

Executive summary for Environment
management plan of Gadchiroli District,
Sand mining by Manual Method
(Area of sand ghats- 0-5 Ha)

Executive summary of Environment Management Plan of the District

1.0 SALIENT FEATURES OF THE PROPOSED SAND GHATS

The mining will be carried out manually with opencast method of mining by engaging labours with help of crow bars, hand shovel, pick axes and baskets. Loading is proposed to be carried out manually and transportation of mineral from the mine to the depot is proposed through tractor with trolley arrangement. As the mineral is dry, loose in nature, no drilling and blasting are required and hence it is not proposed. Sand excavated manually, will be loaded directly into vehicles.

Mining of sand is proposed to be carried out by the manual method. It involves following steps

- i. River Bed Mining activities do not involve top soil excavation.
- ii. Excavation of sand is done by using spade and bucket.
- iii. Drilling and blasting is not required.
- iv. Mining will be carried out during Auction allotted period or as per EC letter.
- v. Transport of sand from the river bed to destination will be carried out by tractor-trolley
- vi. No machinery will be used during mining operations
- vii. No pumping of water from river bed is envisaged as the proposed sand ghat is completely dry and their approach roads are also dry and accessible.
- viii. The deposits occur at the middle/bottom of the river. During the entire lease period, the deposit will be worked from the top surface to permissible maximum mineable depth suggested by Joint survey of Taluka committee.
- ix. The entire quantity of sand excavated will be transported and will be used for infrastructure development purpose. Thus, there will not be generations of any solid waste from mining activity, only very small amount of solid waste generated by the use of plastic wrappers of food items which is consumed by labors but it will be collected separately and disposed of at common waste treatment area nearby.
- x. Mining will be carried out as per the approved Mining Plan.
- xi. It is proposed to employ the local people wherever possible in the proposed project activities. Direct employment from these proposed sand ghat is mentioned in the list attached herewith.

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2.0 IMPACT ON SURROUNDING ENVIRONMENT& MITIGATION MEASURES

2.1 GENERAL:

Mining projects may have likely impacts on the various environmental components viz. Air, Water, Noise, Land, Biological Environment and Socio-economics. The magnitude of impact of sand ghat projects and their mitigation measures are provided as follows.

2.2 LAND ENVIRONMENT:

Deviation from planned mining procedure can lead to bank erosion /cutting and thereby river channel shifting degradation of land, causing loss of properties and degradation surrounding of landscape.

Mitigation Measures:

- Sand will be mined out in lease area as per the mining plan.
- The mining will remain confined to river bed only and in no case disturb any surface area outside which may affect topography or drainage.
- No stream should be diverted for the propose of sand mining.
- All the provisions stipulated in the Maharashtra Minor Mineral Extraction (Development and Regulation) Rules, 2013, will be meticulously followed.

It is ensured to compliance of the various point mentioned in sustainable Sand Mining Guidelines issued by MoEF&CC.

2.3 WATER ENVIRONMENT

Disturbance of natural drainage, flow of water and ground water table due to excavation of sand from river in absence of scientific mining. If excess excavation of sand done in the project area then depletion of ground water level causes the drought in summer season & effect on public life in all respect like farming, drinking water issue etc. Adverse Effect on aquatic life like fish, prawn and other living organism.

Mitigation Measures:

- In the projects, it is not proposed to divert or truncate any stream.
- No proposal is envisaged for pumping of water either from the river or tapping the ground water.
- In the lean months, the proposed sand mining will not expose the base flow of the river and hence, there will not be any adverse impact on surface hydrology and ground water regime due to this project.

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- The proponent will adhere all guidelines and rules for proper and scientific method of mining during the period of extracting the sand.
- Sand mining will be carried out in dry river bed portion only.
- The excavation of sand will be scientifically carried out up to the permissible thickness of sand in line with Joint Survey Report. There will not be any intersection with ground water table.

2.4 AIR ENVIRONMENT:

In river bed mining activities, vehicle is the source of both particulate and gaseous pollutants while the dust particles of sand act as particulate pollutants especially during loading and transportation. In general SPM (Suspended particulate matters PM10) and to a limited extent of Sulphur dioxide (SO₂) and Nitrous Oxides (NO_x) will be due to fossil fuel-based vehicles, in the region which may be within the permissible limits, as it is a small-scale quarrying. The dust liberated in mining and other related operations is injurious to health if inhaled. The fugitive dust generation during mining and transportation requires some mitigation.

