb illegal mining, it is very necessary that the general public is aware of the legal source of sand and RBM suppliers. It is suggested that the state government should develop an online portal for sale and purchase of sand and RBM. The state government will also decide the model of sale and the price of RBM. "It is suggested that the controlled price model is more effective in controlling illegal sand mining," the guidelines state.

This document will serve as a guideline for collection of critical information for enforcement of the regulatory provision(s) and also highlights the essential infrastructural requirements necessary for effective monitoring for Sustainable Sand Mining. The document is prepared in consideration of various orders/directions issued by Hon'ble NGT in matters pertaining to illegal sand mining and also based on the reports submitted by expert committees and investigation teams.

Further, this document is supplemental to the existing "Sustainable Sand Mining Management Guideline-2016" (SSMG-2016), and these two guidelines viz. "Enforcement & Monitoring Guidelines for Sand Mining" (EMGSM-2020) and SSMG-2016 shall be read and implemented in sync with each other. In case, any ambiguity or variation between the provisions of both this document arises, the provision made in "Enforcement & Monitoring Guidelines for Sand Mining-2020" shall prevail.

#### 4.3 Objective of Guidelines

- Identification and Quantification of Mineral Resource and its optimal utilization.
- To regulate the Sand & Gravel Mining in the Country since its identification to its final end use by the consumers and the general public.
- Use of IT-enabled services & latest technologies for surveillance of the sand mining at each step.
- Reduction in demand & supply gaps.
- Setting up the procedure for replenishment study of Sand.
- Post Environmental Clearance Monitoring.
- Procedure for Environmental Audit.
- To control the instance of illegal mining.

#### 4.4 Salient Features of the Guidelines

- **District Survey Report:** The guidelines provide the procedure to be followed for identifying areas where mining can be allowed or prohibited. It provides guidelines for preparing a district survey report, which includes: Preparing a report before granting a mining lease, and Defining mining and no mining zones based on certain environmental and social factors.
- **Preventing Illegal Mining:** The guidelines suggest that sites can be monitored remotely by using unmanned artificial vehicles or drones. Drones can also be used for quantity estimation and land use monitoring. Further, the guidelines propose night surveillance of mining activity through night-vision drones. The environmental damages incurred due to illegal mining will be assessed by a committee constituted by the District Administration.
- **Environmental Clearance:** Environmental Clearance for mining is given by regulatory authorities after considering the potential environmental impact. However, it has been observed that often the Letter of Intent (LoI) is granted for a location which is



not feasible for environment-friendly mining. The guidelines provide that LoIs should be granted for those locations which have the least possibility of an impact on the environment and nearby habitation.

- The guidelines also push for online sales and purchase of sand and other riverbed materials to make the process transparent.

There are some important key points of EM guidelines for sand mining 2020:

**a) Source to Destination Monitoring:**

- The new set of guidelines focuses on the effective monitoring of sand mining from the identification of sand mineral sources to its dispatch and end-use by consumers and the general public and look at a uniform protocol for the whole country.
- Constantly monitor mining with drones and night surveillance of mining activity through night-vision drones.

**b) Audits:**

- States to carry out river audits put detailed survey reports of all mining areas in the public domain.

**c) Enforcement:**

- It gives directions to states to set up dedicated task forces at district levels.
- In cases where rivers become district boundaries or state boundaries, the districts or states sharing the boundary shall constitute the combined task force for monitoring of mined materials, mining activity and participate in the preparation of District Survey Reports (DSR) by providing appropriate inputs.


**d) Sustainability:**


- Conduct replenishment study for river bed sand in order to nullify the adverse impacts arising due to excessive sand extraction.
- No riverbed mining will be allowed during the monsoon.

**4.5 Requirement for Monitoring & Enforcement**

Sustainable Sand Mining Management Guidelines (SSMMG) 2016 and past experience suggest that the sources of sand in India are through:

- ✓ River (riverbed and flood plain),
- ✓ Lakes and reservoirs,
- ✓ Agricultural fields,
- ✓ Coastal / marine sand,
- ✓ Palaeo-channels and
- ✓ Manufactured Sand (M-Sand).

  
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#### 4.6 Preparation of District Survey Report

"Sustainable Sand Mining Guidelines, 2016" issued by MoEF&CC requires preparation of District Survey Report (DSR), which is an important initial step before grant of mining lease/Lol. The guidelines emphasize detailed procedure to be followed for the purpose of identification of areas of aggradation/ deposition where mining can be allowed and identification of areas of erosion and proximity to infrastructural structures and installation where mining should be prohibited. Calculation of annual rate of replenishment, allowing time for replenishment after mining, identification of ways of scientific and systematic mining; identifying measures for protection of environment and ecology and determining measures for protection of bank erosion, benchmark (BM) with respect to mean Sea Level (MSL) should be made essential in mining channel reaches (MCR) below which no mining shall be allowed.

Therefore, preparation of District Survey Report is a very important step and sustainable sand mining in any part of the country will depends on the quality of District Survey Report.

*Considering the importance of district survey report, the Ministry of Environment Forest and climate change, after consultation with experts dealing with mining-related matters, formulated the following guidelines for the preparation of comprehensive District Survey Report for sand mining.*

- a) District Survey Report for sand mining shall be prepared before the auction/euction/grant of the mining lease/Letter of Intent (Lol) by Mining department or department dealing the mining activity in respective states.
- b) The first step is to develop the inventory of the River Bed Material and Other sand sources in the District. In order to make the inventory of River Bed Material, a detailed survey of the district needs to be carried out, to identify the source of River Bed Material and alternative source of sand (M-Sand). The source will include rivers, de-siltation of reservoir/dams, Patta lands/Khatedari Land, M-sand etc.
- c) District Survey Report is to be prepared in such a way that it not only identifies the mineralbearing area but also define the mining and no mining zones considering various environmental and social factors.
- d) Identification of the source of Sand & M-Sand. The sources may be from Rivers, Lakes, Ponds, Dams, De-silting locations, Patta land/Khtedari lands. The details in case of Rivers such as [name, length of river, type (Perennial or Non-Perennial ), Villages, Tehsil, District], in case of Lakes, Ponds, Dams, De-silting locations [Name, owned/maintained by (State Govt./PSU), area, Villages, Tehsil, District] in case of Patta land/Khtedari lands [ Owner Name, Sy No, Area, Agricultural/Non-Agricultural, Villages, Tehsil, District], in case of MSand Plant [Owner Name, Sy No, Area, Quantity/Annum, Villages, Tehsil, District], needs to be recorded as per format given in **Annexure-I**.
- e) Defining the sources of Sand/M-Sand in the district is the next step for identification of the potential area of deposition/aggradation wherein mining lease could be granted. Detailed survey needs to be carried out for quantification of minerals. The purpose of mining in the river bed is for channelization of rivers so as to avoid the possibility of flooding and to maintain the flow of the rivers. For this, the entire river stretch needs to be surveyed and original ground level (OGL) to be recorded and area of aggradation/deposition needs to be ascertained by comparing the level difference



between the outside riverbed OGL and water level. Once the area of aggradation/deposition is identified, then the quantity of River Bed Material available needs to be calculated. The next step is channelization of the river bed and for this central ¾th part of the river; width needs to be identified on a map. Out of the ¾th part area, where there is a deposition/aggradation of the material needs to be identified. The remaining ¼th area needs to be kept as no mining zone for the protection of banks. The specific gravity of the material also needs to be ascertained by analyzing the sample from a NABL accredited lab. Thus, the quantity of material available in metric ton needs to be calculated for mining and no mining zone.

f) The permanent boundary pillars need to be erected after identification of an area of aggradation and deposition outside the bank of the river at a safe location for future surveying. The distance between boundary pillars on each side of the bank shall not be more than 100 meters.

g) Identifying the mining and no mining zone shall follow with defining the area of sensitivity by ascertaining the distance of the mining area from the protected area, forest, bridges, important structures, habitation etc. and based on the sensitivity the area needs to be defined in sensitive and non-sensitive area.

h) Demand and supply of the Riverbed Material through market survey needs to be carried out. In addition to this future demand for the next 5 years also needs to be considered.

i) It is suggested that as far as possible the sensitive areas should be avoided for mining, unless local safety condition arises. Such deviation shall be temporary & shall not be a permanent feature.

j) The final area selected for the mining should be then divided into mining lease as per the requirement of State Government. It is suggested the mining lease area should be so selected as to cover the entire deposition area. Dividing a large area of deposition/aggradation into smaller mining leases should be avoided as it leads to loss of mineral and indirectly promote illegal mining.

k) Cluster situation shall be examined. A cluster is formed when one mining lease of homogenous mineral is within 500 meters of the other mining lease. In order to reduce the cluster formation mining lease size should be defined in such a way that distance between any two clusters preferably should not be less than 2.5 Km. Mining lease should be defined in such a way that the total area of the mining leases in a cluster should not be more than 10 Ha. l) The number of a contiguous cluster needs to be ascertained. Contiguous cluster is formed when one cluster is at a distance of 2.5 Km from the other cluster. m) The mining outside the riverbed on Patta land/Khatedari land be granted when there is possibility of replenishment of material. In case, there is no replenishment then mining lease shall only be granted when there is no riverbed mining possibility within 5 KM of the Patta land/Khatedari land. For government projects, mining could be allowed on Patta land/Khatedari land but the mining should only be done by the Government agency and material should not be used for sale in the open market. Cluster situation as mentioned in para k above is also applicable for the mining in Patta land/Khatedari land.

n) The State Government should define the transportation route from the mining lease considering the maximum production from the mines as at this stage the size of mining leases, their location, the quantity of mineral that can be mined safely etc. is available



with the State Government. It is suggested that the transportation route should be selected in such a way that the movement of trucks/tippers/tractors from the villages having habitation should be avoided. The transportation route so selected should be verified by the State Government for its carrying capacity.

o) Potential site for mining having its impact on the forest, protected area, habitation, bridges etc, shall be avoided. For this, a sub-divisional committee may be formed which after the site visit shall decide its suitability for mining. The list of mining lease after the recommendation of the Committee needs to be defined in the following format given in as **Annexure-II**. The Sub-Divisional Committee after the site visit shall make a recommendation on the site for its suitability of mining and also records the reason for selecting the mining lease in the Patta land. The details regarding cluster and contiguous cluster needs to be provided as in **Annexure-III**. The details of the transportation need to be provided as in **Annexure IV**.

p) **Public consultation**-The Comments of the various stakeholders may be sought on the list of mining lease to be auctioned. The State Government shall give an advertisement in the local and national newspaper for seeking comments of the general public on the list of mining lease included in the DSR. The DSR should be placed in the public domain for at least one month from the date of publication of the advertisement for obtaining comments of the general public. The comments so received shall be placed before the sub-divisional committee for active consideration. The final list of sand mining areas [leases to be granted on riverbed & Patta land/Khatedari land, de-siltation location (ponds/lakes/dams), M-Sand Plants (alternate source of sand)] after the public hearing needs to be defined in the final DSR in the format as per **Annexure-I**. The details regarding cluster and contiguous cluster needs to be provided in **Annexure-III**. The details of the transportation need to be provided in **Annexure-IV**.

