**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL, EASTERN ZONE, KOLKATA**

**MEMORANDUM OF APPLICATION**
(Under Section 14 read with Section 15 of the National Green Tribunal Act, 2010)

**ORIGINAL APPLICATION NO. 214 OF 2024**

**IN THE MATTER OF:**

RAS MOHAN THAKUR …APPLICANT

VERSUS

STATE LEVEL EXPERT APPRAISAL COMMITTEE (SEAC), BIHAR & ORS …RESPONDENTS

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Filed By:

**[VANSHDEEP DALMIA]**
ADVOCATE
COUNSELS FOR THE APPLICANT
206, Jor Bagh, New Delhi-110003
M.No. 9810077085

Place: New Delhi
Filed on:10.10.2024

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL, EASTERN ZONE, KOLKATA**

**MEMORANDUM OF APPLICATION**
(Under Section 14 read with Section 15 of the National Green Tribunal Act, 2010)

**ORIGINAL APPLICATION NO. OF 2024**

**IN THE MATTER OF:**

RAS MOHAN THAKUR …APPLICANT

VERSUS

STATE LEVEL EXPERT APPRAISAL COMMITTEE (SEAC), BIHAR & ORS …RESPONDENTS

**MEMO OF PARTIES**

**RAS MOHAN THAKUR**
S/o Shri Narendra Mohan Thakur
R/o Village Panjwara,
District Banka, Bihar – 813110 …APPLICANT

**VERSUS**

1. **STATE LEVEL EXPERT APPRAISAL COMMITTEE (SEAC), BIHAR.**
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206, Jor Bagh, New Delhi-110003
M. No. 9810077085

Place: New Delhi
Filed on:10.10.2024

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL, EASTERN ZONE, KOLKATA**

**MEMORANDUM OF APPLICATION**

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**IN THE MATTER OF:**

RAS MOHAN THAKUR …APPLICANT

VERSUS

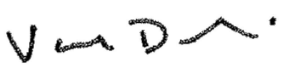
STATE LEVEL EXPERT APPRAISAL COMMITTEE (SEAC), BIHAR & ORS …RESPONDENTS

To
**The Registrar**,
National Green Tribunal

Sir,
Will you kindly treat the accompanying application as an urgent one in accordance with the NGT Rules and Orders.

The grounds of urgency are as set in the Original Application which may be treated as part and parcel of the present Application.

Filed By:



**[VANSHDEEP DALMIA]**
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206, Jor Bagh, New Delhi-110003
M.No. 9810077085

Place: New Delhi
Filed 10.10.2024

## SYNOPSIS

The instant application is filed under Section 14 and Section 15 of the National Green Tribunal Act, 2010, raising a "*substantial question relating to the environment"*, by challenging Agenda 12 of the MOM of the Respondent No. 1, SEAC Bihar dated 3.08.2024 whereby the Authority has approved and recommended the case of the Respondent No. 6 for grant of Environmental Clearance **[EC]** in respect of Sand Mining Project Unit-II (Sand Block 3,4 & 5) on Cheer River, District Banka Bihar, by exercising favoritism and nepotism in favor of the said Respondent No. 6. who was ironically not represented (absent) during the Impugned MOM held on 3.08.2024, without any application of mind, and in an arbitrary, perfunctory and capricious manner which is blatant and apparent.

The SEAC vide its MOM dated 3.08.2024 was *inter-alia* appraising the EC sought by the Respondent No. 6 in respect of Sand Mining Project at Cheer Unit II (Sand Block 3, 4 & 5) on Cheer River, District Banka Bihar, having an area of 67 ha and wrongly recommend for grant of a Common EC for all the three Sand Blocks, without considering the following:

**A.** Replenishment Studies have admittedly not been conducted in respect of any of three Sand Blocks 3, 4 and 5 in complete violation of the provisions of the EMGSM, 2020 and in dissonance of the Judgments passed by this Hon'ble Court in *Raj Kumar, Pramod, Junaid Ayubi, Shokeen Ali* wherein it has been repeatedly held that a prior Replenishment study is a

mandatory pre-requisite, and grant of EC in the absence thereof is manifestly illegal and unsustainable in law.

**B.** The Entire process initiated for grant of EC under the EIA, 2006 is vitiated, in as much as, three distinct and independent Sand Blocks No. 3, 4 and 5 (not constituting a Cluster) have applied for grant of EC under a Common Application (Form 1/IA) whereinafter a Common TOR, Common Public hearing and Common EIA Study has been undertaken which is *per se* impermissible and not contemplated under the EIA, 2006 and thus grossly illegal.

**C.** The conduct of the SEAC ostensibly establishes favoritism and nepotism in favour of the Respondent No. 6, whereby at the very first instance that the project of the Respondent No. 6 came before the SEAC, Bihar, it positively appraised the three Sand Ghats in the absence of the Respondent No. 6 or his representative in stark deviation and conscious departure from the general practice followed by the SEAC, Bihar itself wherein at the time of appraisal for EC if a project proponent is absent/ not represented his case is ***'DEFERRED'*** to a subsequent date to enable the project proponent to make a presentation and answer queries of the SEAC/ Expert Committee qua the project. This general practice is evident from other MOM of the SEAC itself (annexed) and also the Impugned MOM dated 3.08.2024 itself.

The SEAC failed to record any reasons or conduct a proper evaluation/ appraisal before recommending the said Mines for grant of EC, as required under Clause 7(IV) of the EIA, 2006, which is mandatorily requires as per the Judgment passed by the Hon'ble Supreme Court in ***BDA v. Sudhakar***, *2020 (15) SCC 63.*

**THE ABOVE-MENTIONED GROUNDS ARE ELABORATED BELOW FOR THE KIND CONSIDERATION OF THIS HON'BLE TRIBUNAL:**

## A. NO REPLENISHMENT STUDY

***(Mandatory pre-requisite – Absence of which EC cannot be granted)***

That no Replenishment studies have been conducted in respect of any of the said Mines i.e. Sand Block No. 3,4 and 5 and the same is evident from the EIA Study submitted by the Respondent No. 6 himself which is extracted as under:

> ***"2.11 Life of Mine***
>
> *For Balance Reserves in River Bed, it* ***is presumed that the mineral will be replenished every year during the rainy season****. New mineral will be added every year in the river bed. Mine areas have been leased for 5 years.*
>
> ***2.12.1. Method of Mining***
>
> *Approved quantity is based on the permissible mining depth that is 2 m below the surface* ***as there is no replenishment study/ report has been conducted yet.*** *As and when it will be conducted approved quantity may be enhanced after getting approval from appropriate authority".*

Ergo, the SEAC failed to appreciate that the EIA study itself states that no Replenishment study has been done (last done in the year 2019), and the mineable quantity has been determined on the basis of guesswork, assumptions and surmises, as indicated above.

The Respondent No. 5, MOEF under Clause 5.0 of the EMGSM, 2020 stipulates the mandatory requirement of a yearly Replenishment study for River bed mining which is required to nullify the adverse impacts arising due to excessive sand extraction. Under the MOEF Sand Guidelines only the replenished quantity of sand is permitted to be mined as the excess quantity i.e. over and above the replenished rate amounts to excessive, disproportionate and unsustainable mining which invariably affects the riverine environment.

This Hon'ble Tribunal, Principal Bench in the case of ***Raj Kumar v. State of U.P.***, *OA No. 140/2021*, vide its Judgment dated 6.05.2022 held that a Replenishment Study is mandatorily to be conducted prior to e-Auctions in future and also for all current leases; and directed such replenishment studies to be expedited and completed in a time bound manner i.e. by 31st December 2022 for all Districts in U.P failing which no Mining shall be permitted. The Hon'ble Supreme Court vide its Order dated 29.11.2022 dismissed the said Civil Appeal No. 8035-8036 of 2022 filed by the State of UP being aggrieved by the abovementioned Judgment dated 6.05.2022, and clarified that the State authorities shall undertake Replenishment studies for both years i.e. year ending 31.12.2021 as well as the current year ending 31.12.2022.

This Hon'ble Tribunal vide its Orders dated 11.03.2022 & 24.05.2022 in the cases of ***Pramod v. State of U.P.*** (Appeal No. 23/2021) & ***Junaid Ayubi v. State of Haryana (***Appeal No. 19 of 2022) respectively, re-iterated that a Replenishment study is mandatory and any mining activities/ grant of EC without a prior Replenishment study is illegal, and thereby quashed the Environmental Clearances that were granted without conducting a Replenishment study.

It is submitted that permitting the lease holders to mine without a Replenishment study result in illegal mining, in as much as, there is no other basis to calculate the amount of Sand excavated by the Lease holder, not having the replenishment rate of quantity. Furthermore, as per the MOEF Sand Mining Guidelines of 2016 and 2020 only the replenished quantity of sand is permitted to be mined as the excess quantity i.e. over and above the replenished rate amounts to excessive, disproportionate and unsustainable mining which would invariably have a serious and direct adverse impact on the River's physical habitat characteristics, including bed elevation, substrate composition, stability, velocity, depth, turbidity, sediment transport, apart from causing irreparable harm to the biodiversity and result in flood risk and loss of habitat and impede the spirit of the Judgment passed by the Hon'ble Apex Court in *Deepak Kumar.*

In context thereof, it is Relevant to submit that the MOEF Sand Mining Guidelines of 2016 & 2020 expressly prohibit excessive mining beyond the rate of replenishment. The Relevant portion of the said Guidelines are as under:

**SUSTAINABLE SAND MINING GUIDELINES *[SSMG, 2016]***

***The Effects of sand and gravel mining***

*a) Extraction of bed material in excess of replenishment by transport from upstream causes the bed to lower (degrade) upstream and downstream of the site of removal.*

***River Bed Mining Recommendations***

***a.*** *In the first year following adoption of the management plan, a volume equal to the estimated annual replenishment could be extracted from the reach of the channel. Replenishment (up to the elevation of the selected channel configuration) would need to occur before subsequent extraction could take place. The Concept of annual replenishment accounts for the episodic nature of sediment transport.*

***Standard environmental Conditions for Sand Mining***

*11. To submit annual replenishment report certified by an authorized agency. In case the replenishment is lower than the approved rate of production, then the mining activity / production levels shall be decreased / stopped accordingly till the replenishment is completed…"*

**ENFORCEMENT & MONITORING GUIDELINES FOR SAND MINING, 2020 *[EMGSM, 2020]***

***"4.0 Requirements For Monitoring & Enforcement***

*viii) The river reaches with sand provide the resource and thus it is necessary to ascertain the rate of replenishment of the mineral. Regular replenishment study needs to be carried out to keep a balance between deposition and extraction. This document provides the procedure to be followed for conducting replenishment study.*

***5.0 Replenishment Study***

*The need for replenishment study for river bed sand is required in order to nullify the adverse impacts arising due to excessing sand*

*extraction. Mining within or near riverbed has a direct impact on the stream's physical characteristics, such as channel geometry, bed elevation, substratum composition and stability, in-stream roughness of the bed, flow velocity, discharge capacity, sediment transport capacity, turbidity, temperature etc. Alteration or modification of the above attributes may cause an impact on the ecological equilibrium of the riverine regime, disturbance in channel configuration and flow-paths. This may also cause an adverse impact on in- stream biota and riparian habitats. It is assumed that the riparian habitat disturbance is minimum if the replenishment is equal to excavation for a given stretch. Therefore, to minimize the adverse impact arising out of sand mining in a given river stretch, it is imperative to have a study of replenishment of material during the defined period.*

Thus, the SEAC, ought to have appreciated that a regular Replenishment study determines the estimated permissible mineable quantity and eliminates chances of illegal mining beyond the permissible quantity under the NIT, Mining plan, Environmental clearance etc and is a mandatory pre-condition before permitting Mining or grant of EC. However, no Replenishment Studies have been conducted for any of the three Sand Blocks, and in the absence thereof it is incomprehensible as to how and on what basis the quantities permitted to be mined in the Auction Notice/ Notice/ EIA study have been mentioned.

*A fortiori* the said quantities are fixed without any basis or study, by mere guesswork, and will invariably lead to illegal mining and irreparable damage to the Riverine Environment, an aspect completely overlooked by the SEAC, Bihar, ostensibly to favour the case of the Respondent No. 6.

**B. COMMON PROCESS FOR GRANT OF EC IN RESPECT OF THREE SEPARATE/ INDEPENDENT MINING LEASES – IMPERMISSIBLE AND ILLEGAL UNDER EIA, 2006**

That the entire process initiated in respect of taking EC for the three Sand Blocks is vitiated, in as much as, a Common Application, a Common TOR, a Common EIA Study, Common public hearing was undertaken for all the three Sand Blocks which is *per se* impermissible and not contemplated under the EIA, 2006.The EIA, 2006 envisages a separate and independent Application seeking EC for each Mining lease Area whereinafter a separate TOR and EC is granted.

It is submitted that the SEAC ought to have never appraised three independent and non-contiguous Sand Blocks on the basis of a Common Application and EIA Study. Ergo, the SEAC committed a grave and further error by recommending grant of Common EC for all three Sand Blocks vide the Impugned MOM dated 3.08.2024 which is also unsustainable and impermissible in law.

The three Sand Blocks No. 3,4 and 5 do not fall in a Cluster (i.e. not within 500 m of each other), in as much as the DSR for District Banka shows that the said three Mines are not in a Cluster, nor does the TOR or the EIA Study in favour of the Respondent No. 6 states so. Even otherwise, for mines that fall in a Cluster, a common Public hearing and EIA Study is contemplated under the EIA, 2006, however the Application for grant of EC, TOR and the EC itself are always independent for each Sand Ghat/ Blocks even in a Cluster.

Be that as it may, a common EC recommended to be granted vide the Impugned MOM dated 3.08.2024 by the SEAC is entirely impermissible and illegal under the EIA, 2006 which contemplates a separate EC in respect of all the Mines even in the Cluster, and in no case for a grant of a Common EC under any circumstances, an aspect completely overlooked by the SEAC, Bihar while recommending the grant of EC and also while also issuing TOR on 11.05.2023.

## C. EC RECOMMENDED WITHOUT APPLICATION OF MIND / NO REASONS IN A ARBITRARY & PERFUNCTORY MANNER – FAVOURITISM

The SEAC vide the Impugned MOM dated 3.08.2024 (Agenda 12) appraised the project in the absence of the Respondent No. 6 or his representative in stark deviation and conscious departure from the general practice followed by the SEAC, Bihar itself wherein at the time of appraisal for EC if a project proponent is absent/ not represented his case is ***'DEFERRED'*** to a subsequent date to enable the project proponent to make a presentation and answer queries of the SEAC/ Expert Committee qua the project.

A perusal of the Impugned MOM dated 3.08.2024 of the SEAC in case of other projects, as well as other MOM by the SEAC make it evident that the SEAC invariably defers the proposal of grant of EC in the absence of the Project proponent, however for best reasons known to them, at the very first instance that the project of the Respondent No. 6 came before the SEAC, Bihar, the same was not deferred but EC was

recommended, which ostensibly shows favoritism and nepotism and/or that the recommendation may be made due to other extraneous considerations.

The fact that a Common TOR was granted the very next day (i.e. Application for EC filed on 10.5.2023 & TOR granted on 11.05.2023 further gives impetus to the Applicant's submission of favoritism in favour of the Respondent No. 6 by the SEAC.

Furthermore, the SEAC failed to record any reasons or conduct a proper evaluation/ appraisal before recommending the said Mines for grant of EC. It is submitted that the SEAC mechanically recommended for grant of EC in a perfunctory and casual manner, without application of mind in blatant violation of the provisions of the EIA, 2006.

The Hon'ble Supreme Court in ***BDA v. Sudhakar***, *2020 (15) SCC 63* has held that the role of the SEAC being an Expert body is crucial and it is thus under an obligation to conduct a proper evaluation of the project and to record specific reasons upon which it recommends the grant of an EC. The Apex Court further held that the SEAC must speak in the manner of an expert and remit itself to apply every relevant aspect of the project, including being duty bound to analyses the EIA Report in terms of the requirements under law.

However, the SEAC recommended the project for grant of EC without conducting a proper, scientific and legally tenable appraisal/ evaluation and thus the entire process (due to reasons elaborated in the above

grounds) is manifestly unsustainable and an abuse of process, making the entire process vitiated, illegal and a nullity.

The Applicant herein is a resident of District Banka, State of Bihar whose right to life along with that of the other residents of the District is directly and immediately affected due to the illegal recommendation made by the SEAC, Bihar for grant of EC in the absence of a replenishment study, in a submerged water area, whereinafter the mining sought to be carried in the said mines, would be deleterious to the environment, affect the water resources of the area thus affected the right to lives of the Applicant and other residents, having serious ramifications on the Riverine Environment.

The Hon'ble Supreme Court in the case of ***Deepak Kumar v. State of Haryana***, 2012 (4) SCC 629 had cautioned that extraction of material within or near to the river bed has a direct and substantial impact on the river's physical characteristics including destabilization of the river's soil structure, bed elevation, sediment transport, bank erosion turbidity etc.., and that any unregulated or unplanned sand management causes disturbance to the marine ecosystem and upsets the natural marine process to replenish the sand apart from resulting in the degradation of the river environment.

It is submitted that the Respondent No. 1 has overlooked the aforementioned directions of the Hon'ble Supreme Court by allowing mining and extraction of mineable material within the river bed without ascertaining the replenishment rate or the available quantities,

which will invariably have a severe and degrading effect on the environment.

Therefore, the Applicant prays that the Impugned MOM dated 3.08.2024 in respect of Agenda 12 requires to be quashed and cancelled by this Hon'ble Tribunal for the aforesaid reasons in furtherance of the Precautionary Principle and the Doctrine of Sustainable Development statutorily incorporated in Section 20 of the NGT Act. It is submitted that the issue stands at a preventive stage and both the Applicant and the Respondents ought to be safeguarded to prevent undue future hardship, illegal mining beyond the replenished rate, and obliterate the need for curative and reparatory measures.

Hence the present Application.

## LIST OF RELEVANT DATES & EVENTS

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| 14.09.2006 | The parent EIA Notification dated 14.09.2006 was issued by the Respondent No. 5 MOEF under Section 3 of the EP Act. The EIA, 2006 regulated certain activities including mining of minor minerals, as laid down in the schedule therein and provided that a prior environmental clearance is mandatory for such regulated and specific projects across all sectors. |
| 2012 | The Hon'ble Supreme Court in the case of *Deepak Kumar v. State of Haryana*, 2012 (4) SCC 629 |

expressed the necessity to have a strict regulatory regime in relation to sand mining, considering the adverse impact of such activity on the riverine ecology in absence thereof.

15.01.2016 The MOEF vide Notification dated 15.01.2016, amended the EIA Notification dated 14.09.2006 by *interalia* inserting Clause 7 (iii)(b) thereof, wherein a common Cluster EIA/ EMP, Public hearing was to be undertaken for areas/ mining leases that fell within a Cluster (Mines within a periphery of 500 metres from each other) as per the procedure in Appendix XI, however a separate application and separate EC is required.

2016 The MOEF issued the Sustainable Sand Mining Management Guidelines, 2016 *(hereinafter referred to as SMMG, 2016)*, *interalia* cautioned against the direct impact of Sand Mining on the Rivers and the irreparable degradation to the environment, and stated *that "extraction of bed material in excess of replenishment by transport from upstream causes the bed to lower (degrade) upstream and downstream of the site of removal*", and thus required for a mandatory Annual Replenishment study to be conducted for all Mining Areas.