Mitigation Measures:

- Proper mitigation measures like water sprinkling on haul roads approaching the lease area and up to river bank will be adopted to control fugitive dust emission.
- Over loading of tractor trollies and consequent spillage on the roads will be avoided.
- Measures such as covering tarpaulins over the loaded trollies will prevent spreading of sand.
- It will be ensured that all transportation vehicles will carry a valid PUC certificate.
- Plantation of trees along the roads to help reduce the impact of dust in the nearby villages.
- Periodic air monitoring will be proposed to monitor the ambient air quality.

2.5 NOISE ENVIRONMENT

Sand mining will be done by manual method, so no noise generated during mining, however noise will be generated at Ghat from movements of tractors which is used for transportation.

Mitigation Measures

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- Manual excavation is allowed in project site, No Machinery will be deployed inside the river bed.
- Noise arising out due to transportation shall be abated and controlled at source to keep within permissible limit.
- Restricted working hours. Sand mining operation has to be carried out between 6 am to 6 pm.

2.6 BIOLOGICAL ENVIRONMENT

Excessive and unscientific riverbed sand mining results in the destruction of aquatic and riparian habitat through large changes in the channel morphology.

➤ Terrestrial Ecology

Flora: The area is completely barren and devoid of any significant vegetation in the river. The lease area is totally covered by sand and not having any tree species, only some grasses observed in patches. So, there is no chance of cutting of any tree due to mining operation

Fauna: As there is no forest cover in sand ghat area, no significant wild life observed in this area. Thus, there will be no significant impact of the river quarry mining project on the biological environment in lease area.

➤ Aquatic Ecology

No adverse impacts will be envisaged on the existing aquatic fauna, on downstream side (away from site) as the mining confined to above water level only and not disturbing the water table.

Mitigation Measures:

- No mining will be carried out during the monsoon season i.e. from 10th June to 30th September to minimize impact on aquatic life, which is mainly breeding season.
- Mining will be carried out on the dry part of the river bed to avoid disturbance to the aquatic habitat and movement of fish species.
- No adverse impacts will be envisaged on the existing aquatic fauna, on downstream side (away from site) as the mining confined to above water level only and at all touching/disturbing water table.

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2.7 PLANTATION

The entire mining area falls within river course and gets flooded during monsoons; therefore, no plantation is possible within this area. Plantation will mainly be done along the haulage road and along the length of the river bank or approach road to depot or places as recommended by Gram Panchayat. Number of trees will be planted with various types of species is mentioned in the attached list. Native plants like Mango, Neem, Eucalyptus, Peepal, Gulmohar, and other local species will be selected in suitable combination, so that they can grow fast and also have good leaf cover.

2.8 OCCUPATIONAL HEALTH

1. Occupational health surveillance program for workers is undertaken periodically.
2. First Aid Facility at the proposed mining Site.

3.0 OTHER SAFETY PRECAUTIONS

1. Fencing of approach road for avoiding un-authorized entry to the active sand ghat.
2. Provision of Boards displaying all information as regards to mining of sand including quantity, period of mining activity and details of project proponent.
3. Display of warning signal boards at prominent locations.
4. Maintenance of approach road to sand ghat.
5. Deployment of adequate security arrangement.
6. Provision of safety equipment to workers.
7. Strict prohibition of use of any fuel for cooking or burning of waste or any other material.
8. Adequate provision for collection and disposal of domestic solid waste.
9. Awareness for safety and health to the workers deployed at sandghat.

4.0 STATUTORY REQUIREMENTS

It is accepted that effective resource management cannot be done in isolation. The Department therefore vigorously pursues approaches towards coordination and integration where possible, so as to lead to coordinated regulatory systems.

A regulatory system consists of both statutory and non-statutory components. In the Sectoral-specific strategy for prospecting and mining,

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the Department participates within an integrated environmental management system which is administered in terms of the Acts and Rules. Other Acts dealing with matters relating to the conservation and protection of the environment and which a holder of a mining authorization must also take cognizance of, include inter alia, the following:

- Maharashtra State Sand Policy 2019
- Sustainable sand mining and management guidelines, MoEF & CC, 2016
- Maharashtra Minor Mineral Extraction Development and Regulation) Rules, 2013.
- The Environment (Protection) Act, 1986
- Enforcement and Monitoring Guidelines for Sand mining, MoEF & CC, 2020
- Hon. NGT's decisions and Hon. Supreme Court of India's Decisions.