No. of Annexure	Details
Annexure -I	Details of Sand/ M-Sand Sources
Annexure -II	List of Potential Mining Leases (Existing & Proposed)
Annexure -III	Cluster & Contiguous Cluster details
Annexure -IV	Transportation Routes for individual leases and leases in Cluster

#### ANNEXURE NO.-I

#### COMPLIANCE TO ENFORCEMENT AND MONITORING GUIDELINES FOR SAND MINING-2020

#### Details of Sand/M-Sand Sources.

##### a) Rivers.

River Name/M-Sand Plant	Total Stretch of River (in KM)	Type of River (Perennial or Non-Perennial)
Narmada River	110	Perennial
Budner River	129	Perennial
Banjar River	45	Perennial



b) De-Siltation Location: (Lakes/Ponds/Dams etc.)

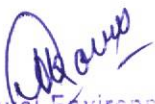
Name of Reservoir /Dams	Maintain/Controlled by State Govt./PSU etc.	Location	District	Tehsil	Village	Size (Ha)
NIL						

c) Patta Lands/Khatedari Land:

Owner	Sy.No.	Area (Ha)	District	Tehsil	Village	Agricultural Land (Yes/No)
NIL						

d) M-Sand Plants:

Plant Name	Owner.	District	Tehsil	Village	Geo-Location	Quantity Tones/Annum
NIL						

  
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**ANNEXURE NO.- II**

**List of Potential Sand Mining Area (Existing & Proposed) Rivers:**

Sr No.	River Details	Lease Details	Area (Ha)	Distance (in KM) from PA/BR/WC	Distance from Forest Area (in Km)	Mining leases within 500 meters (if yes cluster area)	Total Excavation in Cum/Annum considering digging depth max as 3 meters.	Mineral to be mined (Sand/ Bajri /RBM etc)	Existing/ Proposed
1	Banjar	Silgi No. 2	3.800	More than 10 KM	More than 0.25	No	68400	Sand	Existing
2	Surpan	Nara	2.00	More than 10 KM	More than 0.25	No	36000	Sand	Existing
3	Budhner	Paudimal	3.000	More than 10 KM	More than 0.25	Yes	54000	Sand	Existing
4	Budhner	Mainpuri	1.800	More than 10 KM	More than 0.25	Yes	16200	Sand	Existing
5	Budhner	Pipri Raiyat	1.000	More than 10 KM	More than 0.25	Yes	12000	Sand	Existing
6	Budhner	Karegaon	4.000	More than 10 KM	More than 0.25	No	48000	Sand	Existing
7	Budhner	Kisli	2.000	More than 10 KM	More than 0.25	No	21600	Sand	Existing
8	Budhner	Gughari	3.240	More than 10 KM	More than 0.25	No	38800	Sand	Existing
9	Banjar	Indri	4.680	More than 10 KM	Within 0.25	No	41040	Sand	Existing
10	Budhner	Raygaon	2.900	More than 10 KM	More than 0.25	No	34800	Sand	Existing
11	Budhner	Garaiya	2.000	More than 10 KM	More than 0.25	Yes	18000	Sand	Existing

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12	Banjar	Devgaon	2.000	More than 10 KM	More than 0.25	No	24000	Sand	Existing
13	Narmada	Bakcheradona	3.700	More than 10 KM	Within 0.25	No	44400	Sand	Existing
14	Banjar	Baheri	1.000	More than 10 KM	Within 0.25	No	10800	Sand	Existing
15	Banjar	Silgi No. 1	2.400	More than 10 KM	More than 0.25	No	40320	Sand	Existing
16	Banjar	Tharka	2.400	More than 10 KM	More than 0.25	No	38880	Sand	Existing
17	Banjar	Tikarwara	1.000	More than 10 KM	More than 0.25	No	15600	Sand	Existing
18	Banjar	Hirdenagar	1.500	More than 10 KM	More than 0.25	No	21600	Sand	Existing
19	Banjar	Bhapsa	2.000	More than 10 KM	More than 0.25	No	28800	Sand	Existing
20	Banjar	Bhawarda	1.000	More than 10 KM	More than 0.25	No	15600	Sand	Existing
21	Budhner	Chhiblatola	2.000	More than 10 KM	Within 0.25	Yes	18000	Sand	Existing
22	Budhner	Khairimal	1.000	More than 10 KM	More than 0.25	Yes	10800	Sand	Existing
23	Narmada	Gurarkheda	1.000	More than 10 KM	Within 0.25	No	12000	Sand	Existing
24	Halon	Kokc	2.00	More than 10 KM	Within 0.25	No	14400	Sand	Existing
25	Banjar	Barbaspur	4.00	More than 10 KM	More than 0.25	No	67200	Sand	Proposed
26	Banjar	Mugdara	2.800	More than 10 KM	More than 0.25	No	50400	Sand	Proposed

**Patta Lands/Khatedari Land: (existing & proposed)**

Owner	Sy.No.	Area	District	Tehsil	Village	Total Reserve (MT)	Total Mineral to be mined (MT)	Existing/Proposed
NIL								

**De-Siltation Location: (Lakes/Ponds/Dams etc.) (existing & proposed)**

Name of reservoir/ Dams	Maintain/ Controlled by State Govt/PSU etc.	Location	District	Tehsil	Village	Size(Ha)	Quantity MT/Year	Existing/Proposed
NIL								

**M-Sand Plants: (existing & proposed)**

Plant Name	Owner	Location	District	Tehsil	Village	Geo-Location	Quantity Tones/Annum	Existing/Proposed
NIL								

**ANNEXURE-III****Cluster & Contiguous Cluster details****1. Clusters:**

River Name	Cluster No.	Lease No.	Location (Reverbed/ Patta Land)	Village	Area(Ha)	Total Mineral Excavation (cum)
Budner	1	13	River Bed	Garaiya	2.00	18000
		23	River Bed	Chibiatola	2.00	18000
	2	5	River Bed	Mainpuri	1.80	16200
		6	River Bed	Pipri Raiyat	1.00	12000
	3	24	River Bed	Khairimal	1.00	10800
		4	River Bed	Poudimal	3.00	54000
	4	17	River Bed	Tikarwara	1.000	15600
		18	River Bed	Hirdenagar	1.500	21600
	5	15	River Bed	Silgi No. 1	2.400	40320
		16	River Bed	Tharka	2.400	38880

**2. Contiguous Cluster:**

River Name	Contiguous Cluster No.	Cluster No.	Number of leases in the cluster	Location (Reverbed/ Patta Land)	Distance between clusters	Village	Area of cluster (Ha)	Total Mineral excavation (ton)
NIL								



**ANNEXURE-IV**

**Transportation Routes for Individual Sand Quarry and Sand Quarry in Cluster**

**1. Transportation Routes for Individual Sand Quarry**

Sr No	Lease Name	Transportation Route No.	Number of tippers/day of lease	Number of tippers/day of all lease on route	Length of Route in KM	Type of Road (Black Topped/unpaved)	Recommendation for road (Black Topped/unpaved)	The road will be constructed by Govt./ lease owner	Route Map & Location
1	Devgaon	1	0	0	0.36	unpaved	unpaved	lease owner	Enclosed
2	Raygaon	1	0	0	0.5	unpaved	unpaved	lease owner	Enclosed
3	Kisli	1	0	0	1.3	unpaved	unpaved	lease owner	Enclosed
4	Karegaon	1	05	05	1.3	unpaved	unpaved	lease owner	Enclosed
5	Gughari	1	0	0	1.1	unpaved	unpaved	lease owner	Enclosed
6	Nara	1	11	11	0.55	unpaved	unpaved	lease owner	Enclosed
7	Indri	1	3	3	0.80	unpaved	unpaved	lease owner	Enclosed
8	Baheri	1	0	0	0.50	unpaved	unpaved	lease owner	Enclosed
9	Koko	1	0	0	2.10	unpaved	unpaved	lease owner	Enclosed
10	Bakcheradona	1	1	1	0.90	unpaved	unpaved	lease owner	Enclosed
11	Gurarkheda	1	0	0	0.70	unpaved	unpaved	lease owner	Enclosed
12	Silgi No. 02	1	12	12	0.25	unpaved	unpaved	lease owner	Enclosed
13	Bhapsa	1	14	14	0.80	unpaved	unpaved	lease owner	Enclosed
14	Bhawarda	1	14	14	0.28	unpaved	unpaved	lease owner	Enclosed