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| January, 2020 | The MOEF in supplement and addition to the Sustainable Sand Mining Management Guidelines, 2016 issued the Enforcement & Monitoring Guidelines for Sand Mining, 2020 *(hereinafter referred to as 'the EMGSM, 2020).* The said guidelines specified the requirement of conducting a Replenishment study (both pre- and post-monsoon) and its imperative role in curbing excessive extraction of minerals from the River bed, and limited the mineable quantity to the rate of replenished quantity. |
| 11.03.2022 | This Hon'ble Tribunal vide its Order dated 11.03.2022 in the case of *Pramod v. State of U.P.*, Appeal No. 23/2021 quashed Environmental Clearances granted without conducting a Replenishment study. |
| 06.05.2022 | This Hon'ble Tribunal in *Raj Kumar v. State of U.P., OA No. 140/2021*, vide its Judgment dated 6.05.2022 accepted that a Replenishment Study is mandatorily to be conducted prior to e-Auctions in future and also for all current leases; and directed such replenishment studies to be expedited and completed in a time bound manner i.e. by 31st December 2022 for all Districts in U.P failing which no Mining shall be permitted. |

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| 12.05.2022 | This Hon'ble Tribunal vide its judgment dated 12.05.2022 in OA No. 337 of 2021 tilted *'Shokeen Ali v. State of Haryana'* once again re-iterated and directed that periodic monitoring be undertaken by the Chief Secretary, Haryana in terms of the directions issued in NGT Bar Association case and further that Replenishment studies are undertaken in terms of the MOEF Guidelines 2016 and 2020 as directed by this Hon'ble Tribunal in Raj Kumar. |
| 23.05.2022 | The Final District Survey Report (DSR) for District Banka, Bihar was prepared by the Sub-Divisional Committee and approved by the SEAC/SEIAA, Bihar, and was then published on 23.05.2022. The said DSR states that there is no Cluster of Mining leases in the entire District Banka. |
| 24.05.2022 | This Hon'ble Tribunal vide its Order dated 24.05.2022 in *Junaid Ayubi v. State of Haryana*, Appeal No. 19 of 2022 re-iterated that a Replenishment study is mandatory and any mining activities/ grant of EC without a prior Replenishment study is illegal. |
| 29.11.2022 | The Hon'ble Supreme Court vide its Order dated 29.11.2022 dismissed the Civil Appeal No. 8035-8036 of 2022 filed by the State of UP being aggrieved by the abovementioned Judgment dated |

| | |
|---|---|
| | 6.05.2022, and clarified that the State authorities shall undertake Replenishment studies for both years i.e. year ending 31.12.2021 as well as the current year ending 31.12.2022. |
| 2022 | An e-Tender was issued in respect of a River Sand Mine admeasuring 67 ha in respect of Cheer Unit-II (Sand Blocks 3,4 & 5), located on the Cheer River in District Banka, Bihar. |
| 2.12.2022 | Pursuant to the said E-Tender Notice, the Respondent No. 4, District Mining Officer, Banka issued Letter of Intent (LOI) dated 2.12.2022 in favour of the Respondent No. 6, i.e. Sandeep Chandak. |
| 10.05.2023 | The Respondent No. 6 filed a Common Application (Form1/IA) dated 10.05.2023 under the EIA, 2006 and sought one Environmental Clearance in respect of the three Sand Mining Blocks 3,4 and 5 admeasuring 67 ha. It is trite to mention that the three Sand blocks do not constitute part of a Cluster. |
| 11.05.2023 | The Respondent SEAC, Bihar without application of mind, granted TOR (Terms of Reference) for the said Mines the very next date i.e. on 11.05.2023. |

| | |
|---|---|
| 19.06.2024 | Thereafter a Common draft EIA study was submitted in respect of all three Sand Blocks No. 3,4 and 5 and a Common public hearing was held on 19.06.2024, which are also vitiated, as separate EIA Study/ public hearings are required to be held in terms of the EIA, 2006. |
| 1.08.2024 | The Respondent No. 6, submitted a Common Final EIA Study in respect of the said Mine on 1.08.2024 without admittedly conducting a Replenishment study that was last conducted in 2019, and without disclosing that part of the Mineable area is submerged under water.<br><br>It is trite to mention that the three Sand blocks i.e. Sand Block No. 3, 4 and 5 do not constitute part of a Cluster (not within 500m of each other) and thus a common EIA study is not permissible, and blatantly illegal. |
| 3.08.2024 | The SEAC, Bihar vide the Impugned 44$^{th}$ MOM dated 3.08.2024 considered the proposal of the Respondent No. 6 for grant of EC in respect of the said Mine, and wrongly recommended the project for grant of EC **(i)** without considering that no replenishment studies have been done in respect of the said Mining blocks **(ii)** without considering that common EIA process/ EIA study has been |

| | |
|---|---|
| | conducted for all the three mining blocks even though they do not constitute a part of a cluster **(iii)** the appraisal of the project was done in the absence of the Respondent No. 6 or any of his representative which ostensibly shows that the recommendation is made unilaterally to favour the Respondent No. 6. |
| 7.08.2024 | The SEIAA, Bihar vide its MOM dated 7.08.2024 discussed the proposal of the three Sand Blocks for grant of EC, and the same is pending consideration before the SEIAA. |
| 10.10.2024 | Hence the present Application under Section 14 and 15 of the NGT Act, 2010. |

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL, EASTERN ZONE, KOLKATA**

**MEMORANDUM OF APPLICATION**
**(Under Section 14 read with Section 15 of the National Green Tribunal Act, 2010)**

**ORIGINAL APPLICATION NO. OF 2024**

**IN THE MATTER OF:**

RAS MOHAN THAKUR …APPLICANT

VERSUS

STATE LEVEL EXPERT APPRAISAL COMMITTEE (SEAC), BIHAR & ORS …RESPONDENTS

TO,

THE HON'BLE CHAIRPERSON
AND HIS HON'BLE COMPANION
MEMBERS NATIONAL GREEN TRIBUNAL

THE HUMBLE APPLICATION OF THE APPLICANT

**MOST RESPECTFULLY SHOWETH:**

**I.** The addresses of the Applicant's counsels are given below for the service of notices of this application.

**II.** The addresses of the Respondents No. 1 to 6 are given above for service of notices of the application.

**III.** The instant application is being filed to raise a "*substantial question relating to the environment"* under Section 14 and 15 of the National Green Tribunal Act, 2010, arising out of the

arbitrarily recommendation made by the Respondent No. 1 , SEAC for grant of EC in respect of Sand Mining Project at Cheer Unit II (Sand Block 3, 4 & 5) on Cheer River, District Banka Bihar, having an area of 67 ha, **(i)** without considering that no replenishment studies have been done in respect of the said Mining blocks **(ii)** without considering that common EIA process/ EIA study has been conducted for all the three mining blocks even though they do not constitute a part of a cluster.

It is further submitted that the arbitrary and perfunctory manner in which the said Mine has been recommended for grant of EC is evident from the sole fact that the recommendation was made in the absence of the Respondent No. 6/ project proponent who was not represented before the SEAC on the date of appraisal. The SEAC in the past has always deferred the appraisal process if the Project proponent is not present, however for unknown reasons (presumably extraneous considerations) the SEAC appraisal the said Mine and recommended the project for grant of EC, on the very first occasion that the said mine came before it for appraisal.

**IV.** That, the Applicant is a resident of District Banka, State of Bihar whose right to life along with that of the other residents of the District is directly and immediately affected due to the illegal recommendation made by the SEAC, Bihar for grant of EC in the absence of a replenishment study, in a submerged water area, whereinafter the mining sought to be carried in the said mines, would be deleterious to the environment and have serious ramifications on the Riverine Environment.

**V.** The Applicant is a farmer by profession and has no personal interest in the present *lis* except to safeguard the environment and ensure that mining, if any, is done in consonance with the prevailing law in a sustainable manner, after following the requisite regulatory framework including the various decisions passed by this Hon'ble Tribunal, the fundamental principles of Environmental rule of law, the Notifications issued by the Central Government and the various Guidelines framed by the Central Government in this regard.

It is submitted that any illegal, unplanned and unsustainable mining sought to be carried on without conducting a

replenishment study, will invariably not only affect the physical characteristic of the river and its biodiversity but seriously and irreparably deprive the Applicant and the other Villagers of a clean Environment, in particular clean drinking water caused by contamination of the ground water as result of such illegal mining which affects the water supply in the entire Area surrounding the mine.

**VI.** The Respondent No. 1 and 2 are the Expert Committee (SEIAA, State of Bihar) constituted under Section 3 (3) of the EP Act to appraise and evaluated proposal seeking Environmental Clearance in the State of Bihar. The Respondent No. 1 has issued the Impugned MOM dated 03.08.2024 and the said proposal is pending before the SEIAA for grant of EC. The Respondent No. 3 is the Department of Geology and Mining in the State of Bihar who is the requisite authority in the State oversee the issuance of Mining leases. The Respondent No. 4 is the District Magistrate of District Banka.

The Respondent No. 5, is the Ministry of Environment, Forests and Climate Change which is the nodal agency in the administrative structure of the Central Government & has been

entrusted with the task of implementation of policies and programs relating to conservation of the country's natural resources and has issued the relevant the Sustainable Sand Mining Management Guidelines, 2016 & 2020 that mandate for the conducting regularly and mandatory replenishment studies before the grant of any mining lease(s) and each year thereafter.

The Respondent No. 6 is the private Respondent/ project proponent in whose favour the EC has been recommended to be granted vide the Impugned MOM dated 3.08.2024.

## VIII. SUBSTANTIAL QUESTIONS OF LAW

That the instant Application is being filed under Section 14 and 15 of the National Green Tribunal Act, 2010, raising the following substantial questions relating to the Environment:-

**a)** Whether it is permissible for the SEAC/SEIAA to appraise and recommend proposals for grant of Environmental Clearances without a Replenishment study, in view of the Judgments passed by this Hon'ble Tribunal in *Raj Kumar, Pramod, Junaid Ayubi, Shokeen Ali* and the

mandatory provisions of the *MOEF Sand Mining Guidelines, 2016 and 2020*?

**b)** Whether the recommendation made by the SEAC recommending the project of the Respondent No. 6 for grant of EC is without application of mind and in a perfunctory manner, by failing to consider that a Common process for three independent and Non-contiguous mines is not permitted under the EIA, 2006.

**c)** Whether the recommendation made by the SEAC, Bihar for grant of EC in favour of the Respondent No. 6 without the said Project proponent or his representative being present is itself arbitrary, in as much as, in similar situations (even under the Impugned MOM) the SEAC has invariably deferred the appraisal process for the presence of the Project proponent.

## IX. BRIEF FACTS:

The Applicant herein seeks to place the following Relevant facts chronologically for the kind perusal of this Hon'ble Court,

which have a material bearing on the issue at hand and are imperative for the purposes of the present application:

**i.** That in September 2006, the parent EIA Notification dated 14.09.2006 *("hereinafter referred to as EIA, 2006")* was issued by the Respondent No. 5, MOEF&CC under Section 3 of the EP Act, with an endeavour to *inter-alia* provide a substantive legal framework and comprehensive procedural mechanism for evaluation, assessment and monitoring of the Environmental impact on land, air and water due to various projects undertaken by persons in all sectors throughout the territory of India.

The EIA Notification dated 14.09.2006 regulated certain activities including mining of minor minerals, as laid down in the Schedule therein and provided that a prior environmental clearance is mandatory for such Mining projects.

The said EIA Notification 14.09.2006 provided for constitution of Central and State level Environmental Impact Assessment Authorities (SEIAA), manned by

professionals, expert and technical individuals that shall screen, scope and appraise projects from an environmental perspective and further monitor the same from time to time, in order to achieve the much-desired goals of sustainable development.

Clause 6 of the EIA, 2006 requires an application to be filed by the project proponent in the prescribed Form 1/IA seeking prior EC which then undergoes a Four stage mandatory process under Clause 7 i.e. **(1)** Screening **(2)** Scoping **(3)** Public Consultation **(4)** Appraisal.

Pertinently, an independent Application is to be filed for each Project (including each Mining lease separately) which then undergoes appraisal by the SEAC who either recommends or rejects the grant of EC, *'together with reasons for the same'.*

A Copy of the EIA Notification dated 14.09.2006 issued by the Respondent MOEF&CC is enclosed herein and marked as **ANNEXURE A-1 at pages 66-133.**

**ii.** The Hon'ble Supreme Court in the case of ***Deepak Kumar v. State of Haryana***, 2012 (4) SCC 629 had cautioned that extraction of material within or near to the river bed has a direct and substantial impact on the river's physical characteristics including destabilization of the river's soil structure, bed elevation, sediment transport, bank erosion turbidity etc.., and that any unregulated or unplanned sand management causes disturbance to the marine ecosystem and upsets the natural marine process to replenish the sand apart from resulting in the degradation of the river environment. It is submitted that any unregulated and illegal sand mining poses a serious threat bio-diversity and could result in change in river course, causing grave and repairable/ irreversible damage to the environment.

It was further held that *"excessive in-stream sand and gravel mining cause degradation of rivers. Instream mining lowers the stream bottoms the rivers which may lead to bank erosion. Depletion of sand in the streambed and along coastal areas cause the deepening of rivers which may result in destruction of aquatic riparian*

*habitats as well. Extraction of alluvial material as already mentioned from within or near a streambed has a direct impact on the stream's physical habitat characteristics*."

A Copy of the Judgment passed by the Hon'ble Supreme Court in Deepak Kumar v. State of Haryana, 2012 (4) SCC 629 is enclosed herein and marked as **ANNEXURE A-2 at pages 134-146.**

**iii.** In furtherance of the directions passed by the Hon'ble Apex Court in *Deepak Kumar*, the Respondent MOEF issued Notification dated 15.01.2016 (Amending the EIA, 2006) by *inter-alia* introducing the *Concept of Cluster mining* for mining of Minor Minerals under Clause 7 (iii)(b) thereof, wherein a common Cluster EIA/ EMP, Public hearing was to be undertaken for areas/ mining leases that fell within a Cluster (Mines within a periphery of 500 metres from each other) as per the procedure in Appendix XI.

It is pertinent to mention that even in the case of Cluster *(which the present three Mining leases do not fall under*

*being not within 500 Metres from each other),* an Independent and separate Application / Form 1-IA is required to be made wherein separate TORs are granted, however the EIA study/ Public hearing/ EMP may be common. Apropos, the EC granted is also separate in respect of all the Mines in the Cluster and not a Common EC.

A Copy of the Notification dated 15.01.2016 issued by the Respondent MOEF is enclosed herewith as **Annexure A-3 at pages 147-158.**

**iv.** The Respondent No. 5, MOEF issued the Sustainable Sand Mining Management Guidelines, 2016 *(hereinafter referred to as SMMG, 2016), inter-alia* with an endeavor to ensure that sand and gravel mining is done in an environmentally sustainable and socially responsible manner, and to further ensure the conservation of river equilibrium and its natural environment by protection and restoration of the ecological system.

One of the key and nodal objectives enumerated in the SMMG, 2016 was to conduct an Annual Replenishment study to ascertain the replenishment rate of the river and ensure sustainable mining thereof. As per the SSMG, 2016, the permissible mining quantity ought to be limited to be restricted or equal to the rate of replenishment, so as to ensure that the natural equilibrium of the stream is not disturbed.

The Salient features of the SSMG, 2016 requiring an Annual Replenishment study and prohibiting excessive mining above the replenishment rate is extracted as under:

***"INTRODUCTION***

*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.*

***THE EFFECTS OF SAND AND GRAVEL MINING***

*a) Extraction of bed material in excess of replenishment by transport from upstream causes the bed to lower (degrade) upstream and downstream of the site of removal.*

***GENERAL APPROACH TO SUSTAINABLE SAND & GRAVEL MINING***

*e) Layers of sand and gravel which could be removed from the river bed shall depend on the width of the river and replenishment rate of the river.*

***RIVER BED MINING RECOMMENDATIONS***

***a.*** *In the first year following adoption of the management plan, a volume equal to the estimated annual replenishment could be extracted from the reach of the channel. Replenishment (up to the elevation of the selected channel configuration) would need to occur before subsequent extraction could take place. The Concept of annual replenishment accounts for the episodic nature of sediment transport*

*The use of monitoring data is essential in measuring when actual replenishment occurs. The use of the concept of annual replenishment protects long term channel stability as well as aquatic and riparian habitat by extracting a volume sustainable by watershed processes.*

***MINING OF MINOR MINERALS***

***(c)*** *The mining plan approved by the authorized agency of the State Government shall inter-alia include study to show that the annual replenishment of sand in the mining lease area is sufficient to sustain mining operations at levels prescribed in the mining plan and that the transport infrastructure is adequate to transport the mines material.*

***STANDARD ENVIRONMENTAL CONDITIONS FOR SAND MINING***

*11. To submit annual replenishment report certified by an authorized agency. In case the replenishment is lower than the approved rate of production, then the mining activity / production levels shall be decreased / stopped accordingly till the replenishment is completed…"*

A Copy of the Relevant Extracts of the Sustainable Sand Mining Management Guidelines, 2016 issued by the Respondent No. 5, MOEF is enclosed herewith as **Annexure-A-4 at pages 159-202.**

**v.** The MOEF in supplement and addition to the Sustainable Sand Mining Management Guidelines, 2016 issued the Enforcement & Monitoring Guidelines for Sand Mining, 2020 *(hereinafter referred to as 'the **EMGSM, 2020**").*

The EMGSM, 2020 under Clause 5 thereof stipulated the need for a replenishment study for river bed sand mining that is required to nullify the adverse impacts arising due to excessive sand extraction which ought to limited to the rate of replenishment.

The EMGSM 2020 further highlighted the dangers of excessive mining, over and above the rate of replenishment, which creates an imbalance between excavation and deposition and is deleterious to the riverine environment.

***"4.0 REQUIREMENTS FOR MONITORING & ENFORCEMENT***

*viii) The river reaches with sand provide the resource and thus it is necessary to ascertain the rate of replenishment of the mineral. Regular replenishment study needs to be carried out to keep a balance between deposition and extraction. This document provides the procedure to be followed for conducting replenishment study.*

***4.3 MINING PLAN***

*Following Considerations shall be kept in mind for Sand/ gravel mining while approving Mining Plan*

*e) Layers of sand and gravel which could be removed from the river bed shall depend on the width of the river and replenishment rate of the river.*

***5.0 REPLENISHMENT STUDY***

*The need for replenishment study for river bed sand is required in order to nullify the adverse impacts arising due to excessing sand extraction. Mining within or near riverbed has a direct impact on the stream's physical characteristics, such as channel geometry, bed elevation, substratum composition and stability, in-stream roughness of the bed, flow velocity, discharge capacity, sediment transport capacity, turbidity, temperature etc. Alteration or modification of the above attributes may cause an impact on the ecological equilibrium of the riverine regime, disturbance in channel configuration and flow-paths. This may also cause an adverse impact on in-stream biota and riparian habitats. It is assumed that the riparian habitat disturbance is minimum if the replenishment is equal to excavation for a given stretch. Therefore, to minimize the adverse impact arising out of sand mining in a given river stretch, it is imperative to have a study of replenishment of material during the defined period.*

A Copy of the Relevant extracts of the Enforcement & Monitoring Guidelines for Sand Mining, 2020 [EMGSM, 2020] issued by the MOEF is enclosed herewith as **Annexure A-5 at pages 203-228.**

**vi.** This Hon'ble Tribunal vide its detailed Judgment dated 26.02.2021 in the case of *'NGT Bar Association v. Virender Singh'* directed that a periodic inspection & Replenishment Study be conducted by a five-member Committee comprising of the SEIAA, CPCB, State PCB and two expert members of the SEAC, however no inspection or Replenishment Study (to the best of the Applicant's knowledge) has been conducted in respect of the said Sand Blocks.