Gadchiroli EMP Consolidated Statement

अ.क्र	तालूका	गावाचे नांव	रेतीघाटाचे नांव	नदी / नाल्याचे नाव	रेतीघाट लगतचे नदीकाठावरील गट क्रमांक	भूजल सर्वेक्षण व विकास यंत्रणा यांचे सर्वेक्षण अहवालानुसार रेती उत्खनन प्रस्तावित मिटरमध्ये	प्रस्तावित आकारमान लांबी व रुंदी (मी)			एकुण क्षेत्र आराजी (हे.आर)	चालु वर्षी सन 2019-20 करीता उपलब्ध रेतीसाठा (ब्रासमध्ये)	Haulage Road		No of employees	No of tractors	No of Trees	Water Requirement (KLD)					EMP Cost
1	2		3	4	5	7		8		9	10	Length	Width				For Plantation	For Dust Suppression	For Drinking	Domestic	Total	
1	धानोरा	कारवाफा	जांभळी/कारवाफा	कारवाफा नदी	235,237/1	1	100	x	20	0.20	353	1,270	3	5	1	127	0.6	4.1	0.0	0.1	4.8	1,54,820/-
2	मुलचेरा	विश्वनाथनगर	विश्वनाथनगर	दिना नदी	74/13,74/24,74/22	1	60	x	30	0.18	509	609	3	5	1	61	0.3	1.8	0.0	0.1	2.2	1,51,860/-
3	गडचिरोली	राखी	राखी	पोटफोडी नदी	105	1	50	x	30	0.15	265	594	3	10	2	59	0.3	1.5	0.0	0.2	2.0	1,63,940
4	धानोरा	बांधोना	बांधोना	टिपागडी नदी	91, 105, 108	1	200	x	20	0.40	707	896	3	10	2	90	0.4	2.2	0.0	0.2	2.9	1,69,600 /-
5	धानोरा	खरगी	खरगी	बांडीयानदी	26,27,11	1	100	x	20	0.20	707	763	3	10	2	76	0.4	2.3	0.0	0.2	2.9	1,67,760/-
6	अहेरी	चिचगुंडी	चिचगुंडी	प्राणहिता नदी	124, 126	1	100	x	40	0.40	707	989	3	10	2	99	0.5	2.5	0.0	0.2	3.2	1,75,340/-
7	अहेरी	मोदूमतूरा	मोदूमतूरा	प्राणहिता नदी	88,89	1	100	x	40	0.40	707	418	3	10	2	42	0.2	1.0	0.0	0.2	1.4	1,56,520/-
8	देसाईगंज	अरततोडी	अरततोडी	गाढवी नदी	1,186	1	200	x	20	0.40	707	864	3	10	2	86	0.4	2.6	0.0	0.2	3.2	1,69,660/-
9	देसाईगंज	कोकडी	कोकडी-1 घाट	गाढवी नदी	6,13,614	1	100	x	40	0.40	707	227	3	10	2	23	0.1	0.6	0.0	0.2	0.9	1,51,380/-
10	देसाईगंज	शंकरपूर	शंकरपूर घाट क्र.1	गाढवी नदी	52,53	1	80	x	50	0.40	707	117	3	10	2	12	0.1	0.3	0.0	0.2	0.5	1,46,720/-
11	देसाईगंज	चोप	चोप रेतीघाट-2	गाढवी नदी	2,69,270	1	135	x	30	0.41	716	524	3	10	2	52	0.3	1.3	0.0	0.2	1.8	1,59,120/-
12	अहेरी	महागांव	महागांव	प्राणहिता नदी	6, 449	1	100	x	40	0.40	848	814	3	10	2	81	0.4	2.4	0.0	0.2	3.0	1,79,360/-
13	देसाईगंज	शंकरपूर	शंकरपूर घाट क्र.2	गाढवी नदी	98/1,105	1	150	x	35	0.53	928	754	3	10	2	75	0.4	1.9	0.0	0.2	2.5	1,81,000/-
14	गडचिरोली	पोटेगांव	पोटेगांव	पोवार नदी	25, 26	1	100	x	30	0.30	1,060	283	3	10	2	28	0.1	0.7	0.0	0.2	1.0	1,85,740/-
15	धानोरा	दुधमाळा	दुधमाळा	कठाणी नदी	131, 133	1	100	x	30	0.30	1,060	1,554	3	10	2	155	0.8	3.9	0.0	0.2	4.9	1,95,100/-
16	देसाईगंज	उसेगांव	उसेगांव घाट	गाढवी नदी	37,37 F	1	150	x	40	0.60	1,060	176	3	10	2	18	0.1	0.4	0.0	0.2	0.7	1,68,280/-
17	गडचिरोली	बाम्हणी	बाम्हणी	कठाणी नदी	147/1, 159, 160	1	70	x	100	0.70	1,237	2,042	3	10	2	204	1.0	5.1	0.0	0.2	6.3	2,03,240
18	गडचिरोली	चांदाळा	चांदाळा	पोटफोडी नदी	99, 100	1	100	x	40	0.40	1,413	379	3	10	2	38	0.2	0.9	0.0	0.2	1.3	1,83,280/-
19	गडचिरोली	विहीरगांवचक	विहारगांव चक	पोटफोडी नदी	50, 51, 94	1	100	x	40	0.40	1,413	1,238	3	10	2	124	0.6	3.1	0.0	0.2	3.9	1,93,940/-
20	गडचिरोली	रानमूल	रानमूल	पोटफोडी नदी	48,58,49	1	100	x	40	0.40	1,413	966	3	10	2	97	0.5	2.9	0.0	0.2	3.6	1,89,220/-
21	कुरखेडा	मौशी	मौशीघाट	सतीनदी	168, 164, 166, 167	1	100	x	50	0.50	1,767	620	3	20	4	62	0.3	1.6	0.1	0.3	2.2	2,41,920/-
22	कुरखेडा	सायटोला	सायटोला घाट	सतीनदी	2	1	100	x	50	0.50	1,767	1,293	3	20	4	129	0.6	3.9	0.1	0.3	4.9	2,49,140/-