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15	Barbaspur	1	16	16	0.80	unpaved	unpaved	unpaved	lease owner	Enclosed
16	Mugdara	1	18	18	0.45	unpaved	unpaved	unpaved	lease owner	Enclosed

## 2. Transportation Routes for Sand Quarry in Cluster

Cluster No.	Transportation Route No.	Number of tippers/day of lease	Number of tippers/day of all lease on route	Length of Route in KM	Type of Road (Black Topped/ unpaved)	Recommendation for road (Black Topped/ unpaved)	The road will be constructed by Govt/ lease owner	Route Map & Location
1	1	1	1	0.30	unpaved	unpaved	lease owner	Enclosed
2	1	9	9	0.50	unpaved	unpaved	lease owner	Enclosed
3	1	6	6	0.52	unpaved	unpaved	lease owner	Enclosed
4	1	18	18	0.60	unpaved	unpaved	lease owner	Enclosed
5	1	14	14	0.26	unpaved	unpaved	lease owner	Enclosed

\*Data Year 2022

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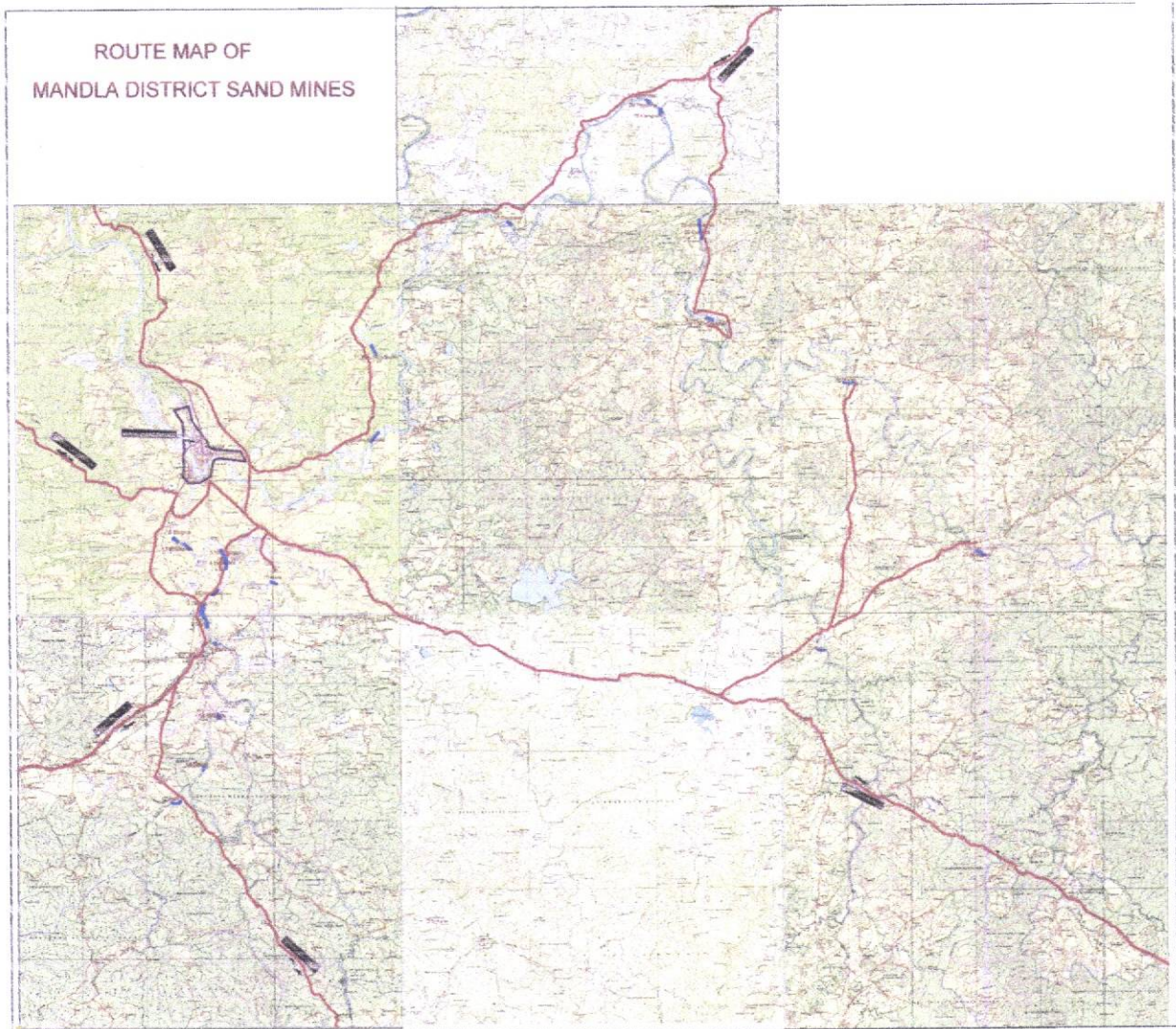
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▪ **Identification of possible route for sand transportation:-**

The map of identification of possible routes for sand transport is attached below-



Sand Mines - 

Transport Route - 

  
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## CHPATER -13

### ADDITIONAL IMPORTANT PROSPECT OF THE SAND MINING

o Tehsil wise detail of river or stream and other sand source

S.No.	Tehsil	River or River stream for Sand Source
1	Mandla	Narmada River, Banjar River
2	Bichhiya	Budner River, Halon River
3	Ghughri	Budner River, Surpan River
4	Nainpur	Banjar River

o Tehsil wise Availability of sand or gravel or aggregate resources


S.No.	Tehsil	River Name	Name of Sand Ghat
1	Mandla	Narmada River, Banjar River	Devgaon, Silgi No.2, Silgi No.1, Tharka, Tikarwara, Hirdenagar, Bhapsa, Bhawarda, Gurarkheda, Bakcheradona
2	Ghughri	Budner River, Surpan River	Raygaon, Garaiya, Chhiblatola, Kiski, Khairimal, Paudimal, Karegaon, Ghughri, Nara
3	Bichhiya	Budner River, Halon River, Banjar River	Mainpuri, Pipari ryt, Koko, Barbaspur
4	Nainpur	Banjar River	Mugdara, Indri, Baheri


o River wise Recommended Sand Ghats for availability of sand

S.No.	Resource of Sand	No. of Sand Ghats
1	Budner River	10
2	Narmada River	02
3	Banjar River	12
4	Surpan River	01
5	Halon River	01
	Total	26

Table : List of Main Rivers flowing in Mandla District

S.No.	Name of River	Length in the District (km.)	Brief information of the River
1	Narmada River	110	This river originates from Amarkantak in Anuppur district and covers a distance of 110 km in Mandla district.
2	Budner River	129	This river originates from Mekal mountain (Chada) and covers 129 km in the district. flows over the area.
3	Banjar River	45	This river originates from Banjarpur (CG) and covers 45 km in the district flows over the area.

  
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• **Drainage system with description of main rivers-**

S. No.	Name of River	Area Drained (Sq. km.)	% Area Drained
1	Narmada	3130	35.90
2	Budner	2708	17.44
3	Banjar	1520	31.07

• **Salient Features of Important Rivers and Streams**

S. No.	Name of River	Total Length in the district (in Km)	Place of Origin	Altitude at Origin
1	Narmada	110	Amarkantak (Anuppur District)	1057 meter
2	Budner	129	Mekal Mountain (Chada)	1142 meter
3	Banjar	45	Banjargarh (CG)	635 Meter

**Methodology Adopted for Calculating of Mineral Potential**

The mineral potential is calculated based on field investigation and geology of the catchment area of the river/ streams. As per the policy of the State and location, depth of minable mineral is defined. The area for removal of mineral in a river or stream can be decided depending on geomorphology and other factors, it can be 50% to 60% of the area of a particular river/stream. Other constituents like clay and silt are excluded as waste while calculating the mineral potential of particular river/ stream.

The specific gravity of each mineral constituent is different. While calculating the mineral potential, the average specific gravity is taken as 2.25. The percent of mineral constituent like boulder, river Bajri, and sand also varies for different river and streams. While calculating mineral potential, the percentage for each mineral constituent is 25-30% for sand and 5-10% for silt and clay.

The quantum of deposition varies from stream to stream depending upon factors like catchment lithology, discharge, river profile and geomorphology of the river course. There are certain geomorphological features developed in the river beds such as channel bar, point bar etc. where annual deposition is more even two to three meters.