**vii.** This Hon'ble Tribunal vide its Order dated 11.03.2022 in the case of ***Pramod v. State of U.P.*** in Appeal No. 23/2021 quashed Environmental Clearances that were granted without conducting a Replenishment study.

A Copy of the Order dated 11.03.2022 passed by this Hon'ble Tribunal, Principal Bench in the case titled

***Pramod v. State of U.P***, Appeal No. 23/2021 is enclosed herein and marked as **Annexure A-6 at pages 229-235.**

**viii.** This Hon'ble Tribunal, Principal Bench in the case of ***Raj Kumar v. State of U.P.***, *OA No. 140/2021*, vide its Judgment dated 6.05.2022 accepted that a Replenishment Study is mandatorily to be conducted prior to e-Auctions in future and also for all current leases; and directed such replenishment studies to be expedited and completed in a time bound manner i.e. by 31st December 2022 for all Districts in U.P failing which no Mining shall be permitted.

The Hon'ble Supreme Court vide its Order dated 29.11.2022 dismissed the said Civil Appeal No. 8035-8036 of 2022 filed by the State of UP being aggrieved by the abovementioned Judgment dated 6.05.2022, and clarified that the State authorities shall undertake Replenishment studies for both years i.e. year ending 31.12.2021 as well as the current year ending 31.12.2022.

A Copy of the Judgment dated 06.05.2022 passed by this Hon'ble Tribunal, Principal Bench in the case titled *'Raj Kumar v. State of U.P.', OA No. 140/2021* is enclosed herein and marked as **Annexure A-7 at pages 236-244.**

A Copy of the Order dated 29.11.2022 passed by the Hon'ble Supreme Court in Civil Appeal No. 8035-8036 of 2022 titled *'State of U.P. & Ors. v. Raj Kumar & Anr.'* is enclosed herein and marked as **Annexure A-8 [at page 245-246.**

**ix.** This Hon'ble Tribunal vide its Order dated 24.05.2022 in Appeal No. 19 of 2022, ***Junaid Ayubi v. State of Haryana*** with respect of District Yamunanagar, Haryana re-iterated that a Replenishment study is mandatory and any mining activities/ grant of EC without a prior Replenishment study is illegal.

A Copy of the Order dated 24.05.2022 passed by this Hon'ble Tribunal, Principal Bench in the case titled ***'Junaid Ayubi v. State of Haryana',*** Appeal No. 19 of

2022 is enclosed herein and marked as **Annexure A-9 at pages 247-253.**

**x.** This Hon'ble Tribunal vide its judgment dated 12.05.2022 in OA No. 337 of 2021 tilted ***'Shokeen Ali v. State of Haryana'*** once again re-iterated and directed that periodic monitoring be undertaken by the Chief Secretary, Haryana in terms of the directions issued in *NGT Bar Association case* and further that Replenishment studies are undertaken in terms of the MOEF Guidelines 2016 and 2020 as directed by this Hon'ble Tribunal in *Raj Kumar*.

A Copy of the Judgment dated 12.05.2022 passed by this Hon'ble Tribunal, Principal Bench in the case titled ***'Shokeen Ali v. State of Haryana',*** OA No. 337 of 2021 is enclosed herein and marked as **Annexure A-10 at pages 254-269.**

**xi.** The Final District Survey Report (DSR) for District Banka, Bihar prepared by the Sub-Divisional Committee and approved by the SEAC/SEIAA, Bihar was published in May, 2022.

The said DSR in respect of Replenishment rate for District Banka stated as under:

*"From the above replenishment study data, it has been observed that the replenishment quantity of sand is found more than the actual production. In 2018 the replenished quantity is found Approx 107% of the actual production and in 2019 it was found 117%".*

Furthermore, it is submitted that Annexure II, III and VI to the DSR contains a List of Mining leases/ Cluster which discloses that no Clusters exists in any of the Mining leases in District Banka, hence all the three Sand Blocks were required to be appraised individually and independent of each other.

A Copy of the District Survey Report (DSR) for District Banka, Bihar published in May, 2022 is enclosed herein and marked as **ANNEXURE A-11 at pages 270-358**.

**xii**. The State of Bihar through the Director Geology and Mining Department. issued E-Tender in 2022 in respect of a River Sand Mine admeasuring 67 ha in respect of Cheer Unit-II (Sand Blocks 3,4 & 5), located on the Cheer River

in District Banka, Bihar. *(hereinafter referred to as 'the said Mine').*

**xiii**. Pursuant to the said E-Tender Notice, the Respondent No. 4, District Mining Officer, Banka issued Letter of Intent (LOI) dated 2.12.2022 in favour of the Respondent No. 6, i.e. Sandeep Chandak.

**xiv**. The Respondent No. 6 filed a Common Application (Form1/IA) dated 10.05.2023 under the EIA, 2006 and sought Environmental Clearance in respect of the three Sand Mining Blocks 3,4 and 5 admeasuring 67 ha.

It is trite to mention that the three Sand blocks do not constitute part of a Cluster. Even otherwise, for mines that fall under a Cluster, a common Public hearing and EIA Study is contemplated under the EIA, 2006, however the Application for grant of EC, TOR and the EC itself are always independent for each Sand Ghat/ Blocks even in a Cluster. Thus, a common EIA study is not permissible, and blatantly illegal.

**xv**. The Respondent SEAC, Bihar without application of mind, wrongly screened the Application filed by the Respondent No. 6 on 10.05.2023 and granted TOR (Terms of Reference) for the said Mines the very next date i.e. on 11.05.2023.

It is submitted that the SEAC ought not to have granted TOR, in as much as, the EIA, 2006 envisages independent/ separate applications in respect of different Sand Ghats and a common application for grant of EC in respect of three separate Sand Blocks/ Ghats is *per se* illegal and violative of the statutory procedure under the EIA, 2006.

A Copy of the Common TOR (Terms of Reference) dated 11.05.2023 issued by the Respondent SEAC in respect of the three Sand Blocks 3,4 and 5 in favour of Respondent No. 6 is enclosed herein and marked as **ANNEXURE A-12 at pages 359-366**.

**xvi**. Thereafter a Common draft EIA study was submitted in respect of all three Sand Blocks and a common public

hearing was held on 19.06.2024, which are also vitiated, as separate EIA Study/ public hearings are required to be held in terms of the EIA, 2006.

**xvii**. The Respondent No. 6, submitted a common Final EIA Study in respect of the said Mine on 1.08.2024 without admittedly conducting a replenishment study that was last conducted in 2019, and without disclosing that part of the Mineable area is submerged under water.

It is trite to mention that the three Sand blocks i.e. Sand Block No. 3, 4 and 5 do not constitute part of a Cluster (not within 500m of each other) and thus a common EIA study is not permissible, and blatantly illegal.

Certain clauses in the said EIA Study relevant for the present case are extracted as under:

***"2.9. Reserve Estimation***

*For estimating the reserve of sand the following parameters are considered:*

*6. It is considered that river bed sand shall be replenished every year.*

***2.11 Life of Mine***

*For Balance Reserves in River Bed it is presumed that the mineral will be replenished every year during the rainy season. New mineral will be added every year in the river bed. Mine areas have been leased for 5 years.*

***2.12.1. Method of Mining***

*Approved quantity is based on the permissible mining depth that is 2 m below the surface* ***as there is no replenishment study/ report has been conducted yet.*** *As and when it will be conducted approved quantity may be enhanced after getting approval from appropriate authority.*

***10.3 Water Environment***

*… Removal/collection of sand will be done up to a depth of 2.0 m in the river bed, which will be replenished during monsoon season, more or less restoring to original position thus not affecting normal drainage in the river channel also.*

A Copy of the Relevant Extracts of the Common Final EIA Study submitted by the Respondent No. 6 in respect of all the three Sand Blocks 3,4, and 5 on River Cheer District Banka, admeasuring 67ha is enclosed herein and marked as **ANNEXURE A-13 at pages 367-476.**

**xviii**. The SEAC, Bihar vide the Impugned 44th MOM dated 3.08.2024 considered as Agenda No. 12 the proposal of the Respondent No. 6 for grant of EC in respect of the

said Mine, and wrongly recommended the project for grant of EC, **(i)** without considering that no replenishment studies have been done in respect of the said Mining blocks **(ii)** without considering that common EIA process/ EIA study has been conducted for all the three mining blocks even though they do not constitute a part of a cluster **(iii)** the appraisal of the project was done in the absence of the Respondent No. 6 or any of his representative which ostensibly shows that the recommendation is made unilaterally to favour the Respondent No. 6.

A Copy of the Relevant Extracts of the Impugned MOM dated 3.08.2024 (Agenda 12) by the Respondent No. 1, SEAC Bihar is enclosed herein and marked as **ANNEXURE A-14 at pages 477-485**.

Copies of MOM of SEAC, Bihar wherein it has deferred the proposal for grant of EC in absence of the Project proponent are enclosed herein and marked as **ANNEXURE A-15 at pages 486-510**.

A Copy of the Judgment passed by the Hon'ble Supreme Court in *BDA v. Sudhakar, 2020 (15) SCC 63* is enclosed herein and marked as **ANNEXURE A-16 at page 511-562**.

**xix**. The Respondent No. 2, SEIAA Bihar vide its MOM dated 7.08.2024 (Agenda 14) discussed the issued for grant of EC in favour of the three Mining blocks, and the same is pending consideration before the SEIAA.

A Copy of the Relevant Extracts of the MOM dated 7.08.2024 (Agenda 14) by the Respondent No. 2, SEIAA Bihar is enclosed herein and marked as **ANNEXURE A-17 at page 563-566**.

Hence the present Application.

## XI. GROUNDS

The present Application is filed on following among other grounds which the Applicant might take at the time of the hearing of the case:

**A.** Because, the SEAC Bihar vide the Impugned 44$^{th}$ MOM dated 3.08.2024 considered as Agenda No. 12 the proposal of the Respondent No. 6 for grant of Common EC in respect of the said

Mines, and wrongly recommended the project for grant of EC in the absence of the Project proponent without application of mind, in a mechanical and perfunctory manner, and bereft of any reasons and proper appraisal/ evaluation.

**B.** Because the SEAC failed to consider that no Replenishment studies have been conducted in respect of any of the said Mines i.e. Sand Block No. 3,4 and 5, in complete violation of the provisions of the SSMG, 2016, EMGSM, 2020 and in dissonance of the Judgments passed by this Hon'ble Court in *Raj Kumar, Pramod, Junaid Ayubi, Shokeen Ali* wherein this Hon'ble Tribunal has been repeatedly held that a prior Replenishment study is mandatory, and grant of EC in the absence thereof is illegal and unsustainable in law.

The SEAC failed to appreciate that the EIA study itself states that no Replenishment study has been done (last done in the year 2019), and the mineable quantity has been determined on the basis of guesswork, assumptions and surmises.

**C.** Because the SEAC failed to appreciate that a Replenishment study is an integral and essential part of the existing

environmental norms, which is fundamental and a pre-requisite, and its absence would be in the conflict with Environmental laws, which all state governments under the Public trust doctrine and Article 48 of the Constitution are required to adhere.

**D.** Because the SEAC ought to have appreciated that a regular Replenishment study determines the estimated permissible mineable quantity and eliminates chances of illegal mining beyond the permissible quantity under the NIT, Mining plan, Environmental clearance etc… however no Replenishment Studies in the year 2019 have been conducted for any of the three Sand Blocks.

**E.** Because in the absence of a Replenishment study, it is incomprehensible as to how and on what basis the quantities permitted to be mined in the Auction Notice/ Notice/ EIA study have been mentioned. *A fortiori* the said quantities are fixed without any basis or study, by mere guesswork, and will invariably lead to illegal mining and irreparable damage to the Riverine Environment.

It is submitted that the SSMG, 2016 and the EMGSM, 2020 prohibit extraction of Sand above the Replenishment rate. By permitting lease holders to mine more than the replenished rate of sand would amount to excessive, disproportionate and unsustainable mining which would invariably have a serious and direct adverse impact on the River's physical habitat characteristics, including bed elevation, substrate composition, stability, velocity, depth, turbidity, sediment transport, apart from causing irreparable harm to the biodiversity and result in flood risk and loss of habitat. Such permission amounts to excessive mining and is violative of the Doctrine of Sustainable Development, various Judgments passed by the Hon'ble Supreme Court *[Deepak Kumar/ ND Jayal/Vellore Citizens/ MC Mehta]* and the Sand Mining Guidelines issued by the MOEF [SSMG, 2016 & EMGSM, 2020].

**F.** Because the SEAC failed to appreciate that the entire process initiated in respect of taking EC for the three Sand Blocks was vitiated, in as much as, a Common Application, a Common TOR, a Common EIA Study, Common public hearing was

undertaken for all the three projects which is *per se* impermissible and not contemplated under the EIA, 2006.

**G.** Because the three Sand Blocks do not fall in a Cluster (i.e. not within 500 m of each other, in as much as the DSR for District Banka categorically states that there are no mines in a Cluster, nor does the TOR or the EIA Study in favour of the Respondent No. 6 states so.

Even otherwise, for mines that fall in a Cluster, a common Public hearing and EIA Study is contemplated under the EIA, 2006, however the Application for grant of EC, TOR and the EC itself are always independent for each Sand Ghat/ Blocks even in a Cluster. In other words, even for a Cluster, an Independent and separate Application / Form 1-IA is required to be made wherein separate TORs are granted, however the EIA study/ Public hearing/ EMP may be common. Apropos, a common EC recommended to be granted vide the Impugned MOM dated 3.08.2024 is impermissible and illegal under the EIA, 2006 which contemplates a separate EC in respect of all the Mines in the Cluster and not a Common EC, an aspect completely

overlooked by the SEAC, Bihar while recommending the grant of EC and also while issuing TOR on 11.05.2023.

**H.** Because the Respondent SEAC, Bihar without application of mind, wrongly screened the Application filed by the Respondent No. 6 on 10.05.2023 and granted TOR (Terms of Reference) for the said Mines the very next date i.e. on 11.05.2023.

It is submitted that the SEAC ought not to have granted TOR, in as much as, the EIA, 2006 envisages independent/ separate applications in respect of different Sand Ghats and a common application for grant of EC in respect of three separate Sand Blocks/ Ghats is *per se* illegal and violative of the statutory procedure under the EIA, 2006.

**I.** Because the SEAC ought to have considered that a Common draft EIA study was submitted in respect of all three Sand Blocks and a common public hearing was held on 19.06.2024, which are also vitiated, as separate EIA Study/ public hearings are required to be held in terms of the EIA, 2006.

**J.** Because the Respondent SEAC failed to appreciate that a Common Application (Form1/IA) dated 10.05.2023 under the

EIA, 2006 was filed by the Respondent No. 6 whereby Environmental Clearance was sought in respect of the three Sand Mining Blocks 3,4 and 5 admeasuring 67 ha, which is itself impermissible and blatantly illegal.

That in the present case, at the very first instance that the project of the Respondent No. 6 came before the SEAC, Bihar, the same was not deferred but EC was recommended, which ostensibly shows favoritism and nepotism and/or that the recommendation may be made due to other extraneous considerations. Additionally, the fact that TOR was granted the very next day (i.e. Application for EC filed on 10.5.2023 & TOR granted on 11.05.2023 also gives impetus to the Applicant's submission of favoritism.

Thus, the SEAC ought to have directed the Respondent No. 6 to submit an independent Application for EC, Public hearing and EIA study in respect of each of the Sand Block *denovo.*

**K.** Because the SEAC appraised the project in the absence of the Respondent No. 6 or his representative in stark deviation from the general practice followed by the SEAC, Bihar itself wherein

at the time of appraisal for EC if a project proponent is absent/ not represented his case is ***'DEFERRED'*** to a subsequent date to enable the project proponent to make a presentation and answer queries of the SEAC/ Expert Committee qua the project.

**L.** Because the SEAC failed to record any reasons or conduct a proper evaluation/ appraisal before recommending the said Mines for grant of EC. It is submitted that the SEAC mechanically recommended for grant of EC in a perfunctory and casual manner, without application of mind in blatant violation of the provisions of the EIA, 2006.

It is relevant to submit that the Hon'ble Supreme Court in ***BDA v. Sudhakar***, *2020 (15) SCC 63* has held that the role of the SEAC being an Expert body is crucial and it is thus under an obligation to conduct a proper evaluation of the project and to record specific reasons upon which it recommends the grant of an EC. The Apex Court further held that the SEAC must speak in the manner of an expert and remit itself to apply every relevant aspect of the project, including being duty bound to analyses the EIA Report in terms of the requirements under law.

**M.** Because the SEAC recommended the project for grant of EC without conducting a proper, scientific and legally tenable appraisal/ evaluation and thus the entire process (due to reasons elaborated in the above grounds) is unsustainable and an abuse of process, making the entire process vitiated, illegal and a nullity.

**N.** Because the Hon'ble Supreme Court in ***Hanuman Laxman v. UOI***, *2019 (15) SCC 401* has held that Environment rule of law proves an essential platform underpinning the four pillars of sustainable development – economic, social, environmental and peace. The conduct of the Respondent No. 1 in blatantly ignoring various Judgments/ Orders passed by this Hon'ble Tribunal mandating a Replenishment study prior to e-auction/ grant of EC, strikes at the very root of the Environmental rule of law.

**O.** Because the Hon'ble Supreme Court in the case of *Deepak Kumar v. State of Haryana*, 2012 (4) SCC 629 has cautioned that extraction of material within or near to the river bed has a direct and substantial impact on the river's physical

characteristics including destabilization of the river's soil structure, bed elevation, sediment transport, bank erosion turbidity etc.. and that any unregulated or unplanned sand management causes disturbance to the marine ecosystem and upsets the natural marine procees to replenish the sand apart from resulting in the degradation of the river environment.

It is submitted that the Respondent No. 1 has overlooked the aforementioned directions of the Hon'ble Supreme Court by allowing mining and extraction of mineable material within the river bed without ascertaining the replenishment rate or the available quantities, which will invariably have a severe and degrading affect on the environment.

**P.** Because the Impugned MOM dated 3.08.2024 in respect of Agenda 12 requires to be quashed and cancelled by this Hon'ble Tribunal on the aforesaid grounds and in furtherance of the precautionary principle and the doctrine of sustainable development statutorily incorporated in Section 20 of the NGT Act. It is submitted that the issue stands at a preventive stage and both the Applicant and the Respondents ought to be safeguarded

to prevent undue future hardship, illegal mining beyond the replenished rate, and obliterate the need for curative and reparatory measures.

## LIMITATION

That the Impugned MOM been issued by the Respondent No. 1 on 3.08.2024, therefore the instant Application is being filed within the period of limitation as prescribed under the provisions of Section 14 and 15 of the National Green Tribunal Act, 2010.

Even otherwise, the lack of application of mind and the perfunctory and arbitrary manner in which a Common EC has been recommended to be granted in respect of three separate Sand Blocks/ Ghats, and in the absence of a replenishment study will have serious ramifications to the riverine environment once Mining operations commence and thus it is a continuing cause of action.

The matter stands at a preventive stage and warrants interfere of this Hon'ble Tribunal under the precautionary principle in exercise of powers under Section 14 and 15 of the NGT Act.