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23	सिरोंचा	मेडाराममाल	मेडाराममाल	मेडारामनाला	266	1	200	x	50	1.00	1,767	1,566	3	20	4	157	0.8	3.9	0.1	0.3	5.1	2,53,820/-
24	गडचिरोली	आंबेशिवणी	आंबेशिवणी- राममंदीरघाट	कठाणी नदी	320	1	200	x	60	1.20	2,120	917	3	20	4	92	0.5	2.3	0.1	0.3	3.1	2,56,720/-
25	कुरखेडा	आंधळी	आंधळीघाट	सतीनदी	96,97,76	1	150	x	50	0.75	2,650	309	3	20	4	31	0.2	0.8	0.1	0.3	1.3	2,51,860 /-
26	गडचिरोली	लांझेडा	लांझेडा	कठाणी नदी	346, 347	1	125	x	80	1.00	2,827	790	3	20	4	79	0.4	2.4	0.1	0.3	3.1	2,58,940/-
27	धानोरा	चिचोली	चिचोली	कठाणी नदी	121, 150, 151, 152, 154	1	100	x	80	0.80	2,827	600	3	20	4	60	0.3	1.5	0.1	0.3	2.2	2,54,000/-
28	आरमोरी	परसवाडी	परसवाडी	खोब्रागडी नदी	30	1	160	x	50	0.80	2,827	1,606	3	20	4	161	0.8	4.0	0.1	0.3	5.2	2,68,260/-
29	गडचिरोली	अडपल्ली	अडपल्ली-1	कठाणी नदी	41, 42	1	250	x	70	1.75	3,092	743	3	20	4	74	0.4	2.2	0.1	0.3	3.0	2,59,840/-
30	गडचिरोली	दिभनाचक	दिभनाचक	कठानी नदी	83	1	200	x	50	1.00	3,534	437	3	30	6	44	0.2	1.1	0.1	0.5	1.9	2,98,840/-
31	कुरखेडा	कुरखेडा	कुरखेडाघाट	सतीनदी	6	1	200	x	50	1.00	3,534	1,155	3	30	6	116	0.6	3.5	0.1	0.5	4.6	3,21,460 /-
32	कुरखेडा	कुंभीटोला	कुंभीटोलाघाट	सतीनदी	76, 77, 78	1	200	x	50	1.00	3,534	601	3	30	6	60	0.3	1.5	0.1	0.5	2.4	3,18,000 /-
33	कुरखेडा	नान्ही	नान्हीघाट	सतीनदी	1,22,123	1	200	x	50	1.00	3,534	1,171	3	30	6	117	0.6	2.9	0.1	0.5	4.1	3,21,520 /-
34	कुरखेडा	चिचटोला	चिचटोलाघाट	सतीनदी	1,50,151	1	200	x	50	1.00	3,534	1,314	3	30	6	131	0.7	3.9	0.1	0.5	5.2	3,24,360/-
35	गडचिरोली	अडपली	अडपली-2	कठाणी नदी	36	1	200	x	70	1.40	3,710	668	3	30	6	67	0.3	1.7	0.1	0.5	2.6	3,22,520/-
36	मुलचेरा	येल्ला	येल्ला	प्राणहिता नदी	225	2	100	x	80	0.80	4,240	682	3	30	6	68	0.3	2.1	0.1	0.5	3.0	3,22,580/-
37	कुरखेडा	घाटी	घाटीघाट	सतीनदी	139, 140	1	200	x	60	1.20	4,240	452	2	30	6	45	0.2	0.9	0.1	0.5	1.7	3,16,900/-
38	गडचिरोली	बोदलीमाल	बोदलीमाल	कठाणी नदी	135/46	1	300	x	60	1.80	5,088	183	3	30	6	18	0.1	0.5	0.1	0.5	1.1	3,17,080/-
39	गडचिरोली	मेंढा	राइसमिलघाट/मेंढा घाट	कठाणी नदी	71,72	1	300	x	50	1.50	5,300	1,151	2	30	6	115	0.6	2.3	0.1	0.5	3.4	3,24,300/-
40	आरमोरी	रामपूरचक	रामपूरचक	गाढवी नदी	178/1,179	1	300	x	50	1.50	5,300	838	3	30	6	84	0.4	2.1	0.1	0.5	3.1	3,23,540/-
41	गडचिरोली	आंबेशिवणी	आंबेशिवणी- गायघाट	कठाणी नदी	416	1	200	x	100	2.00	7,067	770	3	40	8	77	0.4	1.9	0.2	0.6	3.1	3,35,020/-
42	आरमोरी	वनखी	वनखी	खोब्रागडी नदी	113	1	200	x	100	2.00	7,067	1,224	3	40	8	122	0.6	3.1	0.2	0.6	4.4	3,38,820/-
43	चामोर्शी	आमगांव म	आमगांव म	पोहार नदी	244, 245, 246	1	150	x	150	2.25	7,951	740	3	40	8	74	0.4	2.2	0.2	0.6	3.4	3,27,640/-
44	मुलचेरा	मच्छिगटा	मच्छिगटा	प्राणहिता नदी	39,40	2	200	x	80	1.60	8,481	446	3	40	8	45	0.2	1.1	0.2	0.6	2.1	3,34,100/-
45	गडचिरोली	खुर्सा	खुर्सा- घाट	कठाणी नदी	60,363,59,58	1	500	x	100	5.00	8,834	1,300	3	40	8	130	0.7	3.3	0.2	0.6	4.7	3,46,300/-
46	गडचिरोली	शिवणी	शिवणी	पोटफोडी नदी	325,318,316,315,313, 312अ, व ब	1	1,000	x	30	3.00	10,601	1,537	3	40	8	154	0.8	3.8	0.2	0.6	5.4	3,93,240/-
47	सिरोंचा	आरडा	आरडा	गोदावरी नदी	332, 335, 336, 434	1	225	x	220	4.95	17,491	1,096	3	50	10	110	0.5	3.3	0.2	0.8	4.8	3,99,100 /-
48	सिरोंचा	मुतापूरमाल	मुतापूरमाल	गोदावरी नदी	115, 116, 117, 118, 119, 123, 263	1	225	x	220	4.95	17,491	1,471	3	50	10	147	0.7	4.4	0.2	0.8	6.1	4,06,320/-