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## Salient Features of Important Rivers and Streams

### Portion of the River or Stream Recommended for Mineral Concession Area in District

Sr No.	River Name	Mine Name	Area (Ha)	Length of area recommended for mineral concession (in meter)	Average width of area recommended for mineral concession (in meters)	Area recommended for mineral concession (in square meter) X depth	Total mineral concession in cum.	Mineable mineral potential (in Cubic meter) (60% of total mineral potential)	Production in Year 2019-20 in cum.	Production in Year 2020-21 in cum.	Production in Year 2021-22 in cum.
1	Banjar	Silgi No. 2	3.800	525	72.3	38000 x 3.0	114000	68400	29729.23	485.4	76421.78
2	Surpan	Nara	2.00	400	50	20000 x 3.0	60000	36000	6244.0	3243.73	33195.89
3	Budhner	Paudimal	3.000	300	100	30000 x 3.0	90000	54000	4769.77	13091.26	50406.67
4	Budhner	Mainpuri	1.800	400	45	18000 x 1.5	27000	16200	0	0	12832.28
5	Budhner	Pipri Raiyat	1.000	280	35.7	10000 x 2.0	20000	12000	0	0	5600
6	Budhner	Karegaon	4.000	500	80	40000 x 2.0	80000	48000	0	0	16682.31
7	Budhner	Kisli	2.000	270	74	20000 x 1.8	36000	21600	0	0	13631.53
8	Budhner	Gughari	3.240	463	70	32400 x 2.0	64800	38800	0	0	14816.40
9	Banjar	Indri	4.680	1350	34.5	46800 x 1.8	84240	41040	0	0	8172.27
10	Budhner	Raygaon	2.900	345	82.8	29000 x 2.0	58000	34800	0	0	2208.23
11	Budhner	Garaiya	2.000	225	38.8	20000 x 1.5	30000	18000	0	0	2464.58
12	Banjar	Devgaon	2.000	500	40	20000 x 2.0	40000	24000	0	0	12205.24
13	Narmada	Bakchheradona	3.700	400	32.5	37000 x 2.0	74000	44400	0	0	264.66

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14	Banjar	Baheri	1.000	290	34.4	10000 x 1.8	18000	10800	0	0	0
15	Banjar	Silgi No. 1	2.400	300	80	24000 x 2.8	67200	40320	0	0	0
16	Banjar	Tharka	2.400	300	80	24000 x 2.7	64800	38880	0	0	0
17	Banjar	Tikarwara	1.000	125	80	10000 x 2.6	26000	15600	0	0	0
18	Banjar	Hirdenagar	1.500	150	100	15000 x 2.4	36000	21600	0	0	0
19	Banjar	Bhapsa	2.000	200	100	20000 x 2.4	48000	28800	0	0	0
20	Banjar	Bhawarda	1.000	125	80	10000 x 2.6	26000	15600	0	0	0
21	Budhner	Chhiblatola	2.000	250	80	20000 x 1.5	30000	18000	0	0	0
22	Budhner	Khairimal	1.000	140	71.4	10000 x 1.8	18000	10800	0	0	0
23	Narmada	Gurarkheda	1.000	175	57.1	10000 x 2.0	20000	12000	0	0	0
24	Halon	Koko	2.00	330	60.6	20000 x 1.2	24000	14400	0	0	0
25	Banjar	Barbaspur	4.00	540	74	40000 x 2.8	112000	67200	0	0	0
26	Banjar	Mugdara	2.800	380	73.6	28000 x 3.0	84000	50400	0	0	0

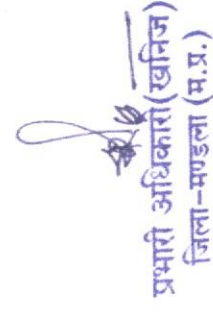


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## Mineral Potential :

Sr No.	River Name	Mine Name	Area (Ha)	Total Area in sqm	Standard Depth in meter	Total mineral concession in cum.	Mineable mineral (in Cubic meter) (60% of total mineral potential)	Mineable mineral (in Metric Tonne)
1	Banjar	Silgi No. 2	3.800	38000	3.0	114000	68400	95760
2	Surpan	Nara	2.00	20000	3.0	60000	36000	50400
3	Budhner	Paudimal	3.000	30000	3.0	90000	54000	75600
4	Budhner	Mainpuri	1.800	18000	1.5	27000	16200	22680
5	Budhner	Pipri Raiyat	1.000	10000	2.0	20000	12000	16800
6	Budhner	Karegaon	4.000	40000	2.0	80000	48000	67200
7	Budhner	Kisli	2.000	20000	1.8	36000	21600	30240
8	Budhner	Gughari	3.240	32400	2.0	64800	38800	54320
9	Banjar	Indri	4.680	46800	1.8	84240	41040	57456
10	Budhner	Raygaon	2.900	29000	2.0	58000	34800	48720
11	Budhner	Garaiya	2.000	20000	1.5	30000	18000	25200
12	Banjar	Devgaon	2.000	20000	2.0	40000	24000	33600
13	Narmada	Bakchheradonna	3.700	37000	2.0	74000	44400	62160
14	Banjar	Baheri	1.000	10000	1.8	18000	10800	15120
15	Banjar	Silgi No. 1	2.400	24000	2.8	67200	40320	56448
16	Banjar	Tharka	2.400	24000	2.7	64800	38880	54432
17	Banjar	Tikarwara	1.000	10000	2.6	26000	15600	21840
18	Banjar	Hirdenagar	1.500	15000	2.4	36000	21600	30240
19	Banjar	Bhapsa	2.000	20000	2.4	48000	28800	40320
20	Banjar	Bhawarda	1.000	10000	2.6	26000	15600	21840
21	Budhner	Chhiblatola	2.000	20000	1.5	30000	18000	25200
22	Budhner	Khairimal	1.000	10000	1.8	18000	10800	15120
23	Narmada	Gurarkheda	1.000	10000	2.0	20000	12000	16800



24	Halon	Koko	2.00	20000	1.2	24000	14400	20160
25	Banjar	Barbaspur	4.00	40000	2.8	112000	67200	94080
26	Banjar	Mugdara	2.800	28000	3.0	84000	50400	70560
Total							8,01,640	11,22,296

  
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## ANNUAL DEPOSITION :

Sr No.	River Name	Mine Name	Area (Ha)	Length of area recommended for mineral concession (in meter)	Average width of area recommended for mineral concession (in meters)	Area recommended for mineral concession (in square meter) X depth	Total mineral concession in cum.	Mineable mineral potential (in Cubic meter) (60% of total mineral potential)	Mineable mineral potential (in Metric Tonne)
1	Banjar	Silgi No. 2	3.800	525	72.3	38000 x 3.0	114000	68400	95760
2	Surpan	Nara	2.00	400	50	20000 x 3.0	60000	36000	50400
3	Budhner	Paudimal	3.000	300	100	30000 x 3.0	90000	54000	75600
4	Budhner	Mainpuri	1.800	400	45	18000 x 1.5	27000	16200	22680
5	Budhner	Pipri Raiyat	1.000	280	35.7	10000 x 2.0	20000	12000	16800
6	Budhner	Karegaon	4.000	500	80	40000 x 2.0	80000	48000	67200
7	Budhner	Kisli	2.000	270	74	20000 x 1.8	36000	21600	30240
8	Budhner	G.ghari	3.240	463	70	32400 x 2.0	64800	38800	54320
9	Banjar	Indri	4.680	1350	34.6	46800 x 1.8	84240	41040	57456
10	Budhner	Raygaon	2.900	345	82.8	29000 x 2.0	58000	34800	48720
11	Budhner	Garaiya	2.000	225	88.8	20000 x 1.5	30000	18000	25200
12	Banjar	Devgaon	2.000	500	40	20000 x 2.0	40000	24000	33600
13	Narmada	Bakchheradona	3.700	400	92.5	37000 x 2.0	74000	44400	62160

  
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14	Banjar	Baheri	1,000	290	34.4	10000 x 1.8	18000	10800	15120
15	Banjar	Silgi No. 1	2,400	300	80	24000 x 2.8	67200	40320	56448
16	Banjar	Tharka	2,400	300	80	24000 x 2.7	64800	38880	54432
17	Banjar	Tikarwara	1,000	125	80	10000 x 2.6	26000	15500	21840
18	Banjar	Hirdenagar	1,500	150	100	15000 x 2.4	36000	21500	30240
19	Banjar	Bhapsa	2,000	200	100	20000 x 2.4	48000	28800	40320
20	Banjar	Bhawarda	1,000	125	80	10000 x 2.6	26000	15500	21840
21	Budhner	Chhiblatola	2,000	250	80	20000 x 1.5	30000	18000	25200
22	Budhner	Khairimal	1,000	140	71.4	10000 x 1.8	18000	10800	15120
23	Narmada	Gurarkheda	1,000	175	57.1	10000 x 2.0	20000	12000	16800
24	Halon	Koko	2,000	330	60.6	20000 x 1.2	24000	14400	20160
25	Banjar	Barbaspur	4,000	540	74	40000 x 2.8	112000	67200	94080
26	Banjar	Mugdara	2,800	380	73.6	28000 x 3.0	84000	50400	70560
		Total						8,01,640	11,22,296

Note :- Annual deposition of sand data is as per replenishment study 2022.

  
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• **Other Information :**


➤ **Prohibited Areas for Mining:-**

As per rule 3(5) of Madhya Pradesh sand (Mining, Transportation, Storage and Trading) Rule, 2019 Extraction and removal of sand from the following area shall be prohibited as provided in sustainable sand mining guidelines, 2016 issued by Government of India-

- (a) within 200 meters from any bridge;
- (b) within 200 meter upstream and downstream areas of any water supply scheme or water resources scheme;
- (c) within 100 meter from edge of national highway and Railway line;
- (d) within 50 meter from any canal, reservoir or building;
- (e) within 50 meter from edge of state highway and 10 meters from edge of other village road;
- (f) within fixed distance from any areas which has been built to control the flood;
- (g) within 200 meter distance from the place of cultural, religious, historical, and archaeological importance or within the distance as provided in the Act/Rule;
- (h) such areas which have been declared prohibited by Collector due to environmental or other reasons:

Provided that, on receipt of representation, permission to grant for mining within the limit of prohibited area may be considered, after getting NOC/Consent from the concerned administrative department.