## PRAYER

In light of the above stated facts and circumstances, it is most respectfully prayed that this Hon'ble Tribunal may be pleased to pass the following orders:

i. Pass an order quashing Agenda 12 of the Impugned MOM dated 3.08.2024 passed by the Respondent No. 1, SEAC, Bihar whereby three Sand Mining Project of Area 67 Ha at Cheer Unit-II (Sand Block 3,4 & 5) on Cheer River, District Banka, Bihar have been recommended for grant of a Common EC, in absence of a prior Replenishment study in violation of the Judgments passed by this Hon'ble Tribunal in *Raj Kumar, Pramod, Junaid Ayubi, Shokeen Ali* & Clause 5 of the EMGSM, 2020 Guidelines issued by the Respondent No. 5. MOEF; and

ii. Pass an Order quashing the Impugned MOM dated 3.08.2024 passed by the Respondent No. 1, SEAC, Bihar being without

application of mind, in an arbitrary manner in the absence of the Respondent No. 6 and being wrongly appraised on the basis of a Common Application, Common TOR, Common EIA study; and

iii. Pass an Order directing the Respondent, SEAC Bihar to appraise the said Mine i.e. Cheer Unit-II (Sand Block 3,4 & 5) *denovo*, and process the proposal for grant of EC separately in respect of all three Sand Ghats/ Blocks in terms of the EIA, 2006, the Sand Mining Guidelines, 2016 & 2020 [SSMG, 2016 & EMGSM, 2020] issued by the MOEF&CC and the Judgments passed by this Hon'ble Court; and

iv. Pass an order restraining the Respondents No. 1 and 2 from granting an EC in respect of Sand Mining Project of Area 67 Ha at Cheer Unit-II (Sand Block 3,4 & 5) unless a Replenishment study is undertaken of the area for the purposes of mining so as to determine the extend of environmentally sustainable mining permissible as per the EMGSM, 2020; and

v. Pass an Order quashing EC, if any subsequently granted by the Respondent No. 2, SEIAA in furtherance of the recommendation made by SEAC under the MOM dated 3.08.2024; and

vi. Pass any other orders as the Hon'ble Tribunal may deem fit and proper in the facts and circumstances of the instant case.

Filed By:

**[VANSHDEEP DALMIA]**
ADVOCATE
COUNSELS FOR THE APPLICANT
206, Jor Bagh, New Delhi-110003
M.No. 9810077085

Place: New Delhi
Filed on: 10.10.2024

WELFARE STAMP
बिहार BIHAR
पच्चीस रुपये Rs. Twenty Five
12 Sep 2024

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL,
EASTERN ZONE BENCH, KOLKATA

ORIGINAL APPLICATION NO. OF 2024

IN THE MATTER OF:

Sl No. 1105
Date 20/9/24

RAS MOHAN THAKUR ...APPLICANT

Versus

STATE LEVEL EXPERT APPRAISAL COMMITTEE (SEAC), BIHAR & ORS ...RESPONDENTS

## AFFIDAVIT

I, Ras Mohan Thakur, S/o Shri Narendra Mohan Thakur, R/o Village Panjwara, District Banka, Bihar – 813110, do hereby solemnly affirm and declare as under:

1. I say that I am the Applicant in the above Original Application and I am well conversant with the facts and circumstances of the case and competent to depose the present Affidavit.
2. I say that I have read and understood the contents of the accompanying Original Application which has been drafted on my instructions and I say that the facts stated therein are true to my knowledge.
3. I say that the averments of facts stated herein above are true to my knowledge, no part of it is false and nothing material has been concealed therefrom.

Ras Mohan Thakur

DEPONENT

Shri/Smt. ... who is/are identified by Shri/Smt. ... Advocate Banka Solemnly Affirmed declare before me

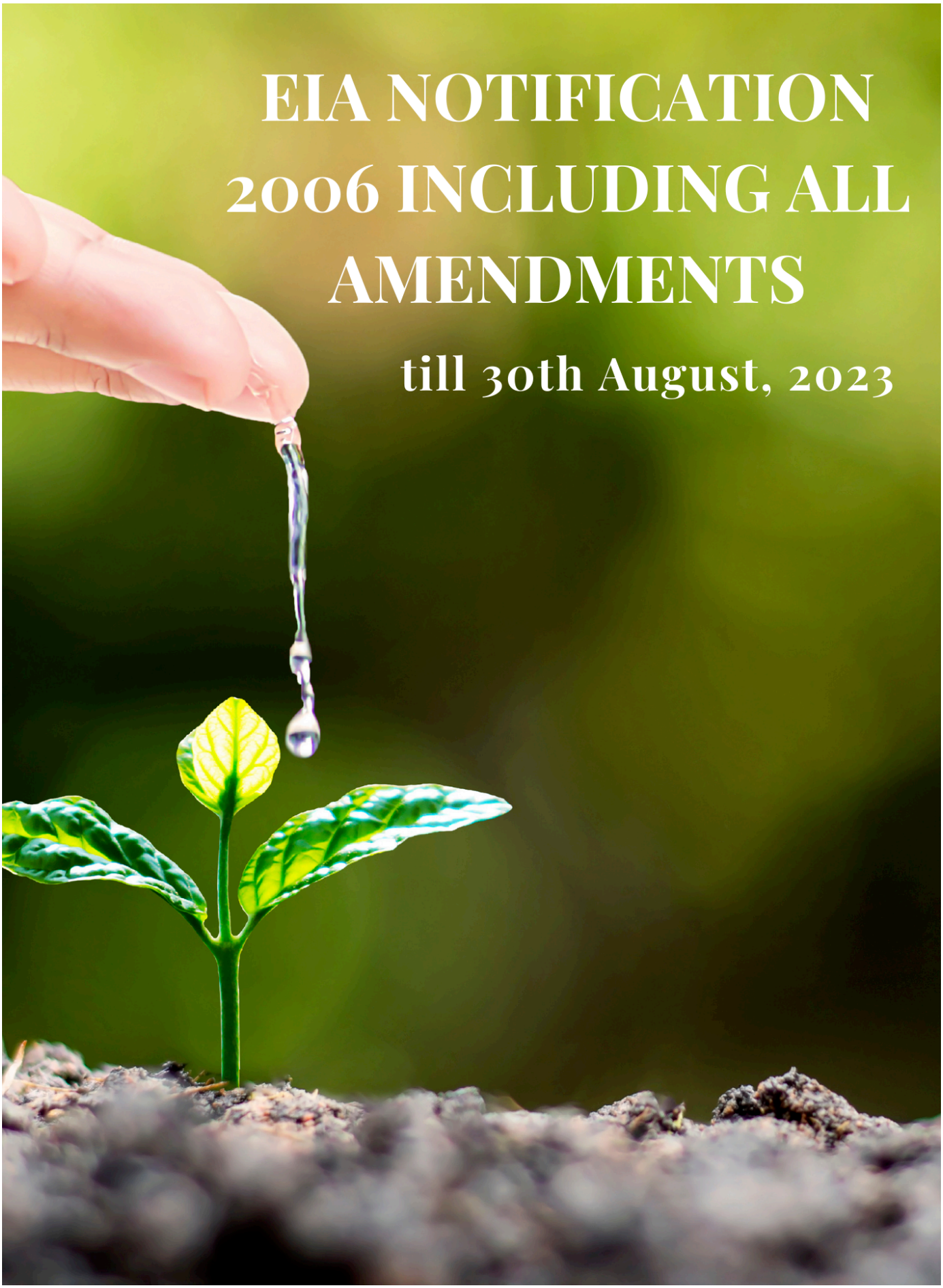
VERIFICATION:-

Verified at Banka on this 20th day September 2024, that the contents of the present affidavit are true and correct to my knowledge, no part of it is false and nothing material has been concealed therefrom.

DEPONENT

Identified by.
Subodh Kumar Sinha
Advocate
20/09/2024
ENO-1954/01

20/9/24
Rajendra Kumar Jha
Notary Public (Banka)
Reg.No -367J/19


EIA NOTIFICATION
2006 INCLUDING ALL
AMENDMENTS
till 30th August, 2023

**(Disclaimer: This document has incorporated subsequent amendments of the principal notification issued up to August 2023 and status before Courts / Tribunal. However, various Office Memoranda have also been issued, the provisions of which have not been incorporated in this document. In case there is a discrepancy, then the principal notification read along with the amendment issued in the gazette of India shall prevail)**

**MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE**

**ENVIRONMENT IMPACT ASSESSMENT NOTIFICATION 2006 AND SUBSEQUENT AMENDMENTS**

**New Delhi, the 14th September, 2006**

**S.O. 1533(E).-**Whereas, a draft notification under sub-rule (3) of Rule 5 of the Environment (Protection) Rules, 1986 for imposing certain restrictions and prohibitions on new projects or activities, or on the expansion or modernization of existing projects or activities based on their potential environmental impacts as indicated in the Schedule to the notification, being undertaken in any part of India[1], unless prior environmental clearance has been accorded in accordance with the objectives of National Environment Policy as approved by the Union Cabinet on 18th May, 2006 and the procedure specified in the notification, by the Central Government or the State or Union Territory Level Environment Impact Assessment Authority (SEIAA), to be constituted by the Central Government in consultation with the State Government or the Union Territory Administration concerned under sub-section (3) of section 3 of the Environment (Protection) Act, 1986 for the purpose of this notification, was published in the Gazette of India, Extraordinary, Part II, section 3, sub-section (ii) *vide* number S.O. 1324 (E) dated the 15th September, 2005 inviting objections and suggestions from all persons likely to be affected thereby within a period of sixty days from the date on which copies of Gazette containing the said notification were made available to the public;

And whereas, copies of the said notification were made available to the public on 15th September, 2005;

And whereas, all objections and suggestions received in response to the above-mentioned draft notification have been duly considered by the Central Government;

Now, therefore, in exercise of the powers conferred by sub-section (1) and clause (v) of sub-section (2) of section 3 of the Environment (Protection) Act, 1986, read with clause (d) of sub-rule (3) of rule 5 of the Environment (Protection) Rules, 1986 and in supersession of the notification number S.O. 60 (E) dated the 27th January, 1994, except in respect of things done or omitted to be done before such supersession, the Central Government hereby directs that on and from the date of its publication the required construction of new projects or activities or the expansion or modernization of existing projects or activities listed in the Schedule to this notification entailing capacity addition with change in process and or technology shall be undertaken in any part of India only after the prior environmental clearance from the Central Government or as the case may be, by

[1] includes territorial waters

the State Level Environment Impact Assessment Authority, duly constituted by the Central Government under sub-section (3) of section 3 of the said Act, in accordance with the procedure specified hereinafter in this notification.

**2. Requirements of prior Environmental Clearance (EC):-** The following projects or activities shall require prior environmental clearance from the concerned regulatory authority, which shall hereinafter referred to be as the Central Government in the Ministry of Environment and Forests for matters falling under Category 'A' in the Schedule and at State level the State Environment Impact Assessment Authority (SEIAA) for matters falling under Category 'B' in the said Schedule and at District level, the District Environment Impact Assessment Authority (DEIAA) for matters falling under Category 'B2' for mining of minor minerals in the said Schedule,[2] before any construction work, or preparation of land by the project management except for securing the land, is started on the project or activity:

(i) All new projects or activities listed in the Schedule to this notification;

(ii) Expansion, modernisation or any change in the product mix or raw material mix in existing projects or activities, listed in the Schedule to this notification, resulting in capacity beyond the threshold limits specified for the concerned sector in the said Schedule, subject to conditions and procedure provided in the sub-paragraph (ii) of paragraph 7[3].

**3. State Level Environment Impact Assessment Authority: -**

(1) A State Level Environment Impact Assessment Authority hereinafter referred to as the SEIAA shall be constituted by the Central Government under sub-section (3) of section 3 of the Environment (Protection) Act, 1986 comprising of three Members including a Chairman and a Member – Secretary to be nominated by the State Government or the Union Territory Administration concerned.

(2) The Member-Secretary shall be a serving officer of the concerned State Government or Union Territory administration familiar with environmental laws.

(3) The Chairman shall be an expert in terms of eligibility criteria given in APPENDIX VI in one of the specified fields, with sufficient experience in environmental policy or management.[4]

(4) The other member shall be an expert fulfilling the eligibility criteria given in APPENDIX VI in one of the specified fields.[4]

(5) The State Government or Union Territory Administration shall forward the names of the Members and the Chairman referred in sub- paragraph 3 to 4 above to the Central Government and the Central Government shall constitute the SEIAA as an authority for the purposes of this notification within thirty days of the date of receipt of the names.

[2] Words inserted *vide* S.O. 141(E), dated the 15th January, 2016 (This notification has been suspended by NGT in EA No. 55/2018 in OA No. 520/2016 in the matter of Vikrant Tongad vs. UoI vide order dated 11th December, 2018 and same has been appealed before Hon'ble Supreme Court and matter is sub-judice)
[3] Para substituted *vide* notification number S.O.980 (E), dated the 2nd March, 2021
[4] Para substituted *vide* S.O. 1737(E), dated the 11th October, 2007

(6) The non-official Member and the Chairman shall have a fixed term of three years (from the date of the publication of the notification by the Central Government constituting the authority).

[5]Provided that wherever considered necessary and expedient, the Central Government may extend the term for a further period not exceeding twelve months.

(7) [6]All decisions of the SEIAA shall be taken in a meeting and shall ordinarily be unanimous;

Provided that, in case a decision is taken by majority, the details of views, for and against it, shall be clearly recorded in the minutes and a copy thereof sent to MoEF**.**

**3A. [7]District Level Environment Impact Assessment Authority: -**

(1) A District Level Environment Impact Assessment Authority hereinafter referred to as the DEIAA shall be constituted by the Central Government under sub-section (3) of section 3 of the Environment (Protection) Act, 1986 comprising of four members including a Chairperson and a Member-Secretary.

(2) The District Magistrate or District Collector shall be the Chairperson of the DEIAA.

(3) The Sub-Divisional Magistrate or Sub-Divisional Officer of the district head quarter of the concerned district of the State shall be the Member-Secretary of the DEIAA.

(4) The other two members of the DEIAA shall be the senior most Divisional Forest Officer and one expert. The expert shall be nominated by the Divisional Commissioner of the Division or Chief Conservator of Forest, as the case may be. The term and qualifications of the expert fulfilling the eligibility criteria are given in Appendix VII to this notification.

(5) The members of the DEIAA who are serving officers of the concerned State Government or the Union Territory Administration shall be *ex-officio* members except the expert member.

(6) The District Level Expert Appraisal Committee hereinafter referred to as the DEAC shall comprise of eleven members, including a Chairman and a Member-Secretary.

(7) The senior most Executive Engineer, Irrigation Department in the district of respective State Governments or Union Territory Administration shall be the Chairperson of the DEAC.

(8) The Assistant Director or Deputy Director of the Department of Mines and Geology or District Mines Officer or Geologist of the district shall be the Member-Secretary of the DEAC in that order.

(9) A representative of the State Pollution Control Board or Committee, senior most Sub-Divisional Officer (Forest) in the district, representative of Remote Sensing Department or Geology Department or State Ground Water Department, one occupational health expert or Medical Officer to be nominated by the District Magistrate or District Collector, Engineer

[5] Provision inserted *vide* S.O. 1562(E), dated the 21st May, 2020 and subsequently amended *vide* S.O. 3752(E), dated the 20th October, 2020

[6] Para substituted *vide* S.O. 3067(E), dated the 1st December, 2009

[7] Inserted *vide* S.O.141 (E), dated the 15th January, 2016

from Zila Parishad, and three expert members to be nominated by the Divisional Commissioner or Chief Conservator of Forest, as the case may be, shall be the other members of the DEAC. The term and qualifications of the experts fulfilling the eligibility criteria are given in Appendix VII to this notification.

(10) The members of the DEAC who are serving officers of the concerned State Government or the Union Territory Administration shall be *ex-officio* members except the expert members.

(11) The District Magistrate or District Collector shall notify an agency to act as Secretariat for the DEIAA and the DEAC and shall provide all financial and logistic support for their statutory functions.

(12) The DEIAA and DEAC shall exercise the powers and follow the procedure as specified in the said notification, as amended from time to time.

(13) The DEAC shall function on the principle of collective responsibility and the Chairman shall endeavour to reach a consensus in each case and if consensus cannot be reached, the view of the majority shall prevail.

**4. Categorization of projects and activities: -**

(i) All projects and activities are broadly categorized in to two categories - Category A and Category B, based on the spatial extent of potential impacts and potential impacts on human health and natural and man-made resources.

(ii) All projects or activities included as Category 'A' in the Schedule, including expansion and modernization of existing projects or activities and change in product mix, shall require prior environmental clearance from the Central Government in the Ministry of Environment and Forests (MoEF) on the recommendations of an Expert Appraisal Committee (EAC) to be constituted by the Central Government for the purposes of this notification;

(iii) All projects or activities included as Category 'B' in the Schedule, including expansion and modernization of existing projects or activities as specified in sub paragraph (ii) of paragraph 2, or change in product mix as specified in sub paragraph (iii) of paragraph 2, but excluding those which fulfill the General Conditions (GC) stipulated in the Schedule, will require prior environmental clearance from the State/Union Territory Environment Impact Assessment Authority (SEIAA). The SEIAA shall base its decision on the recommendations of a State or Union Territory Level Expert Appraisal Committee (SEAC) as to be constituted for in this notification. In the absence of a duly constituted SEIAA or SEAC, a Category 'B' project shall be considered at the Central Level as a Category 'B' project[8];

(iiia) [9] [10] Such Category 'B' projects, relating to the National defence or strategic or security importance or those as notified by the Central Government on account of exigencies such as pandemics, natural disasters or to promote environmentally friendly activities under National Programmes or Schemes or Missions or such projects which are inordinately delayed beyond the

[8] Words substituted *vide* S.O. 3067(E), dated the 1st December, 2009
[9] Inserted vide S.O. 2339(E), dated the 16th June, 2021
[10] Substituted vide S.O. 1886(E) dated 20th April,2022

stipulated timeline as laid down in this notification and also meet the criteria as laid down in this regard from time to time, shall be considered at the Central level as Category 'B' projects;

(iv)[11] The 'B2' Category projects pertaining to mining of minor mineral of lease area less than or equal to five hectare shall require prior environmental clearance from DEIAA. The DEIAA shall base its decision on the recommendations of DEAC, as constituted for this notification.

**5.[12] Screening, Scoping and Appraisal Committees: -**

The same Expert Appraisal Committees (EACs) at the Central Government, SEACs at the State or Union Territory level and DEAC at the district level shall screen, scope and appraise projects or activity in category 'A', 'B1 and B2' and 'B2' projects for mining of minor minerals of lease area less than and equal to five hectare respectively. EAC, SEACs and DEACs shall meet at least once every month.

(a) The composition of the EAC shall be as given in Appendix VI. The SEAC at the State or the Union Territory level shall be constituted by the Central Government in consultation with the concerned State Government or the Union Territory Administration with identical composition. DEAC at the district level shall be constituted by the Central Government as per the composition given in paragraph 3 A.

(b) The Central Government may with the prior concurrence of the concerned State Governments or the Union Territory Administration constitute one SEAC for more than one State or Union Territory for reasons of administrative convenience and cost.

(c) The Expert Appraisal Committee and State Level Expert Appraisal Committee shall be reconstituted after every three years:
Provided that wherever considered necessary and expedient, the Central Government may extend the term for a further period not exceeding twelve months.

(d) The authorised members of the EAC, SEACs and DEACs concerned, may inspect any site connected with the project or activity in respect of which the prior environmental clearance is sought for the purpose of screening or scoping or appraisal with prior notice of at least seven days to the project proponent who shall provide necessary facilities for the inspection.

(e) The EAC, SEACs and DEACs shall function on the principle of collective responsibility. The Chairperson shall endeavor to reach a consensus in each case and if consensus cannot be reached the view of the majority shall prevail.