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49	सिरोंचा	मुकडीगतारै	मुकडीगतारै	गोदावरी नदी	90,91,96	2	225	x	220	4.95	26,237	2,832	3	60	12	283	1.4	7.1	0.2	0.9	9.6	4,50,980/-
50	सिरोंचा	नगरम	नगरम-1	गोदावरी नदी	62,24,82,483	2	225	x	220	4.95	26,237	1,388	3	60	12	139	0.7	3.5	0.2	0.9	5.3	4,26,340/-
51	सिरोंचा	मद्दीकुंटा	मद्दीकुंटा	गोदावरी नदी	442, 443, 440, 441	2	225	x	220	4.95	26,237	739	3	60	12	74	0.4	2.2	0.2	0.9	3.7	4,13,000/-
52	सिरोंचा	नगरम	नगरम 2	गोदावरी नदी	5,16,517	2	225	x	220	4.95	26,237	1,818	3	60	12	182	0.9	5.5	0.2	0.9	7.5	4,33,120/-
53	सिरोंचा	रेंगुठामाल	रेंगुठामाल	प्राणहिता नदी	132	2	225	x	220	4.95	26,237	1,818	3	60	12	182	0.9	5.5	0.2	0.9	7.5	4,33,120/-
54	सिरोंचा	अंकिसामाल	अंकिसामाल	गोदावरी नदी	258, 267, 268	2	225	x	220	4.95	26,237	2,138	3	60	12	214	1.1	5.3	0.2	0.9	7.6	4,35,344 /-
55	सिरोंचा	चिंतरवेला	चिंतरवेला	गोदावरी नदी	549,605,606,609, 610	2	225	x	220	4.95	26,237	2,445	3	60	12	245	1.2	7.3	0.2	0.9	9.7	4,43,500 /-