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ANNEXURE

## Silgi No. 01

### Area Changed Order

कार्यालय कलेक्टर (खनिज शाखा) जिला मण्डला (म०प्र०)

— आदेश —

क्रमांक/खनिज-1/2023/954A

मण्डला, दिनांक 02/05/2023

मध्यप्रदेश खनिज साधन विभाग मंत्रालय भोपाल के भविष्य क्रमांक/3012/1691/2014/12/1 दिनांक 05.06.2014 के पालन में कार्यालयीन आदेश क्रमांक/989/खनिज लि-1/2014 मण्डला दिनांक 01.11.2014 से ग्राम सिलगी तहसील मण्डला जिला मण्डला के ख०न० 01 रकबा 12.140 हे. में से रकबा 6000 हे. क्षेत्र पर पूर्व में रेत खदान घोषित किया गया है।

Ministry of Environment, Forest and Climate change (MoEFCC) जनवरी 2020 Enforcement & Monitoring Guidelines for Sand Mining 2020 जारी किये जाने पर जिले में स्थापित मौजूदा खनिज रेत खदानों को EMGSM-2020 के निर्देश विन्डू 4.3(h) अनुसार खनि निरीक्षक मण्डला एवं सहायक मानचित्रकार, खनिज शाखा मण्डला से खदानों से ब्रिज की दूरी संबंधी जांच एवं खदानों में उतख रकबा का अंकीकरण/माप कराया जाकर प्रतिवेदन प्राप्त किया गया है।

खनि निरीक्षक मण्डला एवं सहायक मानचित्रकार, खनिज शाखा मण्डला के प्रतिवेदनानुसार जिला मण्डला तहसील मण्डला के ग्राम सिलगी न.-1 स्थित भूमि ख०न० 01 रकबा 6000 हे. क्षेत्र पर पूर्व में स्वीकृत रेत खदान के लिये प्रतिबंधित क्षेत्रों से दूरी छोड़ने के उपरान्त रकबा 2400 हे. संपन्न होना है।

अतः म०प्र० रेत (खनन, परिवहन, भण्डारण तथा व्यापार) नियम, 2019 के अध्याय- दो के नियम 5(2) अनुसार ग्राम सिलगी न.-1 तहसील व जिला मण्डला अंतर्गत पूर्व में स्वीकृत रेत खदान को निम्नानुसार संशोधित किया जाता है:-

क्र०	ग्राम का नाम	खदान का नाम	तहसील	ख०न०	रकबा (हे.)
1	सिलगी	सिलगी न.-1	मण्डला	01	2400

(कलेक्टर महो० द्वारा अनुमोदित)

प्रभारी अधिकारी (खनिज)  
जिला-मण्डला (म.प्र.)

पृ.क्र./खनिज 01/2023/954A

मण्डला, दिनांक 02/05/2023

प्रतिनिधि -

- 1- प्रथम सचालक, मध्य स्टेट माइनिंग कार्पो. भोपाल को सूचनाार्थ प्रेषित।
- 2- सचालक, प्रथम तथा खनिकर्म भोपाल को सूचनाार्थ प्रेषित।
- 3- पुलिस अधीक्षक मण्डला को सूचनाार्थ प्रेषित।
- 4- मुख्य कार्यपालन अधिकारी, जिला पंचायत मण्डला को सूचनाार्थ प्रेषित।
- 5- अनुविभागीय अधिकारी (रा०) मण्डला को सूचनाार्थ प्रेषित।
- 6- मुख्य कार्यपालन अधिकारी, जनपद पंचायत मण्डला को सूचनाार्थ प्रेषित।
- 7- खनि निरीक्षक/सहायक मानचित्रकार मण्डला को सूचनाार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित।
- 8- ग्राम पंचायत सिलगी तहसील व जिला मण्डला को सूचनाार्थ प्रेषित।
- 9- कार्यालय कलेक्टर (खनिज शाखा) मण्डला के नोटिस बोर्ड में चस्ता हेतु प्रेषित।
- 10- गार्ड फाईल में संचारण हेतु प्रेषित।

प्रभारी अधिकारी (खनिज)  
जिला-मण्डला (म.प्र.)

प्रभारी अधिकारी (खनिज)  
जिला-मण्डला (म.प्र.)

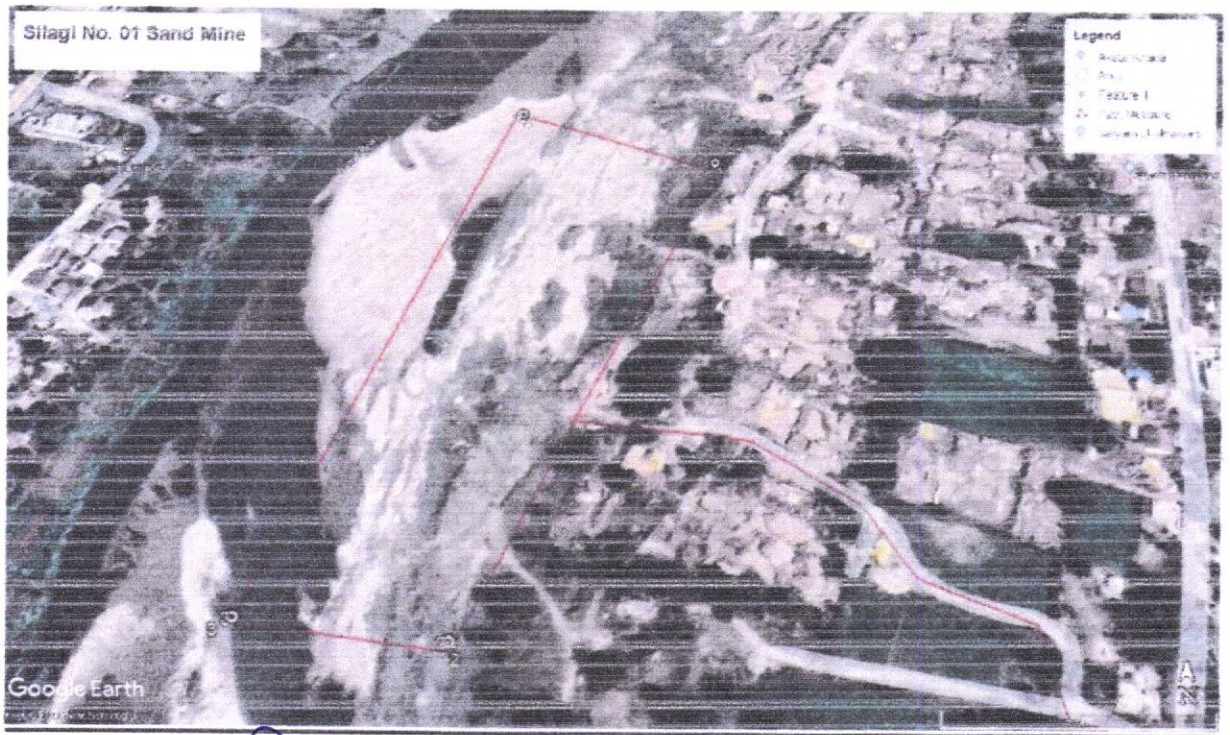
Scanned with OKEN Scanner



**Mines Photo**



**Google Image**



*Meyo*  
State Level Environment Impact  
Assessment Authority, M.P.  
(EPCO)  
Paryavaran Parisar  
E-5, Arera Colony, Bhopal (M.P.)

*[Signature]*  
प्रभारी अधिकारी (खनिज)  
जिला-मण्डला (म.प्र.)



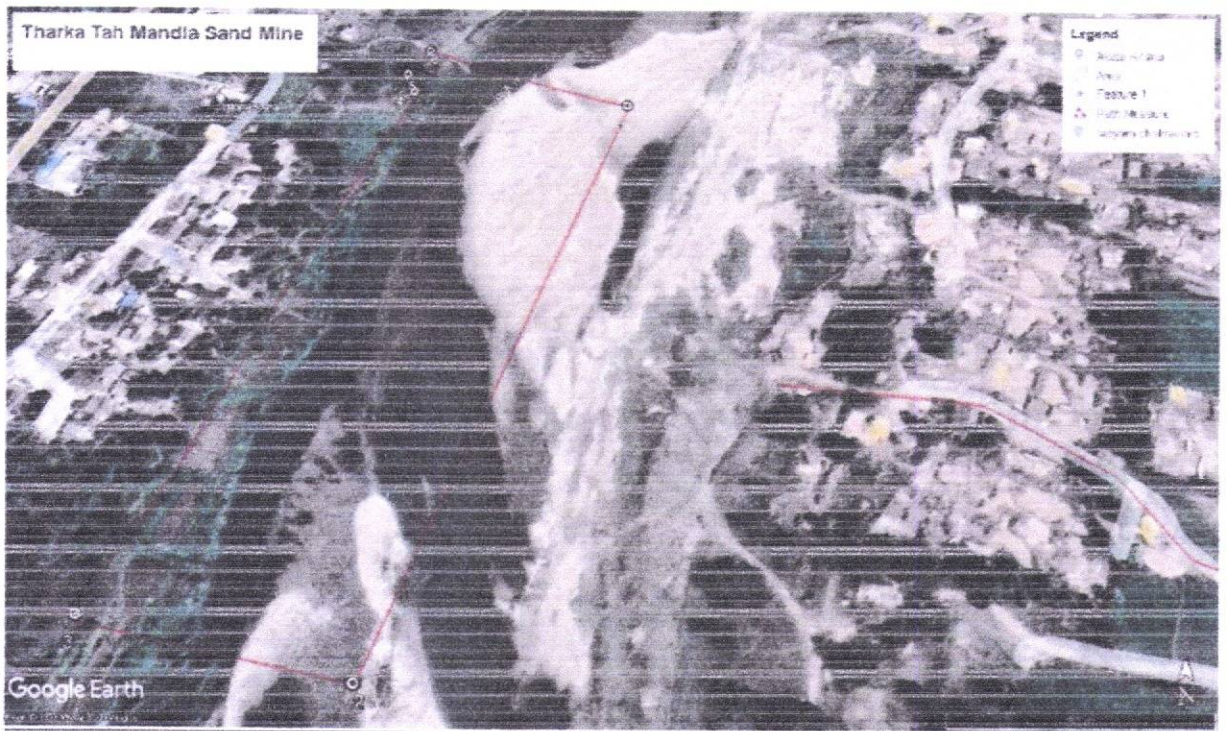




Mines Photo



Google Image



*Abaw*  
State Level Environment Impact  
Assessment Authority, M.P.  
(EPCO)  
Paryavaran Parisar  
E-5, Arera Colony, Bhopal (M.P.)