**6.[12] Application for Prior Environmental Clearance (EC): -**

An application seeking prior environmental clearance in all cases shall be made by the project proponent[13] in the prescribed Form 1 annexed herewith and Supplementary Form 1A, if applicable, as given in Appendix II after the identification of prospective site (s) for the project and/or activities to which the application relates; and in Form 1M for mining of minor minerals up to five hectare

[11] Inserted *vide* S.O. 141(E), dated the 15th January, 2016
[12] Para substituted *vide* S.O. 141(E), dated the 15th January, 2016 (This notification has been suspended by NGT in EA No. 55/2018 in OA No. 520/2016 in the matter of Vikrant Tongad vs. UoI vide order dated 11th December, 2018 and same has been appealed before Hon'ble Supreme Court and matter is sub-judice) and Para 5(c) substituted *vide* S.O. No. 1562(E), dated the 21st May, 2020 and subsequently amended *vide* S. O. 3752 (E), dated the 20th October, 2020.
[13] Words substituted *vide* S.O. 695(E), dated the 4th April, 2011

under Category 'B2' projects, as given in Appendix VIII, before commencing any construction activity, or preparation of land, or mining at the site by the project proponent. The project proponent shall furnish along with the application, a copy of the pre-feasibility project report, in addition to Form 1, Form 1A, and Form 1M; and in case of construction projects or activities (item 8 of the Schedule), a copy of the conceptual plan shall be provided instead of pre-feasibility report.

**7. Stages in the Prior Environmental Clearance (EC) Process: -**

**7(i) For new projects or activities listed in the Schedule to this notification**[14]: The environmental clearance process for new projects will comprise of a maximum of four stages, all of which may not apply to particular cases as set forth below in this notification. These four stages in sequential order are: -

- Stage (1) Screening (Only for Category 'B' projects and activities)
- Stage (2) Scoping
- Stage (3) Public Consultation
- Stage (4) Appraisal

I. **Stage (1) - Screening**:

(A) **[15]**In case of Category 'B' projects or activities, this stage will entail the scrutiny of an application seeking prior environmental clearance made in Form 1 by the concerned State Level Expert Appraisal Committee (SEAC) for determining whether or not the project or activity requires further environmental studies for preparation of an Environmental Impact Assessment (EIA) for its appraisal prior to the grant of environmental clearance depending upon the nature and location specificity of the project. The projects requiring an Environmental Impact Assessment report shall be termed Category 'B1' and remaining projects shall be termed Category 'B2' and will not require an Environment Impact Assessment report. For categorization of projects into B1 or B2 except item 8 (b), the Ministry of Environment and Forests shall issue appropriate guidelines from time to time.

(B) **[15]**The cases as specified in Appendix IX shall be exempted from prior environmental clearance.

**II. [16]Stage (2)-Scoping:**

(i)[17] "Scoping" refers to the process to determine detailed and comprehensive Terms of Reference (ToR) addressing all relevant environmental concerns for the preparation of an Environmental Impact Assessment and Environment Management Report in respect of the project or activity for which Prior Environmental Clearance is sought.

(ii) All projects or activities listed under Category "B2" of the schedule shall not require Scoping.

[14] Words inserted *vide* S.O.980(E), dated the 2nd March, 2021

[15] Renumbered para and Inserted para *vide* S.O. 141(E), dated the 15th January, 2016 (This notification has been suspended by NGT in EA No. 55/2018 in OA No. 520/2016 in the matter of Vikrant Tongad vs. UoI vide order dated 11th December, 2018 and same has been appealed before Hon'ble Supreme Court and matter is sub-judice)

[16] Substituted *vide* S.O. 751(E), dated the 17th February, 2020

[17] Was amended *vide* S.O.695(E), dated the 4th April, 2011,substituted vide S.O. 2559 dated 22nd August, 2013, S.O. 562(E) dated 26th February, 2014; S.O. 382(E) dated 3rd February, 2015, S.O. 996(E) dated 10th April, 2015, S.O 751(E) dated 17th February, 2020

(iii) Sector specific Standard Terms of References developed by the Ministry of Environment, Forest and Climate Change, from time to time shall be displayed on its website.

(iv) The Standard Terms of References shall be issued to the following projects or activities through online mode, on acceptance of application within 7 working days, without referring to EAC or SEAC by the Ministry or SEIAA, as the case may be:

(a) All Highway projects in Border States covered under entry (i) and (ii) of column (3) and (4) against item 7(f) of the Schedule;[18]

(b) All projects or activities proposed to be located in industrial estates or parks (item 7(c) of the Schedule) approved by the concerned authorities, and which are not disallowed in such approvals; and

(c) All expansion proposals of existing projects having earlier Prior Environmental Clearance:

Provided that EAC or SEAC may recommend additional specific Terms of Reference in addition to the Standard ToR, if found necessary, for a project or activity, within 30 days from the date of acceptance of application.

(v) All new projects or activities other than specified in sub-paragraph (iv) above, shall be referred to the EAC or SEAC by the Regulatory Authority, as the case may be, within 30 days from the date of application, for recommending the specific ToR in addition to the Standard ToR, deemed necessary. In case, the regulatory authority does not refer the matter to the EAC or SEAC, as the case may be, within 30 days of date of application in Form-I, sector specific Standard ToR shall be issued, online, on 30th day, by the Regulatory Authority.

(vi) Applications for Terms of Reference may be rejected by the regulatory authority concerned on the recommendation of the EAC or SEAC concerned. In case of such rejection, the decision together with reasons for the same after due personal hearing shall be communicated to the applicant in writing within sixty days of the receipt of the application.

(vii) The project proponent shall prepare the EIA report based on the sector specific Standard ToR as well as additional specific ToR, if any, stipulated by the EAC or SEAC.

(viii) The Terms of Reference for the projects or activities except for River valley and Hydroelectric projects, issued by the regulatory authority concerned, shall have the validity of four years from the date of issue. In case of the River valley and Hydro-electric projects, the validity will be for five years.

(ix). [19]Notwithstanding anything contained above, the period from the 1st April, 2020 to the 31st March, 2021 shall not be considered for the purpose of calculation of the period of validity of Terms of Reference granted under the provisions of this notification in view of outbreak of Corona Virus (COVID-19) and subsequent lockdowns (total or partial) declared for its control, however, all

[18] Substituted vide S.O 382(E) dated 3rd February 2015, S.O 996(E) 10th April 2015, S.O 751(E) dated 17th February, 2020

[19] Inserted *vide* S. O. 221(E), dated the 18th January, 2021.

activities undertaken during this period in respect of the said Terms of Reference shall be treated as valid.

(x) [20]Notwithstanding anything contained above, the projects where construction and commissioning of proposed activities have not been completed within the validity period of the Environmental Clearance (EC) and a fresh application for EC has been submitted due to expiry of the said period of the EC, the concerned Expert Appraisal Committee or State Level Expert Committee, as the case may be, may exempt the requirement of public hearing subject to the condition that the project has been implemented not less than fifty percentage in its physical form or construction.

**III. Stage (3) - Public Consultation**:

(i) "Public Consultation" refers to the process by which the concerns of local affected persons and others who have plausible stake in the environmental impacts of the project or activity are ascertained with a view to taking into account all the material concerns in the project or activity design as appropriate. All Category 'A' and Category B1 projects or activities shall undertake Public Consultation, except the following: -

(a) modernization of irrigation projects (item 1(c) (ii) of the Schedule).

(b) all projects or activities located within industrial estates or parks (item 7(c) of the Schedule) approved by the concerned authorities, and which are not disallowed in such approvals.

(c) expansion of Roads and Highways (item 7 (f) of the Schedule) which do not involve any further acquisition of land.

**(cc)**[21] maintenance dredging provided the dredged material shall be disposed within port limits.

(d)[21] All Building or Construction projects or Area Development projects (which do not contain any category 'A' projects and activities) and Townships (item 8 (a) and 8(b) in the Schedule to the notification).

(e) all Category 'B2' projects and activities.

(f) all projects or activities concerning national defence and security or involving other strategic considerations as determined by the Central Government.

**(**g) all linear projects such as Highways, pipelines, etc., in border States.[22]

(h)[23] all standalone pelletization plants, which were in existence and in operation on or before the 27th day of May, 2014 and have valid consent to establish and consent to operate from the concerned State Pollution Control Board or the Union Territory Pollution Control Committee.

[20] Inserted *vide* S.O. 1247(E), dated the 18th March, 2021
[21] Inserted/Substituted *vide* S.O. 3067(E), dated the 1st December, 2009
[22] Inserted vide S.O 382(E) dated 3rd Febuary,2015
[23] Inserted *vide* S.O. 2572(E), dated the 14th September, 2015

(ii) The Public Consultation shall ordinarily have two components comprising of:-

(a) a public hearing at the site or in its close proximity- district wise, to be carried out in the manner prescribed in Appendix IV, for ascertaining concerns of local affected persons;

(b) obtain responses in writing from other concerned persons having a plausible stake in the environmental aspects of the project or activity.

(iii) the public hearing at, or in close proximity to, the site(s) in all cases shall be conducted by the State Pollution Control Board (SPCB) or the Union Territory Pollution Control Committee (UTPCC) concerned in the specified manner and forward the proceedings to the regulatory authority concerned within 45 (forty-five) days[24] of a request to the effect from the applicant.

(iv) in case the State Pollution Control Board or the Union Territory Pollution Control Committee concerned does not undertake and complete the public hearing within the specified period, and/or does not convey the proceedings of the public hearing within the prescribed period directly to the regulatory authority concerned as above, the regulatory authority shall engage another public agency or authority which is not subordinate to the regulatory authority, to complete the process within a further period of forty five days.

(v) If the public agency or authority nominated under the sub paragraph (iii) above reports to the regulatory authority concerned that owing to the local situation, it is not possible to conduct the public hearing in a manner which will enable the views of the concerned local persons to be freely expressed, it shall report the facts in detail to the concerned regulatory authority, which may, after due consideration of the report and other reliable information that it may have, decide that the public consultation in the case need not include the public hearing.

(vi) For obtaining responses in writing from other concerned persons having a plausible stake in the environmental aspects of the project or activity, the concerned regulatory authority and the State Pollution Control Board (SPCB) or the Union Territory Pollution Control Committee (UTPCC) shall invite responses from such concerned persons by placing on their website the Summary EIA report prepared in the format given in Appendix IIIA by the applicant along with a copy of the application in the prescribed form, within seven days of the receipt of a written request for arranging the public hearing. Confidential information including non-disclosable or legally privileged information involving Intellectual Property Right, source specified in the application shall not be placed on the web site**.** The regulatory authority concerned may also use other appropriate media for ensuring wide publicity about the project or activity. The regulatory authority shall, however, make available on a written request from any concerned person the Draft EIA report for inspection at a notified place during normal office hours till the date of the public hearing. All the responses received as part of this public consultation process shall be forwarded to the applicant through the quickest available means.

(vii) After completion of the public consultation, the applicant shall address all the material environmental concerns expressed during this process, and make appropriate changes in the draft EIA and EMP. The final EIA report, so prepared, shall be submitted by the applicant to the

[24] Amended *vide* S.O. 1939 (E), dated the 13th November, 2006

concerned regulatory authority for appraisal. The applicant may alternatively submit a supplementary report to draft EIA and EMP addressing all the concerns expressed during the public consultation.

**IV. Stage (4) - Appraisal**:

(i) Appraisal means the detailed scrutiny by the Expert Appraisal Committee or State Level Expert Appraisal Committee of the application and other documents like the Final EIA report, outcome of the public consultations including public hearing proceedings, submitted by the applicant to the regulatory authority concerned for grant of environmental clearance. This appraisal shall be made by Expert Appraisal Committee or State Level Expert Appraisal Committee concerned in a transparent manner in a proceeding to which the applicant shall be invited for furnishing necessary clarifications in person or through an authorized representative. On conclusion of this proceeding, the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned shall make categorical recommendations to the regulatory authority concerned either for grant of prior environmental clearance on stipulated terms and conditions, or rejection of the application for prior environmental clearance, together with reasons for the same.

(ii) The appraisal of all projects or activities which are not required to undergo public consultation, or submit an Environment Impact Assessment report, shall be carried out on the basis of the prescribed application Form 1 and Form 1A as applicable, any other relevant validated information available and the site visit wherever the same is considered as necessary by the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned.

(iii) The appraisal of an application shall be[25] completed by the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned within sixty days of the receipt of the final Environment Impact Assessment report and other documents or the receipt of Form 1 and Form 1A, where public consultation is not necessary and the recommendations of the Expert Appraisal Committee or State Level Expert Appraisal Committee shall be placed before the competent authority for a final decision within the next fifteen days .The prescribed procedure for appraisal is given in Appendix V ;

**7(ii).[26] Prior Environmental Clearance (EC) process for Expansion or Modernization or Change of product mix in existing projects:**

(a) All applications seeking prior environmental clearance for expansion with increase in the production capacity beyond the capacity for which prior environmental clearance has been granted under this notification or with increase in either lease area or production capacity in the case of mining projects or for the modernisation of an existing unit with increase in the total production capacity beyond the threshold limit prescribed in the Schedule to this notification through change in process and or technology or involving a change in the product –mix shall be made in Form I and they shall be considered by the concerned Expert Appraisal Committee or State Level Expert Appraisal Committee within sixty days, who will decide on the due diligence necessary including preparation of Environment Impact Assessment and public consultations and the application shall be appraised accordingly for grant of environmental clearance in respect of projects or activities other than falling in clause (b) and (c).

[25] Amended *vide* S.O. 1939(E), dated the 13th November, 2006

[26] Substituted *vide* S.O. 3518(E), dated the 23rd November, 2016, substituted word vide S.O 980(E) dated 2nd March,2021

(b) [27] **Existing projects (having Prior Environmental Clearance) with no increase in pollution load:** Any increase in production capacity in respect of processing or production or manufacturing sectors (listed against item numbers 2,3, 4 and 5 in the Schedule to this notification) with or without any change in (i) raw material-mix or (ii) product-mix or (ii) quantities within products or (ii) number of products including new products falling in the same category or (iv) configuration of the plant or process or operations in existing area or in areas contiguous to the existing area (for which prior environmental clearance has been granted) shall be exempt from the requirement of Prior Environmental Clearance provided that there is no increase in pollution load (derived on the basis of such Prior Environmental Clearance):

Provided that such exemption shall be applicable only consequent to -

A. the project proponent furnishing information regarding such changes along with no increase in pollution load certificate, from the environmental auditor or reputed institutions empanelled by the State Pollution Control Board or Union Territory Pollution Control Committee or Central Pollution Control Board or Ministry of Environment, Forest and Climate Change, as per the procedure laid down in Appendix-XIII, on PARIVESH portal as well as to the concerned State Pollution Control Board or Union Territory Pollution Control Committee.

   Note: If on verification, the State Pollution Control Board or Union Territory Pollution Control Committee, as the case may be, after giving the project proponent the opportunity of being heard, holds that such change or expansion or modernisation results in increase in pollution load, the exemption claimed under this clause shall not be valid and it shall be deemed that the project proponent was always liable to obtain prior environmental clearance, in respect of such change or expansion or modernisation, as per the clause (a) and the provisions of Environment (Protection) Act, 1986 shall apply accordingly;

B. installation and implementation of Online Continuous Monitoring System (OCMS) with at least 95% uptime, connected to the servers of the Central Pollution Control Board and State Pollution Control Board or Union Territory Pollution Control Committee concerned to report the quantity and quality, of emission and discharges:

   Provided further that the provisions of this clause shall not be applicable if such change or increase results in change in category of project or activity from Category-'B2' to either Category-'A' or Category 'B1'.

(c)[27]Any change in configuration of the plant or activity from the environmental clearance conditions during execution of the project after detailed engineering, in respect of projects or activities, falling in any item of the Schedule to this notification, shall not require prior environmental clearance, if there is no change in production capacity and there is no increase in pollution load subject to furnishing particulars of such changes on PARIVESH portal in the format as may be provided by the Government from time to time, before implementing such changes whereupon a system generated acknowledgement will be issued by the concerned Regulatory Authority. [28]

Explanation:- For the purpose of this sub-paragraph, "Pollution load" shall be determined on the basis of multiplication of quantity and concentration of different components and parameters (as provided or referred in the Prior Environment Clearance or the Environment Impact Assessment Report (EIA) and Environment Management Plan based on which such Prior Environment

[27] Para substituted *vide* notification number S.O.908 (E), dated the 2nd March, 2021
[28] Substituted Clause (c ) of sub para (ii) of para 7 vide S.O 236(E) 16th January,2020

Clearance has been granted), in respect of emissions, effluents or discharge, solid, industrial hazardous waste and such other parameters notified under the Environment (Protection) Rules, 1986 as amended from time to time[29].

**8.** [30] **Grant or Rejection of Prior Environmental Clearance (EC):**

(i) The regulatory authority shall consider the recommendations of the **EAC or SEAC or DEAC** concerned and convey its decision to the applicant within forty five days of the receipt of the recommendations of the Expert Appraisal Committee or State Level Expert Appraisal Committee or **District Level Expert Appraisal Committee** concerned or in other words within one hundred and five days of the receipt of the final Environment Impact Assessment Report, and where Environment Impact Assessment is not required, within one hundred and five days of the receipt of the complete application with requisite documents, except as provided below.

(ii) The regulatory authority shall normally accept the recommendations of the Expert Appraisal Committee or State Level Expert Appraisal Committee or **District Level Expert Appraisal** Committee concerned. In cases where it disagrees with the recommendations of the Expert Appraisal Committee or State Level Expert Appraisal Committee or **District Level Expert Appraisal** Committee concerned, the regulatory authority shall request reconsideration by the Expert Appraisal Committee or State Level Expert Appraisal Committee or **District Level Expert Appraisal** Committee concerned within forty five days of the receipt of the recommendations of the Expert Appraisal Committee or State Level Expert Appraisal Committee or **District Level Expert Appraisal** Committee concerned while stating the reasons for the disagreement. An intimation of this decision shall be simultaneously conveyed to the applicant. The Expert Appraisal Committee or State Level Expert Appraisal Committee or **District Level Expert Appraisal Committee** concerned, in turn, shall consider the observations of the regulatory authority and furnish its views on the same within a further period of sixty days. The decision of the regulatory authority after considering the views of the Expert Appraisal Committee or State Level Expert Appraisal Committee or **District Level Expert Appraisal Committee** concerned shall be final and conveyed to the applicant by the regulatory authority concerned within the next thirty days.

(iii) In the event that the decision of the regulatory authority is not communicated to the applicant within the period specified in sub-paragraphs (i) or (ii) above, as applicable, the applicant may proceed as if the environment clearance sought for has been granted or denied by the regulatory authority in terms of the final recommendations of the Expert Appraisal Committee or State Level Expert Appraisal Committee or **District Level Expert Appraisal Committee** concerned.

(iv) On expiry of the period specified for decision by the regulatory authority under paragraph (i) and (ii) above, as applicable, the decision of the regulatory authority, and the final recommendations of the Expert Expert Appraisal Committee or State Level Expert Appraisal Committee or **District Level Expert Appraisal Committee** concerned shall be public documents.

(v) Clearances from other regulatory bodies or authorities shall not be required prior to receipt of applications for prior environmental clearance of projects or activities, or screening, or scoping, or appraisal, or decision by the regulatory authority concerned, unless any of these is sequentially dependent on such clearance either due to a requirement of law, or for necessary technical reasons.

[29] Para substituted *vide* notification number S.O.908 (E), dated the 2nd March, 2021

[30] Words in bold in the para were substituted *vide* S.O. 141(E), dated the 15th January, 2016

(vi) Deliberate concealment and/or submission of false or misleading information or data which is material to screening or scoping or appraisal or decision on the application shall make the application liable for rejection, and cancellation of prior environmental clearance granted on that basis. Rejection of an application or cancellation of a prior environmental clearance already granted, on such ground, shall be decided by the regulatory authority, after giving a personal hearing to the applicant, and following the principles of natural justice.

**9.[31][32] Validity of Environmental Clearance (EC):**

(i) The "Validity of Environmental Clearance" is meant the period from which a prior Environmental Clearance is granted by the regulatory authority, or may be presumed by the applicant to have been granted under sub-paragraph (iii) of paragraph 8, to the start of production operations by the project or activity; or completion of all construction. operations in case of construction projects relating to item 8 of the Schedule, to which the application for prior environmental clearance refers:

Provided that in the case of mining projects or activities, the validity shall be counted from the date of execution of the mining lease.

(ii) The prior environmental clearance granted for an existing or new project or activity shall be valid for a period of,-

(a) thirteen years in the case of River Valley projects or activities [item 1(c) of the Schedule];
(b) fifteen years in the case of Nuclear power projects or activities and processing of nuclear fuel [item 1(e) of the Schedule];
(c) ten years in the case of all other projects and activities other than the Mining projects and River Valley Projects and Nuclear power projects referred to in clauses (a) and (b).

(iii) In the case of Area Development projects and Townships [item 8(b)], the validity period of ten years shall be limited only to such activities as may be the responsibility of the applicant as a developer:

Provided that the period of validity of Environmental Clearance with respect to the Projects and Activities listed in this sub- paragraph and sub-paragraphs (ii) may be extended in respect of valid Environmental Clearance, by the regulatory authority concerned by a maximum period of two years in the case of River Valley projects, five years in the case of Nuclear power projects and processing of nuclear fuel and one year in the case of all other projects, if an application is made in the laid down proforma to the regulatory authority by the applicant within the validity period of the existing
Environment Clearance:

Provided further that the regulatory authority may also consult the concerned Expert Appraisal Committee before grant of such extension.

[31] Substituted vide S.O. 1807(E), dated 12th April,2022
[32] Re-numbered and then text in bold was amended *vide* S.O.1141 (E), dated the 29th April, 2015, word substituted vide S.O2571(E) dated 31st August,2015, word substituted vide S.O.141(E) dated 1st January,2016, further substituted *vide* S.O. 2944 (E), the 14th September, 2016

(iv) The prior Environmental Clearance granted for mining projects shall be valid for the project life as laid down in the mining plan approved and renewed by competent authority, from time to time, subject to a maximum of thirty years, whichever is earlier:

Provided that the period of validity of Environmental Clearance with respect to projects or activities included in this sub-paragraph may be extended by another twenty years, beyond thirty years, subject to the condition that the adequacy of the existing environmental safeguards laid down in the existing Environmental Clearance shall be examined by concerned Expert Appraisal Committee every five years beyond thirty years, on receipt of such application in the laid down proforma from the Project Proponent within the maximum validity period of Environmental Clearance of thirty years, and subsequently on receipt of such application in the laid down proforma from the Project Proponent within the validity period of the extended Environment Clearance, every five years for incorporating such additional environment safeguards in the Environmental Management Plan , as may be deemed necessary, till the validity of the mining lease or end of life of mine or fifty years, whichever is earlier.";

"(v) Where the application for extension under sub-paragraphs (ii), (iii) and (iv) has been filed in the laid down proforma".

(a) within thirty days after the validity period of Environmental Clearance, such cases shall be referred to concerned Expert Appraisal Committee or State Level Expert Appraisal Committee or District Level Expert Appraisal Committee and based on their recommendations, the delay shall be condoned at the level of the Joint Secretary in the Ministry of Environment, Forest and Climate Change or Member Secretary, State Level Expert Appraisal Committee or Member Secretary, District Level Expert Appraisal Committee, as the case may be;

(b) more than thirty days after the validity period of Environmental Clearance but less than ninety days after such validity period, then, based on the recommendations of the Expert Appraisal Committee or State Level Expert Appraisal Committee or District Level Expert Appraisal Committee, the delay shall be condoned with the approval of the Minister in charge of Environment, Forest and Climate Change or Chairman, as the case may be : Provided that no condonation for delay shall be granted for any application for extension filed beyond ninety days after the validity period of Environmental Clearance.

**9A.**[33] Notwithstanding anything contained in this notification, the period from the 1st April, 2020 to the 31st March, 2021 shall not be considered for the purpose of calculation of the period of validity of Prior Environmental Clearances granted under the provisions of this notification in view of outbreak of Corona Virus (COVID-19) and subsequent lockdowns (total or partial) declared for its control, however, all activities undertaken during this period in respect of the Environmental Clearance granted shall be treated as valid.

**10. Post Environmental Clearance Monitoring:**

(i) (a)[34] In respect of Category 'A' projects, it shall be mandatory for the project proponent to make public the environmental clearance granted for their project along with the environmental

[33] Inserted *vide* S.O.4254(E), dated the 27th November, 2020 and substituted *vide* S.O. 221(E), dated the 18th January, 2021.
[34] Inserted/re-numbered *vide* S.O.3067(E), dated the 1st December, 2009

conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the district or State where the project is located and in addition, this shall also be displayed in the project proponent's website permanently. (b) In respect of Category 'B' projects, irrespective of its clearance by MoEF / SEIAA/DEIAA, the project proponent shall prominently advertise in the newspapers indicating that the project has been accorded environment clearance and the details of MoEF website where it is displayed. (c) The Ministry of Environment and Forests and the State / Union Territory Level Environmental Impact Assessment Authorities (SEIAAs)/ the District Level Environment Impact Assessment Authority (DEIAA), as the case may be, shall also place the environmental clearance in the public domain on Government portal. (d) The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

(ii) It shall be mandatory for the project management to submit half-yearly compliance reports in respect of the stipulated prior environmental clearance terms and conditions in soft copies[35] to the regulatory authority concerned, on 1st June and 1st December of each calendar year.

(iii) All such compliance reports submitted by the project management shall be public documents. Copies of the same shall be given to any person on application to the concerned regulatory authority. The latest such compliance report shall also be displayed on the web site of the concerned regulatory authority.

(iv)[36] The prescribed procedure for sand mining or river bed mining and monitoring is given in Appendix XII.

**11. [37] Transferability of Environmental Clearance (EC):**

(1) A prior environmental clearance granted for a specific project or activity to an applicant may be transferred during its validity to another legal person entitled to undertake the project or activity on application by the transferor, or by the transferee with a written "no objection" by the transferor, to, and by the regulatory authority concerned, on the same terms and conditions under which the prior environmental clearance was initially granted, and for the same validity period. No reference to the Expert Appraisal Committee or State Level Expert Appraisal Committee or **District Level Expert Appraisal**[38] Committee concerned is necessary in such cases.

*"(1A) A prior-Environmental Clearance granted for a specific project, except mining projects may be split amongst two or more legal persons, entitled to undertake the project and transferred during the validity to another legal person on application made by the transferor in the format specified on PARIVESH portal to the concerned Regulatory Authority along with requisite documents. The concerned Regulatory Authority shall split and transfer the prior-Environmental Clearance, on recommendation of the concerned Expert Appraisal Committee to the other legal persons for the respective projects."*[39]

[35] Substituted *vide* S.O. 5845(E), dated the 26th November, 2018.
[36] Inserted *vide* S.O. 141(E), dated the 15th January, 2016 (This notification has been suspended by NGT in EA No. 55/2018 in OA No. 520/2016 in the matter of Vikrant Tongad vs. UoI vide order dated 11th December, 2018 and same has been appealed before Hon'ble Supreme Court and matter is sub-judice)
[37] Para 11 renumbered as sub-para1 and inserted para 2 vide S.O. 811(E), dated the 23rd March, 2015
38 Word substituted vide S.O141(E) dated 15th January,2016
[39] Inserted vide S.O. 1832 (E), dated 21st April 2023

(2) Where an allocation of coal block is cancelled in any legal proceeding, or by the Government in accordance with law, the environmental clearance granted in respect of such coal block may be transferred, subject to the same validity period as was initially granted, to any legal person to whom such block is subsequently allocated, and in such case, obtaining of "no objection" from either the holder of environment clearance or from the regulatory authority concerned shall not be necessary and no reference shall be made to the Expert Appraisal Committee or the State Level Expert Appraisal Committee concerned.

(3) [40] [41] The prior Environmental Clearance vested with the previous lessee shall be deemed to have been transferred during its validity period in terms of the Mines and Minerals (Development and Regulation) Act, 1957 (67 of 1957) as amended by the Mines and Minerals (Development and Regulation) Amendment Act, 2021 (16 of 2021) to the successful bidder of the mining leases, from the date of commencement of new lease for the remaining validity period (calculated from the date from which the said Environmental Clearance was initially granted), subject to the new lessee registering online on PARIVESH portal along with an undertaking to comply with all the conditions of the transferred Environmental Clearance"

(4) [42]Where an allocation of iron ore block pertaining to the State of Karnataka is cancelled in any legal proceeding, or by the Government in accordance with law, the environmental clearance granted in respect of such iron block may be transferred subject to the same validity period it was initially granted, to any legal person to whom such block is subsequently allocated, and in such case, obtaining of "no objection" from either the holder of environmental clearance or from the regulatory authority concerned shall not be necessary and no reference shall be made to the Expert Appraisal Committee or the State Level Expert Appraisal Committee concerned.

**12. Operation of EIA Notification, 1994, till disposal of pending cases:**

From the date of final publication of this notification the Environment Impact Assessment (EIA) notification number S.O.60 (E) dated 27th January, 1994 is hereby superseded, except in suppression of the things done or omitted to be done before such suppression[43] to the extent that in case of all or some types of applications made for prior environmental clearance and pending on the date of final publication of this notification, the Central Government may relax any one or all provisions of this notification except the list of the projects or activities requiring prior environmental clearance in Schedule[43], or continue operation of some or all provisions of the said notification, for a period not exceeding twenty four months[44] from the date of issue of this notification.

**13. [45] Preparation and presentation of Environment Impact Assessment (EIA) report and Environment Management Plan(EMP).-** The Environmental consultant organisations which are accredited for a particular sector and the category of project for that sector with the Quality Council of India (QCI) or National Accreditation Board for Education and Training (NABET) or any other agency as may be notified by the Ministry of Environment, Forest and Climate Change from time to

[40] Para inserted *vide* S.O 4241(E) dated 30/12/2016, Para substituted vide S.O. 1224(E), dated the 28th March, 2020
[41] Sub para 3 of Para(11) Substituted vide S.O 2817(E) dated 13th July,2021
[42] Inserted para vide S.O. 4241(E) dated 30th December,2016
[43] Amended *vide* S.O. 1939(E), dated the 13th November, 2006.
[44] Words substituted *vide* S.O. 1737(E), dated the 11th October, 2007.
[45] Inserted *vide* S.O. 648(E), dated the 3rd March, 2016.

time shall be allowed to prepare the Environmental Impact Assessment report and Environmental Management Plan of a project in that sector and category and to appear before the concerned Expert Appraisal Committee (EAC) or the State Expert Appraisal Committee (SEAC). The Ministry will also prepare a panel of national level reputed educational and research institutions to work as Environmental Consultant Organisations.

## SCHEDULE
**(See paragraph 2 and 7)**

## LIST OF PROJECTS OR ACTIVITIES REQUIRING PRIOR ENVIRONMENTAL CLEARANCE

| Project or Activity | | Category with threshold limit | | Conditions if any |
|---|---|---|---|---|
| | | A | B | |
| (1) | (2) | (3) | (4) | (5) |
| 1 | **Mining, extraction of natural resources and power generation (for a specified production capacity)** | | | |
| 1(a)[46] [47][48] | (i) Mining of minerals | >250 ha mining lease area in respect of major mineral mining lease other than coal<br><br>> 500 ha of mining lease area in respect of coal mine lease<br><br>Asbestos mining irrespective of mining area. | All mining lease area in respect of minor mineral mining leases and ≤ 250 ha mining lease area in respect of major mineral mining lease other than coal<br>≤ 500 ha of mining lease area in respect of coal mine lease. | **General Conditions** shall apply except:<br><br>"General Conditions shall apply except for mining of minor minerals."[49]<br><br>Note: (1) Mineral prospecting is exempted;<br>(2) The prescribed procedure for environmental clearance for mining of minor minerals including cluster situation is given in Appendix XI;<br>(3)[50] The evacuation or removal and transportation of already mined out material lying within the mining leases expiring under the provisions of the Mines and Minerals (Development and Regulation) Act, 1957 (67 of 1957), by the previous lessee, after the expiry of the said lease, shall not form the part of the mining capacity so permitted to the successful bidder, selected through auction as per the procedure provided under that Act and the rules made there under. |
| | (ii)Slurry pipelines (coal, lignite and other ores) passing through national parks / sanctuaries / coral reefs, ecologically sensitive areas. | All projects. | | |
| 1(b)[51] | Off-shore and onshore oil and gas exploration, development and production | All projects in respect of off-shore and onshore oil and gas development and production with or without exploration | | **Note 1**: Seismic surveys which are part of Exploration Surveys are exempted provided the concession areas have got previous clearance for physical survey<br>Note 2: All project in respect of off-shore and onshore oil and gas exploration are categorized as 'B2' projects" |
| 1(c)[52][53] | "(i) River Valley and | (i) ≥ 100 MW hydroelectric | (i) ≥ 25 MW and < 100 | **General Condition shall apply.** |

[46] Entries in col.5 substituted vide S.O. 1737(E), dated the 11th October, 2007; Entries in col.5 substituted vide S.O.695(E), dated the 4th April, 2011; Entries in col.5 substituted vide S.O. 2896(E), dated the 13th December, 2012; Entries in col.5 inserted vide S.O. 674(E), dated 13th March, 2013;Entries in col.5,renumbered and para inserted vide S.O. 2269(E) dated the 1st July, 2016.
[47] All entries against 1(a) substituted vide S.O. 3067(E), dated the 1st December, 2009 and thereafter by S.O. 2731(E), dated the 9th September, 2013; S.O. 2601(E), dated the 7th October, 2014; S.O.141(E) dated the 15th January, 2016; S.O. 3977(E), dated the 14th August, 2018.
[48] Substituted in col.3 & 4vide S.O. 1886(E) dated 20th April,2022
[49] Substituted in col.5 vide S.O. 2163(E) dated 09th May,2022
[50] Inserted vide S.O. 1224 (E), dated the 28th March, 2020
[51] Substituted vide S,O 1737(E) dated 11th Oct,2007, All entries substituted vide S.O. 236(E), dated the16th January, 2020, Substituted in col 3 vide S.O. 2163(E) dated 09th May,2022.
[52] Entries in col.5 substituted vide S.O. 3067(E), dated the 1st December, 2009, all entries substituted vide S.O. 1599(E), dated the 25th June, 2014; S.O. 3977(E), dated the 14th August, 2018.

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<td></td>
<td>hydro-electric Projects (RVHEPs): -<br>(a) RVHEPs without Pump Storage Projects;<br>(b) RVHEPs with Pump Storage Projects;<br>(c) standalone Pump Storage Projects."[54]<br><br>(ii) Irrigation projects</td>
<td>power generation;</td>
<td>MW hydroelectric power generation;<br><br>(ii) > 2000 ha. of culturable command area.
<table>
<tr><td>Irrigation system</td><td>Requirement of EC</td></tr>
<tr><td>(a) Minor Irrigation system (≤ 2000 Ha)</td><td>Exempted</td></tr>
<tr><td>(b) Medium irrigation system (> 2000 and < 10,000 ha.)</td><td>Required to prepare EMP and to be dealt at State Level (B2 category).</td></tr>
<tr><td>(c) Major irrigation system (≥10,000 ha.)</td><td>Required to prepare EIA/EMP and to be dealt at State Level (B1 category).</td></tr>
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<td>Note:-<br><br>(i) Category 'B' river valley projects falling in more than one state shall be appraised at the central Government Level.<br><br>(ii) Change in irrigation technology having environmental benefits (e.g. From flood irrigation to Drip irrigation etc.) by an existing project, leading to increase in Culturable Command Area but without increase in dam height and submergence, will not require amendment/ revision of EC.<br>(iii)Irrigation projects involving Inter-State issues shall be appraised at Central level without change in category.<br>(iv)" Pump Storage Projects including off-stream closed loop shall be appraised based on specific Terms of Reference issued by the Central Government for Pump Storage Projects. The Pump Storage Projects which meet all the criteria specified below shall be appraised as B2 category irrespective of power generation capacity:-<br>(a) Projects which do not attract Forest Clearance and/or Wild Life Clearance,<br>(b) Projects wherein no new Reservoir is created<br>(c) The Projects wherein there is no increase in capacity of the existing reservoir and in submergence area of reservoir."[55]</td>
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[53] Substituted in col.3,4 &5 and inserted vide S.O. 1886(E) dated 20th April,2022
[54] Entries in serial 1 of Column 2 substituted vide S.O. 2226(E) dated 18.05.2023
[55] Entries inserted at serial 4 of Column 5 substituted vide S.O. 2226(E) dated 18.05.2023

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|---|---|---|---|---|
| **1(d)**[5657] | Thermal Power Plants | ≥ 500 MW (coal/lignite/naphtha[58] & gas based);<br><br>≥ 100 MW (all other fuels except biomass).<br><br>>20 MW (using municipal solid non-hazardous waste, as fuel). | ≥5 MW < 500 MW (coal/lignite/ naphtha[58] and gas based);<br><100 MW ≥ 5MW (all other fuels except biomass and municipal solid non-hazardous waste);<br><br><20 MW >15 MW (using municipal solid non-hazardous waste, as fuel).<br>>15 MW plants based on biomass fuel. | General Condition shall apply.<br>**Note:**<br>(i)Thermal Power Plants up to 25 MW [59]based on biomass or non-hazardous municipal solid waste using auxiliary fuel such as coal, lignite / petroleum products up to 15% are exempt.<br><br>(ii)Thermal Power plants using waste heat boilers without any auxiliary fuel are exempt. |
| **1(e)** | Nuclear power projects and processing of nuclear fuel | All projects | - | |
| **2** | **Primary Processing** | | | |
| **2(a)**[60] | Coal washeries | ≥ 2.5 million ton/annum throughput of coal | <2.5million ton/annum throughput of coal | General Condition shall apply<br>(If located within mining area the proposal shall be appraised together with the mining proposal)<br>Integrated coal mining projects with washeries located within mining lease area shall continue to be considered at Central level or State level, as the case may be, as per the extant threshold for coal mining projects. |
| **2 (b)**[6162] | Mineral beneficiation | | All mineral beneficiation projects irrespective of the procedure for beneficiation | General Condition shall apply<br>(Mining proposal with Mineral beneficiation shall be appraised together for grant of clearance).<br>Integrated mining projects with beneficiation plants located within mining lease area shall continue to be considered at Central level or State level, as the case may be, as per the extant threshold for mining projects |
| **3** | **Materials Production** | | | |