*Prabhu*  
प्रभारी अधिकारी (खनिज)  
जिला-मण्डला (म.प्र.)



## Tikarwara

### Area Changed Order

कार्यालय कलेक्टर (खनिज शाखा) जिला मण्डला (मोप्रो)

- आदेश :-

क्रमांक/खनिज-1/2023/956

मण्डला, दिनांक 02/06/2023

स.प्र.शासन खनिज साधन विभाग मंत्रालय भोपाल के परिपत्र क्रमांक/3012/1691/2014/12/1 दिनांक 05.06.2014 के गालन में कार्यालयीन आदेश क्रमांक/990/खनिज लि-1/2014 मण्डला दिनांक 01.11.2014 से ग्राम टिकरवारा तहसील मण्डला जिला मण्डला के ख0क्र0 298/1 रकबा 20189 हे. में से रकबा 6.000 हे. क्षेत्र पर पूर्व में रेत खदान घोषित किया गया है।

Ministry of Environment, Forest and Climate change (MoEFCC) जनवरी 2020 Enforcement & Monitoring Guidelines for Sand Mining 2020 जारी किये जाने पर जिले में रथगीत में खनिज रेत खदानों को EMGSM-2020 के निर्देश बिन्दू 4.3(h) अनुसार खनि निरीक्षक मण्डला एवं सहायक मानचित्रकार, खनिज शाखा मण्डला से खदानों से बिज की दूरी संबंधी जांच एवं खदानों में उलटा रकबे का आकलन/माप कराया जाकर प्रतिवेदन प्राप्त किया गया है।

खनि निरीक्षक मण्डला एवं सहायक मानचित्रकार, खनिज शाखा मण्डला के प्रतिवेदनानुसार जिला मण्डला तहसील मण्डला के ग्राम टिकरवारा स्थित भूमि ख0क्र0 298/1 रकबा 6.000 हे क्षेत्र पर पूर्व से स्वीकृत रेत खदान के लिये प्रतिबंधित क्षेत्रों से दूरी छोड़ने के उपरांत रकबा 1.000 हे. उपलब्ध होता है।

अतः मोप्रो रेत (खनन, परिवहन, भण्डारण तथा व्यापार) नियम, 2019 के अध्याय- दो के नियम 5(2) अनुसार ग्राम टिकरवारा तहसील व जिला मण्डला अंतर्गत पूर्व में स्वीकृत रेत खदान को निम्नानुसार संशोधित किया जाता है:-

क्र0	ग्राम का नाम	तहसील	ख0क्र0	रकबा (हे.)
1	टिकरवारा	मण्डला	298/1	1000

(कलेक्टर महो0 द्वारा अनुमोदित)

प्रभारी अधिकारी (खनिज)  
जिला-मण्डला (म.प्र.)

पू.क्र./खनिज 01/2023/956A

मण्डला, दिनांक 02/06/2023

प्रतिलिपि:-

- 1- प्रथम संचालक, स.प्र.स्टेट माइनिंग कार्पो, भोपाल को सूचनाार्थ प्रेषित।
- 2- संचालक, प्रहसन तथा खनिकर्म भोपाल को सूचनाार्थ प्रेषित।
- 3- पुलिस अधीक्षक मण्डला को सूचनाार्थ प्रेषित।
- 4- मुख्य कार्यपालन अधिकारी, जिला पंचायत मण्डला को सूचनाार्थ प्रेषित।
- 5- अनुविभागीय अधिकारी (रा0) मण्डला को सूचनाार्थ प्रेषित।
- 6- मुख्य कार्यपालन अधिकारी, जनप्रप्र पंचायत मण्डला को सूचनाार्थ प्रेषित।
- 7- खनि निरीक्षक/सहायक मानचित्रकार मण्डला को सूचनाार्थ एवं आकषक कार्यवाही हेतु प्रेषित।
- 8- ग्राम पंचायत टिकरवारा तहसील व जिला मण्डला को सूचनाार्थ प्रेषित।
- 9- कार्यालय कलेक्टर (खनिज शाखा) मण्डला के नोटिस बोर्ड में चरता हेतु प्रेषित।
- 10- सार्ड फाईल में संधारण हेतु प्रेषित।

प्रभारी अधिकारी (खनिज)  
जिला-मण्डला (म.प्र.)

प्रभारी अधिकारी (खनिज)  
जिला-मण्डला (म.प्र.)

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**Mines Photo**



**Google Image**



*Choudhary*  
State Level Environment Impact  
Assessment Authority, M.P.  
(EPCO)  
Paryavaran Parisar  
E-5, Arera Colony, Bhopal (M.P.)

*[Signature]*  
प्रभारी अधिकारी (खनिज)  
जिला-मण्डला (म.प्र.)



## Hirdenagar

### Area Changed Order

#### कार्यालय कलेक्टर (खनिज शाखा) जिला मण्डला (म०प्र०)

:- आदेश :-

क्रमांक/खनिज-1/2023/951

मण्डला, दिनांक 07/06/2023

मध्यप्रदेश खनिज सार्वजनिक विभाग मन्त्रालय भोपाल के परिषद क्रमांक/3012/1691/2012-17/1 दिनांक 28.06.2014 के पालन में कार्यालयीन आदेश क्रमांक/941/खनिज लि-1/2014 मण्डला दिनांक 14.10.2014 से ग्राम हिरदेनगर तहसील मण्डला जिला मण्डला के ख०न० 220 रकबा 20.210 हे. में से रकबा 8.000 हे. क्षेत्र पर पूर्व में सेत खदान प्रेषित किया गया है।

Ministry of Environment, Forest and Climate change (MoEFCC) जनवरी 2020 Enforcement & Monitoring Guidelines for Sand Mining 2020 जारी किये जाने पर जिले में स्थापित मौखिक खनिज सेत खदानों को EMGSM-2020 के निर्देश बिन्दु 4.3(b) अनुसार खनि निरीक्षक मण्डला एवं सहायक मानचित्रकार खनिज शाखा मण्डला से खदानों से बिज की दूरी राखी जाय एवं खदानों में उल्लंघन रकबा एवं अवयव मान्य कर प्रतिकेदन प्राप्त किया गया है।

खनि निरीक्षक मण्डला एवं सहायक मानचित्रकार, खनिज शाखा मण्डला के प्रतिवेदनानुसार जिला मण्डला तहसील मण्डला के ग्राम हिरदेनगर स्थित भूमि ख०न० 220 रकबा 8.000 हे. क्षेत्र पर पूर्व में स्वीकृत सेत खदान के लिये प्रतिवेदित क्षेत्रों से दूरी छोड़ने के उपरान्त रकबा 1500 हे. उपलब्ध होता है।

जब म०प्र० सेत (खनन, परिवहन, भण्डारण तथा व्यापार) नियम, 2019 के अध्याय-10 में विधम 5(2) अनुसार ग्राम हिरदेनगर तहसील व जिला मण्डला अंतर्गत पूर्व में स्वीकृत सेत खदान को विधमानुसार संशोधित किया जाता है:-

क्र०	ग्राम का नाम	तहसील	ख०न०	रकबा (हे.)
1	हिरदेनगर	मण्डला	220	1500

(कलेक्टर मण्डला द्वारा अनुमोदित)

प्रभारी अधिकारी (खनिज)  
जिला-मण्डला (म.प्र.)

क्रमांक/खनिज 01/2023/951(1)

मण्डला, दिनांक 02/06/2023

प्रतीपत्र:-

- 1- प्रत्येक सहायक, मप्र स्टेट माइनिंग कार्पो भोपाल को सूचनाार्थ प्रेषित।
- 2- सहायक, प्रखरन तथा खनिकर्म भोपाल को सूचनाार्थ प्रेषित।
- 3- पुलिस अधीक्षक मण्डला को सूचनाार्थ प्रेषित।
- 4- मुख्य कार्यपालन अधिकारी जिला पंचायत मण्डला को सूचनाार्थ प्रेषित।
- 5- अनुविभागीय अधिकारी (ख०) मण्डला को सूचनाार्थ प्रेषित।
- 6- मुख्य कार्यपालन अधिकारी जनपद पंचायत मण्डला को सूचनाार्थ प्रेषित।
- 7- खनि निरीक्षक/सहायक मानचित्रकार मण्डला को सूचनाार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित।
- 8- ग्राम पंचायत हिरदेनगर तहसील व जिला मण्डला को सूचनाार्थ प्रेषित।
- 9- कार्यालय कलेक्टर (खनिज शाखा) मण्डला के नोटिस बोर्ड में वरस्ता हेतु प्रेषित।
- 10- माई फाईल में संवर्णन हेतु प्रेषित।

प्रभारी अधिकारी (खनिज)  
जिला-मण्डला (म.प्र.)

प्रभारी अधिकारी (खनिज)  
जिला-मण्डला (म.प्र.)