[56] Entries in Col 3 & 4 vide S.O 1939(E) dated 13th November,2006, Entries in col.3,4 & 5 substituted vide S.O. 3067(E) dated 1st December, 2009; all entries substituted vide S.O. 1599(E) dated 25th June, 2014; col.4 amended vide S.O. (E) dated 6th July, 2015
[57] Substituted in col.3 &4 vide S.O. 1886(E) dated 20th April,2022
[58] Word Amended vide S.O. 1939 dated 13th November, 2006
[59] Amended vide notification dated 14th July, 2022
[60] Substituted and inserted in col.3,4&5 vide S.O. 1886(E) dated 20th April,2022
[61] All entries substituted S.O. 1599 (E) dated 25th June, 2014
[62]Omitted, Substituted and inserted in col.3,4 &5 vide S.O. 1886(E) dated 20th April,2022

| 1) | (2) | (3) | (4) | (5) |
|---|---|---|---|---|
| **3(a)**[63] | Metallurgical industries (ferrous & nonferrous) | a) Primary metallurgical industry<br>All projects<br><br>b) Sponge iron manufacturing<br>≥ 200TPD<br><br>c)Secondary metallurgical processing industry<br><br>All toxic and heavy metal producing units<br>≥ 20,000 tonnes /annum<br><br>- | Sponge iron manufacturing<br><200TPD<br><br>Secondary metallurgical processing industry<br><br>i.) All toxic and heavy metal producing units<br><20,000 tonnes /annum<br>ii.) All other non –toxic secondary metallurgical processing industries<br><br>>5000 tonnes/annum | General Condition shall apply.<br>Note:<br>(i)The recycling industrial units registered under the HSM Rules are exempted.<br>(ii)In case of secondary metallurgical processing industrial units, those projects involving operation of furnaces only such as induction and electric arc furnace, submerged arc furnace, and cupola with capacity more than 30,000 tonnes per annum (TPA) would require environmental clearance.<br>(iii)Plant / units other than power plants (given against entry no. 1(d) of the schedule), based on municipal solid waste (non-hazardous) are exempted. |
| **3(b)**[64] | Cement plants | ≥ 1.0 million tonnes/annum production capacity | <1.0 million tonnes/annum production capacity. All Standalone grinding units | General Condition shall apply<br>Note:<br>1. Fuel for cement industry may be coal, petcoke, mixture of coal and petcoke and co-processing of waste provided it meets the emission standards.<br>2. The manufacturing of composite cement by plants having environmental clearance for manufacturing Ordinary Portland Cement (OPC), Portland Pozzolana Cement(PPC) and Portland Slag Cement(PSC) shall be exempt provided the production is within sanctioned capacity. |
| **4** | **Materials Processing** | | | |
| **(1)** | **(2)** | **(3)** | **(4)** | **(5)** |
| **4(a)** | Petroleum refining industry | All projects | - | - |
| **4(b)** [63] [65] | (i)Coke oven plants<br><br>(ii) Coaltar processing units | ≥2,50,000 tonnes/annum | <2,50,000 &<br>≥25,000 tonnes/annum<br><br>All projects | General conditions shall apply[63] |
| **4(c)** | Asbestos milling and asbestos based products | All projects | - | - |

[63] Entries in col.5 substituted vide S.O.3067 dated 1st December, 2009
[64] All entries Substituted vide S.O. 3518 dated 23rd November, 2016
[65] All entries substituted S.O. 1599 (E) dated 25th June, 2014

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| **4(d)**[66] | Chlor-alkali industry | ≥300 TPD production capacity if a unit located outside the notified industrial area/ estate | (i)All projects irrespective of the size, if it is located in a Notified Industrial Area / Estate.<br><300 tonnes per day (TPD) and located outside a Notified Industrial Area / Estate. | General as well as specific conditions shall apply<br>No new Mercury Cell based plants will be permitted and existing units converting to membrane cell technology are exempted from the Notification. |
| **4(e)** | Soda ash Industry | All projects | - | - |
| **4(f)**[67] | Skin/hide processing including tanning industry | New projects outside the industrial area or expansion of existing units outside the industrial area | All new or expansion of projects located within a notified industrial area/ estate | General as well as specific conditions shall apply |
| **5** | **Manufacturing/Fabrication** | | | |
| **5(a)**[68] | Chemical fertilizers | All projects including all Single Super Phosphate with $H_2SO_4$ production except granulation of chemical fertilizers. | All Single Super Phosphate without $H_2SO_4$ production and granulation of chemical fertilizers. | General condition shall apply.<br><br>Note:<br>1. Granulation of single super phosphate powder is exempt.<br>2. Neem coating of fertilizers is exempt provided that the total production does not exceed the sanctioned capacity in EC plus the weight of the coating material used.<br>3. Fortification of fertilizers is exempt provided that the total production does not exceed the sanctioned capacity in EC plus the weight of the fortification material used. |
| **5(b)** | Pesticides industry and pesticide specific intermediates (excluding formulations) | All units producing technical grade pesticides | - | - |
| **5(c)** | Petro-chemical complexes (industries based on processing of petroleum fractions & natural gas and/or reforming to aromatics) | All projects<br>- | - | - |
| **5(d)** | Manmade fibres manufacturing | Rayon | Others | General Condition shall apply |
| **5(e)**[69] | Petroleum products and petrochemical based processing such as production of carbon black and electrode | Located outside the notified industrial area/ estate | Located in a notified industrial area/ estate | General as well as specific conditions shall apply.<br><br>Note:<br>Manufacturing of products from |

[66] Entries in col.4&5 substituted vide S.O. 3067 (E) dated 1st December, 2009, Entries in col.3 substituted vide S.O.1599 (E) dated 25th June, 2014

[67] Entries in col.5 substituted vide S.O. 3067 (E) dated 1st December, 2009, Entries in col.2 substituted vide S.O. 1599(E) dated 25th June, 2014

[68] Entries in col.3&4 substituted vide S.O. 3067 (E) dated 1st December, 2009; all entries substituted vide S.O. 1599(E) dated 25th June, 2014 and thereafter vide S.O.3518 (E) dated 23rd November, 2016

[69] Entries in col.5 substituted vide S.O. 3067 (E) dated 1st December, 2009; col.2&5 substituted vide S.O. 1599 (E) dated 25th June, 2014.

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| | grade graphite (processes other than cracking & reformation and not covered under the complexes). | | | polymer granules is exempt. |
| **5(f)** [70] | Synthetic organic chemicals industry (dyes & dye intermediates; bulk drugs and intermediates excluding drug formulations; synthetic rubbers; basic organic chemicals, other synthetic organic chemicals and chemical intermediates) | Located outside the notified industrial area/ estate except small units as defined in column (5) | (i)Located in a notified industrial area/ estate.<br><br>(ii)Small units as defined in column (5) | General as well as specific conditions shall apply.<br><br>Small units: with water consumption <25 $m^3$/day, fuel consumption <25 TPD and not covered in the category of MAH units as per the Management, Storage and Import of Hazardous Chemical Rules, 1989.<br><br>[71]"All proposals for projects or activities in respect of Active Pharmaceutical Ingredients (API), received from 16th July, 2021 to 31st December, 2021, shall be appraised, as Category 'B2' projects, provided that any subsequent amendment or expansion or change in product mix, after the 31st December, 2021, shall be considered as per the provisions in force at that time." |
| **5(g)** [72] | Distilleries | Molasses based Distilleries > 100 KLD<br><br>Non-molasses based distilleries >200 KLD | Molasses based Distilleries < 100 KLD<br><br>Non-molasses based Distilleries < 200 KLD | (a) Except for the projects falling in item 5(ga) of this Schedule;<br>(b) Expansion of sugar manufacturing units or distilleries for production of ethanol, having Prior Environment Clearance (EC) for existing unit, to be used completely for Ethanol Blended Petrol (EBP) Programme only, as per self-certification in form of an affidavit by the Project Proponent, shall be appraised as category 'B2' projects. Provided that subsequently if it is found that the ethanol, produced based on the EC granted as per this dispensation, is not being used completely for EBP Programme, or if ethanol is not being produced, or if the said distillery is not fulfilling the requirements based on which the project has been appraised as category B2 project, the EC shall stand cancelled"; [73] |
| **5(ga)** | Grain based distilleries | Projects without Zero Liquid | Projects with Zero | Note: (i) Projects under category B shall |

[70] Entries in col.5 substituted; and 5(k) omitted vide S.O. 3067 (E) dated 1st December, 2009; all entries substituted vide S.O. 1599 (E) dated 25th June, 2014; in col. 5 entries at last inserted vide S.O. 1223(E) dated 27th March, 2020; dates substituted vide S.O. 3636 (E) dated 15th October, 2020.
[71] Entries substituted in col.5 vide S.O. 2859(E) dated 16th July 2021.
[72] All entries substituted vide S.O. 1599(E) dated 25th June, 2014; and thereafter vide S.O. 1960 (E) dated 13th June, 2019
[73] Entry inserted in col.5 vide S.O.980(E) dated 02nd March, 2021;Substituted vide S.O. 2339(E), dated the 16th June, 2021

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| | producing ethanol, solely to be used for Ethanol Blended Petrol Programme of the Government of India<br><br>Note: Grains include wheat, rice, maize, barley, sorghum. | Discharge | Liquid Discharge | be appraised as B2 category project and in terms of para 4(iiia) of this notification (ii) Applicable for projects who file application for grant of EC upto 31st March 2024 or till further notification whichever is earlier provided that any subsequent amendment or expansion or change in product mix after 31st March 2024, shall be considered as per the provisions inforce at that time.<br>(iii) The project proponent shall file a notorised affidavit that ethanol produced from proposed project shall be used completely for EBP Programme. Provided that subsequently if it is found that the ethanol produced, based on the EC granted as per this dispensation, is not being used completely for EBP Programme, or if ethanol is not being produced, or if the said distillery is not fulfilling the requirements based on which the project has been appraised as category B2 project, the EC shall stand cancelled".[74] |
| **5(h)** | Integrated paint industry | - | All projects | General Condition shall apply |
| **5(i)** [75] | Pulp & paper industry | Pulp manufacturing and Pulp & Paper manufacturing industry except from waste paper | Pulp manufacturing from waste paper and paper manufacturing from waste paper pulp and other ready pulp | General Condition shall apply.<br>Note:<br>Paper manufacturing from waste paper pulp and ready pulp without deinking, bleaching and colouring is exempt. |
| **5(j)** | Sugar Industry | -<br>- | ≥ 5000 tcd cane crushing capacity | General Condition shall apply |
| **6** | Service Sectors | | | |
| **6(a)** | Oil & gas transportation pipe line (crude and refinery/ petrochemical products)**,** passing through national parks /sanctuaries/coral reefs /ecologically sensitive areas including LNG Terminal | All projects | | |

[74] Inserted vide S.O. 2339(E), dated the 16th June, 2021
[75] All entries substituted vide S.O.1599 (E) dated 25th June, 2014

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| **6(b)** [76] | Isolated storage & handling of hazardous chemicals (as per threshold planning quantity indicated in column 3 of schedule 2 & 3 of MSIHC Rules 1989 amended 200)<br><br>**(Omitted)** | | | |
| **7** | **Physical Infrastructure including Environmental Services** | | | |
| **7(a)**[77][78] | Air ports | All New projects including airstrips, which are for commercial use | - All expansions projects, including airstrips, which are for commercial use | Note:<br>(i) Air strips which do not involve bunkering / refueling facility and or Air Traffic Control, are exempted.<br>"(ii) Only expansion of terminal buildings and allied buildings within the existing Airport premises >20,000 shall require Environmental Clearance, and such expansion up to 1,50,000 sqm shall be appraised as per provisions of item 8(a) of the Schedule of this notification provided there is no increase in the existing area of the Airport";[79] |
| **7(b)** | All ship breaking yards including ship breaking units | All projects | - | - |
| **7(c)**[80] | Industrial estates/ parks/ complexes/ areas, export processing Zones (EPZs), Special Economic Zones (SEZs), Biotech Parks, Leather Complexes. | If at least one industry in the proposed industrial estate falls under the Category A, entire industrial area shall be treated as Category A, irrespective of the area**.**<br><br>Industrial estates with area greater than 500 ha. and housing at least one Category B industry. | Industrial estates housing at least one Category B industry and area <500 ha.<br><br>Industrial estates of area> 500 ha. and not housing any industry belonging to Category A or B. | General as well as specific conditions shall apply<br><br>Note:<br>1.Industrial Estate of area below 500 ha. and not housing any industry of category 'A' or 'B' does not require clearance**.**<br>2.If the area is less than 500 ha. but contains building and construction projects > 20,000 sq. mtr. and or development area more than 50 ha it will be treated as activity listed at serial no. 8(a) or 8(b) in the Schedule, as the case may be. |
| **7(d)** | Common hazardous waste treatment, storage and disposal facilities (TSDFs) | All integrated facilities having incineration & landfill or incineration alone | All facilities having land fill only | General Condition shall apply |
| **7(da)**[81] | Bio-Medical Waste Treatment Facilities | - | All projects | - |

[76] All entries pertaining to 6(b) were omitted vide S.O. 1960(E) dated 13th June, 2019.
[77] Entries in col.3&5 substituted vide S.O. 3067 (E) dated 1st December, 2009
[78] Substituted and inserted in col. 3& 4 vide S.O. 1886(E) dated 20th April,2022
[79] Inserted in col.5 vide S.O. 3194 (E) dated 14th July, 2022
[80] Entries in Col.5 substituted vide S.O. 3067 (E) dated 1st December, 2009
[81] Inserted vide S.O. 1142(E) dated 17th April, 2015

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| **7(e)**[82] | Ports, harbors, break waters, dredging | ≥ 5 million TPA of cargo handling capacity (excluding fishing harbours) | < 5 million TPA of cargo handling capacity and/or ports/ harbours ≥30,000 [83]TPA of fish handling capacity | General Condition shall apply<br>Note:<br>1.Capital dredging inside and outside the ports or harbors and channels are included;<br>2. Maintenance dredging is exempt provided it formed part of the original proposal for which Environment Management Plan (EMP) was prepared and environmental clearance obtained. |
| **7(f)**[848586] | Highways | i) New National Highways; and<br><br>ii) Expansion of National Highways greater than 100 km involving additional right of way or land acquisition greater than 40m on existing alignment and 60 m on re-alignment or by-passes | i) All New State Highway Projects;<br><br>ii) State Highway expansion projects in hilly terrain (above 1,000 m AMSL) and or ecologically sensitive areas. | General Condition shall apply<br><br>Note:<br>(i) Highways include expressways.<br>(ii) All Highway projects are exempted upto 100 km from line of control or border subject to compliance of Standard Operating Procedure notified in this regard from time to time.<br>(iii) Width at toll plaza and junction improvement at intersection of other roads is exempted from Right of Way[87]. |
| **7(g)**[8889] | Aerial ropeways (Omitted) | | | |
| **7(h)**[90] | Common Effluent Treatment Plants (CETPs) | - | All projects | General Condition shall apply<br>**Note:** Environmental clearance for CETPs setup for or within projects or activities which do not require environmental clearance are exempted, and if any of the existing or proposed member units of the said CETP produces or proposes to produce any product requiring environmental clearance, then the CETP shall need environmental clearance. |
| **7(i)** | Common Municipal Solid Waste Management Facility (CMSWMF) | | All projects | General Condition shall apply |

[82] Entries in col.2&5 substituted vide S.O. 3067 (E) dated 1st December, 2009
[83] Substituted in col. 4 vide S.O. 3194(E) dated 14th July, 2022
[84] Entries under col 3&4 amended vide S.O.1737(E) dated 11th October, 2007
[85] Entries in col.4&5 substituted vide S.O. 3067 (E) dated 1st December, 2009;Entries in col. 4 substituted vide S.O 695(E) dated 11th April 2011, Entries in Col.3 substituted vide S.O 2559 (E) dated 22.08.2013
[86] Entries in col.4 were further amended vide S.O.695 (E) dated 4th April, 2011, entries in col.3 substituted vide S.O. 2259(E) dated 22nd August, 2013
[87] Inserted in Col.5 vide S.O. 3194 (E) dated 14th July 2022
[88] Entries in col.3&4 substituted vide S.O. 3067 (E) dated 1st December, 2009
[89] Omitted vide S.O. 1953(E) dated 27th April,2022
[90] All entries substituted vide S.O. 6250(E) dated 19th December, 2018

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| | | | | |
| **8** | **Building or Construction projects or Area Development projects and Townships** | | | |
| **8(a)**[91] | Building and Construction projects | | >20000 sq.mtrs and < 1,50,000 sq. mtrs. of built up area | The term "built up area" for the purpose of this notification the built up or covered area on all floors put together, including its basement and other service areas, which are proposed in the building or construction projects.<br>**Note 1.-** The projects or activities shall not include industrial shed, school, college, hostel for educational institution, but such buildings shall ensure sustainable environmental management, solid and liquid waste management, rain water harvesting and may use recycled materials such as fly ash bricks.<br>**Note 2.-** "General Conditions" shall not apply. |
| **8(b)** | Townships and Area Development Projects | | Covering an area of > 50 ha and or built up area > 1,50,000 sq. mtrs | A project of Township and Area Development Projects covered under this item shall require an Environment Assessment report and be appraised as Category 'B1' Project.<br>**Note. -** "General Conditions" shall not apply. |

[91] Entries in col.5 were further amended vide S.O.695 (E) dated 4th April, 2011; all entries for '8' substituted vide S.O. 3252 (E) dated 22nd December, 2014; S.O 3999 (E) dated 9th December 2016 (* not in force; quashed) vide S.O 5733(E) dated 14th November, 2018 (Not in force) and S.O. 5736(E) dated 15th November, 2018 (*not in force)

**Note:-**

**General Condition (GC)[92]:**

Any project or activity specified in Category 'B' will be appraised at the Central Level as Category 'A', if located in whole or in part within 5 km from the boundary of: (i) Protected Areas notified under the Wild Life (Protection) Act, 1972 (53 of 1972); (ii) Critically Polluted areas as identified by the Central Pollution Control Board[93] constituted under the Water (Prevention and Control of Pollution) Act, 1974 (6 of 1974) from time to time; (iii) Eco-sensitive areas as notified under sub-section (2) of section 3 of the Environment (Protection) Act, 1986, and (iv) inter-State boundaries and international boundaries; provided that for River Valley Projects specified in item 1(c), Thermal Power Plants specified in item 1(d), Industrial Estates/ parks/complexes/areas, export processing zones (EPZ), Special Economic Zones (SEZs), biotech parks, leather complexes specified in item 7 (c) and common hazardous waste treatment, storage and disposal facilities (TSDFs) specified in item 7 (d), the appraisal shall be made at Central level even if located within 10 km.

Provided further that the requirement regarding distance of 5 km or 10 km, as the case may be, of the inter-State boundaries can be reduced or completely done away with by an agreement between the respective States or the Union Territories sharing the common boundary in case the activity does not fall within 5 km or 10 km, as the case may be of the areas mentioned at item (i), (ii), and (iii) above.

**Specific Condition (SC):**

If any Industrial Estate/Complex / Export processing Zones /Special Economic Zones/Biotech Parks / Leather Complex with homogeneous type of industries such as Items 4(d), 4(f), 5(e), 5(f), or those Industrial estates with pre –defined set of activities (not necessarily homogeneous, obtains prior environmental clearance, individual industries including proposed industrial housing within such estates /complexes will not be required to take prior environmental clearance, so long as the Terms and Conditions for the industrial estate/complex are complied with (Such estates/complexes must have a clearly identified management with the legal responsibility of ensuring adherence to the Terms and Conditions of prior environmental clearance, who may be held responsible for violation of the same throughout the life of the complex/estate).