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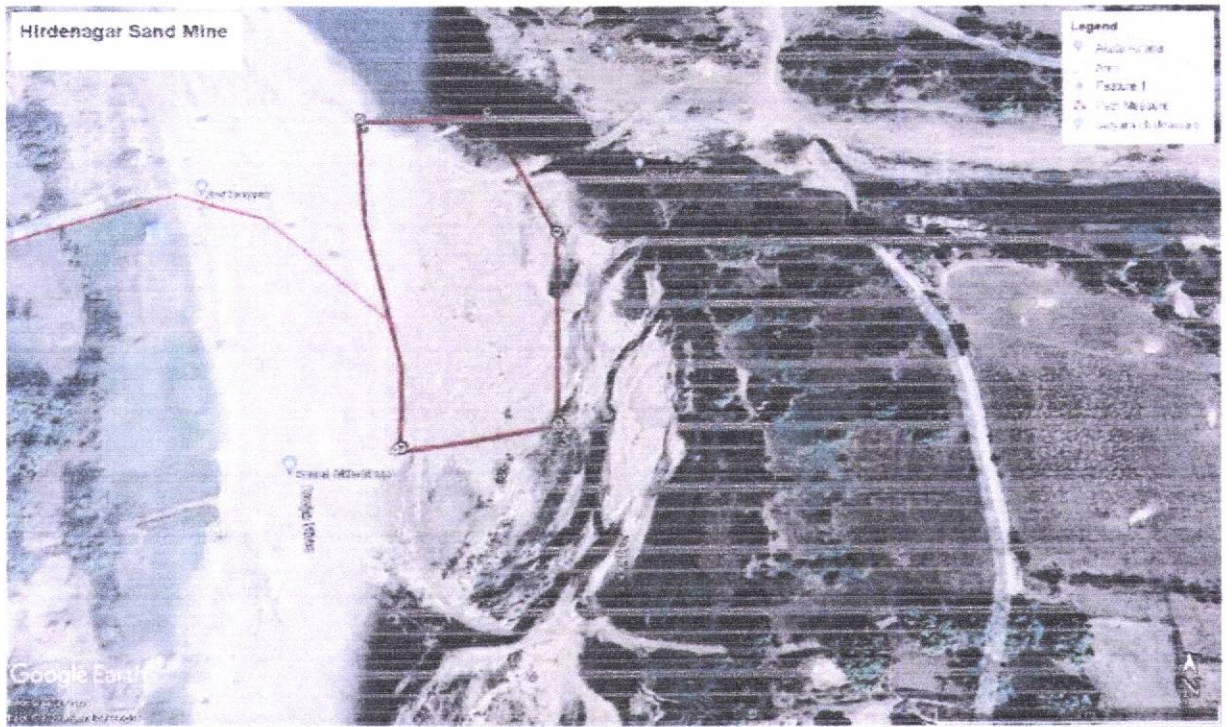
Environment & Forest  
Administration Authority, M.P.  
Parisar  
E-5, Area Colony, Bhopal (M.P.)



**Mine Photo**



**Google Image**



*Abhishek*  
State Level Environment Impact  
Assessment Authority, M.P.  
(EPCO)  
Paryaveran Parisar  
E-5, Area Colony, Bhopal (M.P.)

*[Signature]*  
प्रभारी अधिकारी (खनिज)  
जिला-मण्डला (म.प्र.)



## Bhapsa No. 01

### Area Changed Order

कार्यालय कलेक्टर (खनिज शाखा) जिला मण्डला (म०प्र०)

- आदेश :-

क्रमांक/खनिज-1/2023/953

मण्डला, दिनांक 02/05/2023

प्रशासन खनिज संचयन विभाग नेपाल के परिवेश क्रमांक/3012/1691/2014/12/1 दिनांक 05.06.2014 के फालन में कार्यालयीन आदेश क्रमांक/988/खनिज लि-1/2014 मण्डला दिनांक 01.11.2014 से ग्राम भपसा नं-1 तहसील मण्डला जिला मण्डला के ख०क्र० 412 रकबा 19.25 हे. में से रकबा 5.100 हे. क्षेत्र पर पूर्व में रेत खदान घोषित किया गया है।

Ministry of Environment, Forest and Climate change (MoEFCC) जनवरी 2020 Enforcement & Monitoring Guidelines for Sand Mining 2020 जारी किये जाने पर जिसमें स्थापित गोंग खनिज रेत खदानों को EMGSM-2020 के निर्देश बिन्दू 4.3(h) अनुसार खनि निरीक्षक मण्डला एवं सहायक मानचित्रकार, खनिज शाखा मण्डला से खदानों से विज की दूरी संकधी जांच एवं खदानों में उलका रकबे का ऑफलन/माप कराया जाकर प्रतिवेदन प्राप्त किया गया है।

खनि निरीक्षक मण्डला एवं सहायक मानचित्रकार, खनिज शाखा मण्डला के प्रतिवेदनानुसार जिला मण्डला तहसील मण्डला के ग्राम भपसा नं-1 स्थित भूमि ख०क्र० 412 रकबा 5.100 हे. क्षेत्र पर पूर्व में स्वीकृत रेत खदान के लिए प्रतिबंधित क्षेत्रों से दूरी छोड़ने के उपरान्त रकबा 2.000 हे. उपलब्ध होता है।

अतः म०प्र० रेत (खनन, परिवहन, भण्डारण तथा व्यापार) नियम, 2019 के अध्याय- दो के नियम 5(2) अनुसार ग्राम भपसा नं-1 तहसील व जिला मण्डला अंतर्गत पूर्व में स्वीकृत रेत खदान को निम्नानुसार संशोधित किया जाता है:-

क्र०	ग्राम का नाम	खदान का नाम	तहसील	ख०क्र०	रकबा (हे.)
1	भपसा	भपसा नं-1	मण्डला	412	2.000

(कलेक्टर महोदय द्वारा अनुमोदित)

प्रभारी अधिकारी (खनिज)  
जिला-मण्डला (म.प्र.)  
मण्डला

पृष्ठ/खनिज 01/2023/953A

मण्डला, दिनांक 02/05/2023

प्रतिलिपि:-

- 1- प्रकाश संचालक, म.प्र.स्टेट माइनिंग कार्पोरेशन नेपाल को सूचनाार्थ प्रेषित।
- 2- संचालक, प्रशासन तथा खनिकर्म नेपाल को सूचनाार्थ प्रेषित।
- 3- पुलिस अधीक्षक मण्डला को सूचनाार्थ प्रेषित।
- 4- मुख्य कार्यपालन अधिकारी, जिला पंचायत मण्डला को सूचनाार्थ प्रेषित।
- 5- अनुकियागीद अधिकारी (रा०) मण्डला को सूचनाार्थ प्रेषित।
- 6- मुख्य कार्यपालन अधिकारी, जनपद पंचायत मण्डला को सूचनाार्थ प्रेषित।
- 7- खनि निरीक्षक/सहायक मानचित्रकार मण्डला को सूचनाार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित।
- 8- ग्राम पंचायत भपसा तहसील व जिला मण्डला को सूचनाार्थ प्रेषित।
- 9- कार्यालय कलेक्टर (खनिज शाखा) मण्डला के नोटिस बोर्ड में चरता हेतु प्रेषित।
- 10- सर्वे कार्ड में संधारण हेतु प्रेषित।

प्रभारी अधिकारी (खनिज)  
जिला-मण्डला (म.प्र.)

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State Level Environment Impact

Assessment Report

E-5, A. S. Colony, Bhopal (M.P.)

प्रभारी अधिकारी (खनिज)  
जिला-मण्डला (म.प्र.)

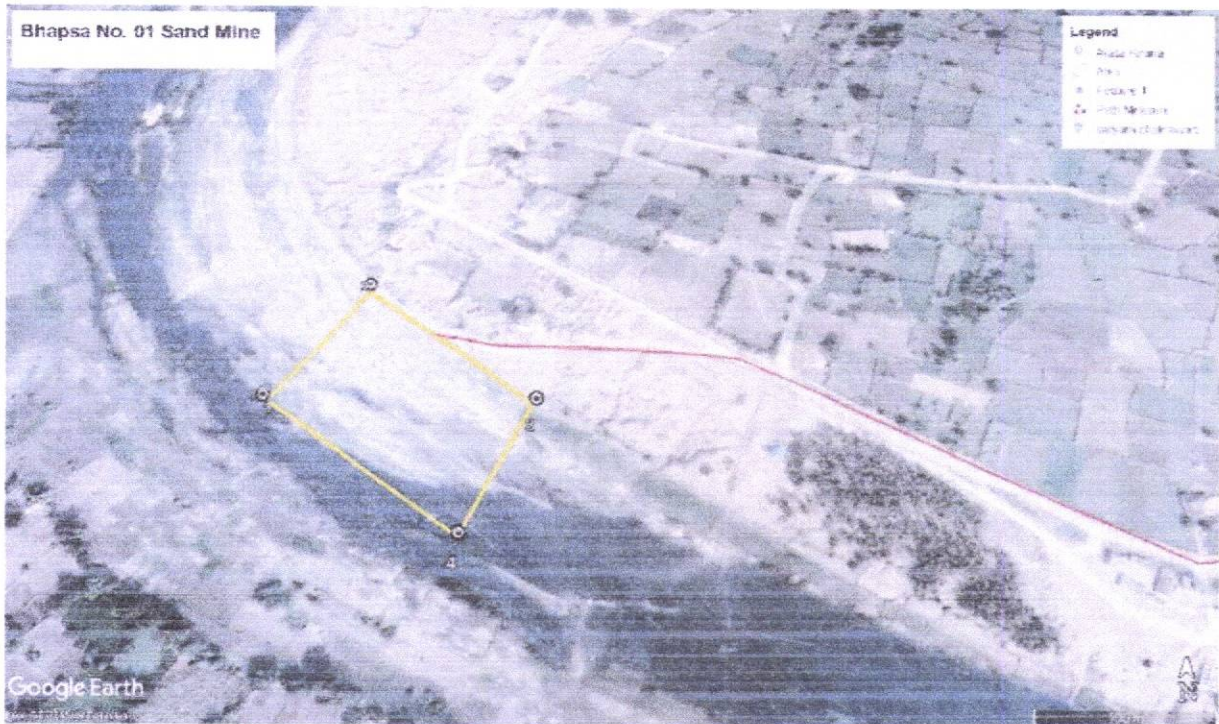
Page | 10



**Mine Photo**



**Google Image**



*[Signature]*  
State Level Environment Impact  
Assessment Authority, M.P.  
(EPCO)  
Paryavaran Parishar  
E-5, Arera Colony, Bhopal (M.P.)

*[Signature]*  
प्रभारी अधिकारी (खनिज)  
जिला-मण्डला (म.प्र.)



## Bhawarda

### Area Changed Order

कार्यालय कलेक्टर (खनिज शाखा) जिला मण्डला (MOPRO)

- आदेश -

क्रमांक/खनिज-1/2023/452-

मण्डला, दिनांक 02/06/2023

म.प्र.शासन खनिज साधन विभाग मंत्रालय भोपाल के परिचय क्रमांक/3012/1691/2014/12/1 दिनांक 05.06.2014 के पालन में कार्यालयीन आदेश क्रमांक/942/खनिज लि-1/2014 मण्डला दिनांक 14.10.2014 से ग्राम भवरदा तहसील मण्डला जिला मण्डला के खोदने 325 रकबा 19740 हे. में से रकबा 600 हे. क्षेत्र पर पूर्व में रेत खदान घोषित किया गया है।

Ministry of Environment, Forest and Climate change (MoEFCC) जनवरी 2020 Enforcement & Monitoring Guidelines for Sand Mining 2020 जारी किये जाने पर जिले में स्थापित मौखिक खनिज रेत खदानों को EMGSM-2020 के निर्देश बिन्दु 4.3(ii) अनुसार खनि निरीक्षक मण्डला एवं सहायक मानचित्रकार, खनिज शाखा मण्डला से खदानों से दूरी संबंधी जांच एवं खदानों में उतलवा रकबा का आकलन/माप कराया जाकर प्रतिवेदन प्राप्त किया गया है।

खनि निरीक्षक मण्डला एवं सहायक मानचित्रकार, खनिज शाखा मण्डला के प्रतिवेदानुसार जिला मण्डला तहसील मण्डला के ग्राम भवरदा स्थित गूनि खोदने 325 रकबा 600 हे. क्षेत्र पर पूर्व से स्वीकृत रेत खदान के लिये प्रतिबंधित क्षेत्रों से दूरी छोड़ने के उपरान्त रकबा 100 हे. उपलब्ध होता है।

अतः म.प्र. रेत (खनन, परिवहन, भण्डारण तथा व्यापार) नियम, 2019 के अध्याय- दो के नियम 3(2) अनुसार ग्राम भवरदा तहसील व जिला मण्डला अंतर्गत पूर्व में स्वीकृत रेत खदान को निम्नानुसार संशोधित किया जाता है:-

क्र.0	ग्राम का नाम	तहसील	खोदने	रकबा (हे.)
1	भवरदा	मण्डला	325	1000

(कलेक्टर महोदय द्वारा अनुमोदित)

प्रभारी अधिकारी (खनिज)  
मण्डला (म.प्र.)

पृ.क्र./खनिज 01/2023/902A  
प्रतिलिपि:-

मण्डला, दिनांक 02/06/2023

- 1- प्रबंध सहायक, म.प्र.स्टेट माइनिंग कार्पो, भोपाल को सूचनाार्थ प्रेषित।
- 2- सहायक, प्रखनन तथा खनिकर्म भोपाल को सूचनाार्थ प्रेषित।
- 3- पुलिस अधीक्षक मण्डला को सूचनाार्थ प्रेषित।
- 4- मुख्य कार्यपालन अधिकारी, जिला पंचायत मण्डला को सूचनाार्थ प्रेषित।
- 5- अनुविभागीय अधिकारी (रा.0) मण्डला को सूचनाार्थ प्रेषित।
- 6- मुख्य कार्यपालन अधिकारी, जनपद पंचायत मण्डला को सूचनाार्थ प्रेषित।
- 7- खनि निरीक्षक/सहायक मानचित्रकार मण्डला को सूचनाार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित।
- 8- ग्राम पंचायत भवरदा तहसील व जिला मण्डला को सूचनाार्थ प्रेषित।
- 9- कार्यालय कलेक्टर (खनिज शाखा) मण्डला के नोटिस बोर्ड में चरता हेतु प्रेषित।
- 10- मॉडल फाईल में सभारण हेतु प्रेषित।

प्रभारी अधिकारी (खनिज)  
मण्डला (म.प्र.)

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प्रभारी अधिकारी (खनिज)  
जिला-मण्डला (म.प्र.)



### Mine Photo



### Google Image



*[Signature]*  
State Level Environment Impact  
Assessment Authority, M.P.  
(EPCO)  
Paryavaran Perisar  
E-5, Arera Colony, Bhopal (M.P.)

*[Signature]*  
प्रभारी अधिकारी (खनिज)  
जिला-मण्डला (म.प्र.)



## Comparative Study of Area changed Sand Mines

No	Name of Mine	Kh. No.	Old Area (in Hect)	New Area (in Hect)	Change in Area (in Hect)	Depth in Old DSR (in m.)	Depth in New DSR (in m.)	Old DSR Quantity (in m.)	New DSR Quantity (in m.)	Old Mineable Mineral Quantity (in Cum.) (60% of total Potential)	New Mineable Mineral Quantity (in Cum.) (60% of total Potential)	Changes in Mineable Mineral Quantity (in Cum.)	Remarks
1	Silgi No.1	1	6.000	2.400	3.600	1.5	2.8	90000	67200	54000	40320	-13,680	उक्त खदान मुख्य पुल के निकट स्थित होने से EMGS 2020 के प्रावधानों के अनुसार प्रतिबंधित क्षेत्र छोड़ने पर पूर्व के रकबे में परिवर्तन हुआ है तथा उक्त खदान में विगत 06 वर्षों से रेत खनन नहीं होने से तथा मानसून सत्र में रेत का निरंतर जमाव होने से खनन योग्य रेत की गहराई में वृद्धि होने से रिप्लेनिशमेंट स्टडी 2022 के अनुसार रेत की मात्रा में वृद्धि हुई है।
2	Tharka	969	5.200	2.400	2.800	1.0	2.7	52000	64800	31200	38880	+7,680	उक्त खदान मुख्य पुल के निकट स्थित होने से EMGS 2020 के प्रावधानों के अनुसार प्रतिबंधित क्षेत्र छोड़ने पर पूर्व के रकबे में परिवर्तन हुआ है तथा उक्त खदान में विगत 06 वर्षों से रेत खनन नहीं होने से तथा मानसून सत्र में रेत का निरंतर जमाव होने से खनन योग्य रेत की गहराई में वृद्धि होने से रिप्लेनिशमेंट स्टडी 2022 के अनुसार रेत की मात्रा में वृद्धि हुई है।



3	Tikar wara	29 8/1	6.000	1.000	5.000	1.0	2.6	60000	26000	36000	15600	-20,400	उक्त खदान मुख्य पुल के निकट स्थित होने से EMGS 2020 के प्राक्धानों के अनुसार प्रतिबंधित क्षेत्र छोड़ने पर पूर्व के रकबे में परिवर्तन हुआ है तथा उक्त खदान में विगत 05 वर्षों से रेत खनन नहीं होने से तथा मानसून सत्र में रेत का निरंतर जमाव होने से खनन योग्य रेत की गहराई में वृद्धि होने से रिप्लेनिशमेंट स्टडी 2022 के अनुसार रेत की मात्रा में वृद्धि हुई है।
4	Hirde nagar	22 0	8.000	1.500	6.500	1.0	2.4	80000	36000	48000	21600	-26,400	उक्त खदान मुख्य पुल के निकट स्थित होने से EMGS 2020 के प्राक्धानों के अनुसार प्रतिबंधित क्षेत्र छोड़ने पर पूर्व के रकबे में परिवर्तन हुआ है तथा उक्त खदान में विगत 05 वर्षों से रेत खनन नहीं होने से तथा मानसून सत्र में रेत का निरंतर जमाव होने से खनन योग्य रेत की गहराई में वृद्धि होने से रिप्लेनिशमेंट स्टडी 2022 के अनुसार रेत की मात्रा में वृद्धि हुई है।
5	Bhaps a No. 01	41 2	5.100	2.000	3.100	0.8	2.4	40800	48000	24480	28800	+4,320	उक्त खदान मुख्य पुल के निकट स्थित होने से EMGS 2020 के प्राक्धानों के अनुसार प्रतिबंधित क्षेत्र छोड़ने पर पूर्व के रकबे में परिवर्तन हुआ है तथा उक्त खदान में विगत 05 वर्षों से रेत खनन नहीं होने से तथा मानसून सत्र में रेत का निरंतर जमाव होने से खनन योग्य रेत की गहराई में वृद्धि होने से रिप्लेनिशमेंट स्टडी 2022 के अनुसार रेत की मात्रा में वृद्धि हुई है।

6	Bhava rda	32 5	6.000	1.000	5.000	1.0	2.6	60000	26000	36000	15600	-20,400	उक्त खदान मुख्य पुल के निकट स्थित होने से EMGS 2020 के प्रावधानों के अनुसार प्रतिबंधित क्षेत्र छोड़ने पर पूर्व के रकबे में परिवर्तन हुआ है तथा उक्त खदान में विगत 05 वर्षों से रेत खनन नहीं होने से तथा मानसून सत्र में रेत का निरंतर जमाव होने से खनन योग्य रेत की गहराई में वृद्धि होने से रिप्लेनिशमेंट स्टडी 2022 के अनुसार रेत की मात्रा में वृद्धि हुई है।
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 State Level Environment Impact  
 Assessment Authority, M.P.  
 (EPGO)  
 Parvati Parisar  
 E-6, Arera Colony, Bhopal (M.P.)