[92] GC substituted vide S.O. 3067(E) dated 1st December, 2009; substituted all entries substituted vide S.O. 1599(E) dated 25th June, 2014

[93] Amended vide S.O. 1939 dated 13th November, 2006

**APPENDIX I**
**(See paragraph – 6)**
**FORM 1**

## (I) Basic Information[94]

| Serial Number | Item | Details |
|---|---|---|
| 1 | Name of the Project/s | |
| 2 | S. No. in the Schedule | |
| 3 | Proposed capacity/ area / length/ tonnage to be handled/ command area/ lease area/ number of wells to be drilled | |
| 4 | New/ Expansion/ Modernization | |
| 5 | Existing Capacity/ Area etc. | |
| 6 | Category of Project i.e. 'A' or 'B' | |
| 7 | Does it attract the general condition? If yes, please specify. | |
| 8 | Does it attract the specific condition? If yes, please specify. | |
| 9 | Location<br>Plot / Survey / Khasra No.<br>Village<br>Tehsil<br>District<br>State | |
| 10 | Nearest railway station / airport along with distance in kms. | |
| 11 | Nearest Town, city, District Headquarters along with distance in kms. | |
| 12 | Village Panchayats, Zila Parishad, Municipal Corporation, Local body (complete postal addresses with telephone nos. to be given) | |
| 13 | Name of the applicant | |
| 14 | Registered Address | |
| 15 | Address for correspondence: | |
| | Name | |
| | Designation (Owner/ Partner/ CEO) | |
| | Address | |
| | Pin code | |
| | E-mail | |
| | Telephone No. | |
| | Fax No. | |
| 16 | Details of alternative sites examined, if any.<br>Location of these sites should be shown on a topo sheet | Village-District-State<br>1.<br>2. |

[94] Entries related to Basic Information substituted vide S.O.3067 (E) dated 1st December, 2009

| | | |
|---|---|---|
| | | 3. |
| 17 | Interlinked Projects | |
| 18 | Whether separate application of interlinked projects has been submitted? | |
| 19 | If Yes, date of submission | |
| 20 | If No, reason | |
| 21 | Whether the proposal involves approval/ clearance under: if yes, details of the same and their status to be given.<br>(a)The Forest (Conservation) Act, 1980?<br>(b)The Wildlife (Protection)Act, 1972?<br>(c)The C.R.Z. Notification 1991? | |
| 22 | Whether there is any Government Order / Policy relevant / relating to the site? | |
| 23 | Forest land involved (hectares) | |
| 24 | Whether there is any litigation pending against the Project and / or land in which the project is proposed to be set up?<br>(a)Name of the Court<br>(b) Case No.<br>(c) Orders / directions of the Court, if any and its relevance with the proposed project. | |

**(II) Activity**

**1. Construction, operation or decommissioning of the Project involving actions, which will cause physical changes in the locality (topography, land use, changes in water bodies, etc.)**

| S.No. | Information/Checklist confirmation | Yes / No | Details thereof (with approximate quantities /rates, wherever possible) with source of information data |
|---|---|---|---|
| 1.1 | Permanent or temporary change in land use, land cover or topography including increase in intensity of land use (with respect to local land use plan) | | |
| 1.2 | Clearance of existing land, vegetation and buildings? | | |
| 1.3 | Creation of new land uses? | | |
| 1.4 | Pre-construction investigations e.g. bore houses, soil testing? | | |
| 1.5 | Construction works? | | |
| 1.6 | Demolition works? | | |
| 1.7 | Temporary sites used for construction works or housing of construction workers? | | |
| 1.8 | Above ground buildings, structures or earthworks including linear structures, cut and fill or excavations | | |
| 1.9 | Underground works including mining or tunneling? | | |

| | | | |
|---|---|---|---|
| 1.10 | Reclamation works? | | |
| 1.11 | Dredging? | | |
| 1.12 | Offshore structures? | | |
| 1.13 | Production and manufacturing processes? | | |
| 1.14 | Facilities for storage of goods or materials? | | |
| 1.15 | Facilities for treatment or disposal of solid waste or liquid effluents? | | |
| 1.16 | Facilities for long term housing of operational workers? | | |
| 1.17 | New road, rail or sea traffic during construction or operation? | | |
| 1.18 | New road, rail, air waterborne or other transport infrastructure including new or altered routes and stations, ports, airports etc? | | |
| 1.19 | Closure or diversion of existing transport routes or infrastructure leading to changes in traffic movements? | | |
| 1.20 | New or diverted transmission lines or pipelines? | | |
| 1.21 | Impoundment, damming, culverting, realignment or other changes to the hydrology of watercourses or aquifers? | | |
| 1.22 | Stream crossings? | | |
| 1.23 | Abstraction or transfers of water form ground or surface waters? | | |
| 1.24 | Changes in water bodies or the land surface affecting drainage or run-off? | | |
| 1.25 | Transport of personnel or materials for construction, operation or decommissioning? | | |
| 1.26 | Long-term dismantling or decommissioning or restoration works? | | |
| 1.27 | Ongoing activity during decommissioning which could have an impact on the environment? | | |
| 1.28 | Influx of people to an area in either temporarily or permanently? | | |
| 1.29 | Introduction of alien species? | | |

| | | | |
|---|---|---|---|
| 1.30 | Loss of native species or genetic diversity? | | |
| 1.31 | Any other actions? | | |

2. **Use of Natural resources for construction or operation of the Project (such as land, water, materials or energy, especially any resources which are non-renewable or in short supply):**

| S.No. | Information/checklist confirmation | Yes / No | Details thereof (with approximate quantities /rates, wherever possible) with source of information data |
|---|---|---|---|
| 2.1 | Land especially undeveloped or agricultural land (ha) | | |
| 2.2 | Water (expected source & competing users) unit: KLD | | |
| 2.3 | Minerals (MT) | | |
| 2.4 | Construction material – stone, aggregates, sand / soil (expected source – MT) | | |
| 2.5 | Forests and timber (source – MT) | | |
| 2.6 | Energy including electricity and fuels (source, competing users) Unit: fuel (MT), energy (MW) | | |
| 2.7 | Any other natural resources (use appropriate standard units) | | |

3. **Use, storage, transport, handling or production of substances or materials, which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health.**

| S.No. | Information/Checklist confirmation | Yes / No | Details thereof (with approximate quantities / rates, wherever possible) with source of information data |
|---|---|---|---|
| 3.1 | Use of substances or materials, which are hazardous (as per MSIHC rules) to human health or the environment (flora, fauna, and water supplies) | | |
| 3.2 | Changes in occurrence of disease or affect disease vectors (e.g. insect or water borne diseases) | | |
| 3.3 | Affect the welfare of people e.g. by changing living conditions? | | |
| 3.4 | Vulnerable groups of people who could be affected by the project e.g. hospital patients, children, the elderly etc., | | |
| 3.5 | Any other causes | | |

**4. Production of solid wastes during construction or operation or decommissioning (MT/month)**

| S.No. | Information/Checklist confirmation | Yes / No | Details thereof (with approximate quantities / rates, wherever possible) with source of information data |
|---|---|---|---|
| 4.1 | Spoil, overburden or mine wastes | | |
| 4.2 | Municipal waste (domestic and or commercial wastes) | | |
| 4.3 | Hazardous wastes (as per Hazardous Waste Management Rules) | | |
| 4.4 | Other industrial process wastes | | |
| 4.5 | Surplus product | | |
| 4.6 | Sewage sludge or other sludge from effluent treatment | | |
| 4.7 | Construction or demolition wastes | | |
| 4.8 | Redundant machinery or equipment | | |
| 4.9 | Contaminated soils or other materials | | |
| 4.10 | Agricultural wastes | | |
| 4.11 | Other solid wastes | | |

**5. Release of pollutants or any hazardous, toxic or noxious substances to air (Kg/hr)**

| S.No. | Information/Checklist confirmation | Yes / No | Details thereof (with approximate quantities / rates, wherever possible) with source of information data |
|---|---|---|---|
| 5.1 | Emissions from combustion of fossil fuels from stationary or mobile sources | | |
| 5.2 | Emissions from production processes | | |
| 5.3 | Emissions from materials handling including storage or transport | | |
| 5.4 | Emissions from construction activities including plant and equipment | | |
| 5.5 | Dust or odours from handling of materials including construction materials, sewage and waste | | |
| 5.6 | Emissions from incineration of waste | | |
| 5.7 | Emissions from burning of waste in open air (e.g. slash materials, construction debris) | | |
| 5.8 | Emissions from any other sources | | |

**6. Generation of Noise and Vibration, and Emissions of Light and Heat:**

| S. No. | Information/Checklist confirmation | Yes / No | Details thereof (with approximate quantities/rates, wherever possible) with source of information data with source of information data |
|---|---|---|---|
| 6.1 | From operation of equipment e.g. engines, ventilation plant, crushers | | |
| 6.2 | From industrial or similar processes | | |
| 6.3 | From construction or demolition | | |
| 6.4 | From blasting or piling | | |
| 6.5 | From construction or operational traffic | | |
| 6.6 | From lighting or cooling systems | | |
| 6.7 | From any other sources | | |

**7. Risks of contamination of land or water from releases of pollutants into the ground or into sewers, surface waters, groundwater, coastal waters or the sea:**

| S.No. | Information/Checklist confirmation | Yes / No | Details thereof (with approximate quantities / rates, wherever possible) with source of information data |
|---|---|---|---|
| 7.1 | From handling, storage, use or spillage of hazardous materials | | |
| 7.2 | From discharge of sewage or other effluents to water or the land (expected mode and place of discharge) | | |
| 7.3 | By deposition of pollutants emitted to air into the land or into water | | |
| 7.4 | From any other sources | | |
| 7.5 | Is there a risk of long-term build up of pollutants in the environment from these sources? | | |

**8. Risk of accidents during construction or operation of the Project, which could affect human health or the environment**

| S.No. | Information/Checklist confirmation | Yes / No | Details thereof (with approximate quantities / rates, wherever possible) with source of information data |
|---|---|---|---|
| 8.1 | From explosions, spillages, fires etc from storage, handling, use or production of hazardous substances | | |
| 8.2 | From any other causes | | |
| 8.3 | Could the project be affected by natural disasters causing | | |

| | | | |
|---|---|---|---|
| | environmental damage (e.g. floods, earthquakes, landslides, cloudburst etc)? | | |

**9. Factors which should be considered (such as consequential development) which could lead to environmental effects or the potential for cumulative impacts with other existing or planned activities in the locality**

| S. No. | Information/Checklist confirmation | Yes / No | Details thereof (with approximate quantities / rates, wherever possible) with source of information data |
|---|---|---|---|
| 9.1 | Lead to development of supporting. lities, ancillary development or development stimulated by the project which could have impact on the environment e.g.:<br>• Supporting infrastructure (roads, power supply, waste or waste water treatment, etc.)<br>• housing development<br>• extractive industries<br>• supply industries<br>• other | | |
| 9.2 | Lead to after-use of the site, which could havean impact on the environment | | |
| 9.3 | Set a precedent for later developments | | |
| 9.4 | Have cumulative effects due to proximity to other existing or planned projects with similar effects | | |

**(III) Environmental Sensitivity**

| S.No. | Areas | Name/ Identity | Aerial distance (within 15 km.) Proposed project location boundary |
|---|---|---|---|
| 1 | Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value | | |
| 2 | Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests | | |

| | | | |
|---|---|---|---|
| 3 | Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration | | |
| 4 | Inland, coastal, marine or underground waters | | |
| 5 | State, National boundaries | | |
| 6 | Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas | | |
| 7 | Defence installations | | |
| 8 | Densely populated or built-up area | | |
| 9 | Areas occupied by sensitive man-made land uses *(hospitals, schools, places of worship, community facilities)* | | |
| 10 | Areas containing important, high quality or scarce resources *(ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)* | | |
| 11 | Areas already subjected to pollution or environmental damage. *(those where existing legal environmental standards are exceeded)* | | |
| 12 | Areas susceptible to natural hazard which could cause the project to present environmental problems (*earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions*) | | |

**(IV). Proposed Terms of Reference for EIA studies**

[95]I hereby given an undertaking that the data and information given in the application and enclosures are true to the best of my knowledge and belief and I am aware that if any part of the data and information submitted is found to be false or misleading at any stage, the project will be rejected and clearance given, if any to the project will be revoked at our risk and cost.

Date:
Place:

Signature of the applicant
With name and Full address
(Project Proponent / Authorized Signatory)

NOTE:

1. The project involving clearances under Coastal Regulation Zone Notification, 1991 shall submit with the application a CRZ map duly demarcated by one of the authorized agencies, showing the project activities, w.r.t. C.R.Z (at the stage of ToR) and the recommendations of the State Coastal Zone Management Authority (at the stage of EC). Simultaneous action shall also be taken to obtain

[95] Inserted vide S.O.3067(E) dated 1st December, 2009

the requisite clearance under the provisions of the C.R.Z. Notification, 1991 for the activities to be located in the CRZ.

2. The project to be located within 10 km of the National Parks, Sanctuaries, Biosphere Reserves, Migratory Corridors of Wild Animals, the project proponent shall submit the map duly authenticated by Chief Wildlife Warden showing these features vis-à-vis the project location and the recommendation or comments of the Chief Wildlife Warden thereon (at the stage of EC).

3. All correspondence with the Ministry of Environment & Forests including submission of application for TOR / Environmental Clearance, subsequent clarification, as may be required from time to time, participation in the EAC Meeting on behalf of the project proponent shall be made by the authorized signatory only. The authorized signatory should also submit a document in support of his claim of being an authorized signatory for the specific project.

**APPENDIX II**
**(See paragraph 6)**

**FORM-1 A**
**(Only for construction projects listed under item 8 of the Schedule)**

**CHECK LIST OF ENVIRONMENTAL IMPACTS**

**(Project proponents are required to provide full information and wherever necessary attach explanatory notes with the Form and submit along with proposed environmental management plan & monitoring programme)**

**1. LAND ENVIRONMENT**

**(Attach panoramic view of the project site and the vicinity)**

1.1. Will the existing landuse get significantly altered from the project that is not consistent with the surroundings? (Proposed landuse must conform to the approved Master Plan / Development Plan of the area. Change of landuse if any and the statutory approval from the competent authority be submitted). Attach Maps of (i) site location, (ii) surrounding features of the proposed site (within 500 meters) and (iii)the site (indicating levels & contours) to appropriate scales. If not available attach only conceptual plans.

1.2. List out all the major project requirements in terms of the land area, built up area, water consumption, power requirement, connectivity, community facilities, parking needs etc.

1.3. What are the likely impacts of the proposed activity on the existing facilities adjacent to the proposed site? (Such as open spaces, community facilities, details of the existing landuse, disturbance to the local ecology).

1.4. Will there be any significant land disturbance resulting in erosion, subsidence & instability? (Details of soil type, slope analysis, vulnerability to subsidence, seismicity etc may be given).

1.5. Will the proposal involve alteration of natural drainage systems? (Give details on a contour map showing the natural drainage near the proposed project site)

1.6. What are the quantities of earthwork involved in the construction activity-cutting, filling, reclamation etc. (Give details of the quantities of earthwork involved, transport of fill materials from outside the site etc.)

1.7. Give details regarding water supply, waste handling etc during the construction period.

1.8. Will the low-lying areas & wetlands get altered? (Provide details of how low lying and wetlands are getting modified from the proposed activity)

1.9. Whether construction debris & waste during construction cause health hazard? (Give quantities of various types of wastes generated during construction including the construction labour and the means of disposal)

**2. WATER ENVIRONMENT**

2.1. Give the total quantity of water requirement for the proposed project with the breakup of requirements for various uses. How will the water requirement met? State the sources & quantities and furnish a water balance statement.

2.2. What is the capacity (dependable flow or yield) of the proposed source of water?

2.3. What is the quality of water required, in case, the supply is not from a municipal source? (Provide physical, chemical, biological characteristics with class of water quality)

2.4. How much of the water requirement can be met from the recycling of treated wastewater? (Give the details of quantities, sources and usage)

2.5. Will there be diversion of water from other users? (Please assess the impacts of the project on other existing uses and quantities of consumption)

2.6. What is the incremental pollution load from wastewater generated from the proposed activity? (Give details of the quantities and composition of wastewater generated from the proposed activity)

2.7. Give details of the water requirements met from water harvesting? Furnish details of the facilities created.

2.8. What would be the impact of the land use changes occurring due to the proposed project on the runoff characteristics (quantitative as well as qualitative) of the area in the post construction phase on a long-term basis? Would it aggravate the problems of flooding or water logging in any way?

2.9. What are the impacts of the proposal on the ground water? (Will there be tapping of ground water; give the details of ground water table, recharging capacity, and approvals obtained from competent authority, if any)

2.10. What precautions/measures are taken to prevent the run-off from construction activities polluting land & aquifers? (Give details of quantities and the measures taken to avoid the adverse impacts)

2.11. How is the storm water from within the site managed? (State the provisions made to avoid flooding of the area, details of the drainage facilities provided along with a site layout indication contour levels)

2.12. Will the deployment of construction labourers particularly in the peak period lead to unsanitary conditions around the project site (Justify with proper explanation)

2.13. What on-site facilities are provided for the collection, treatment & safe disposal of sewage? (Give details of the quantities of wastewater generation, treatment capacities with technology & facilities for recycling and disposal)

2.14. Give details of dual plumbing system if treated waste used is used for flushing of toilets or any other use.

**3. VEGETATION**

3.1. Is there any threat of the project to the biodiversity? (Give a description of the local ecosystem with its unique features, if any)

3.2. Will the construction involve extensive clearing or modification of vegetation? (Provide a detailed account of the trees & vegetation affected by the project)

3.3. What are the measures proposed to be taken to minimize the likely impacts on important site features (Give details of proposal for tree plantation, landscaping, creation of water bodies etc along with a layout plan to an appropriate scale)

**4. FAUNA**

4.1. Is there likely to be any displacement of fauna- both terrestrial and aquatic or creation of barriers for their movement? Provide the details.

4.2. Any direct or indirect impacts on the avifauna of the area? Provide details.

4.3. Prescribe measures such as corridors, fish ladders etc to mitigate adverse impacts on fauna

**5. AIR ENVIRONMENT**

5.1. Will the project increase atmospheric concentration of gases & result in heat islands? (Give details of background air quality levels with predicted values based on dispersion models taking into account the increased traffic generation as a result of the proposed constructions)

5.2. What are the impacts on generation of dust, smoke, odorous fumes or other hazardous gases? Give details in relation to all the meteorological parameters.

5.3. Will the proposal create shortage of parking space for vehicles? Furnish details of the present level of transport infrastructure and measures proposed for improvement including the traffic management at the entry & exit to the project site.

5.4. Provide details of the movement patterns with internal roads, bicycle tracks, pedestrian pathways, footpaths etc., with areas under each category.

5.5. Will there be significant increase in traffic noise & vibrations? Give details of the sources and the measures proposed for mitigation of the above.

5.6. What will be the impact of DG sets & other equipment on noise levels & vibration in & ambient air quality around the project site? Provide details.

**6. AESTHETICS**

6.1. Will the proposed constructions in any way result in the obstruction of a view, scenic amenity or landscapes? Are these considerations taken into account by the proponents?

6.2. Will there be any adverse impacts from new constructions on the existing structures? What are the considerations taken into account?

6.3. Whether there are any local considerations of urban form & urban design influencing the design criteria? They may be explicitly spelt out.

6.4. Are there any anthropological or archaeological sites or artefacts nearby? State if any other significant features in the vicinity of the proposed site have been considered.

**7. SOCIO-ECONOMIC ASPECTS**

7.1. Will the proposal result in any changes to the demographic structure of local population? Provide the details.

7.2. Give details of the existing social infrastructure around the proposed project.

7.3. Will the project cause adverse effects on local communities, disturbance to sacred sites or other cultural values? What are the safeguards proposed?

**8. BUILDING MATERIALS**

8.1. May involve the use of building materials with high-embodied energy. Are the construction materials produced with energy efficient processes? (Give details of energy conservation measures in the selection of building materials and their energy efficiency)

8.2. Transport and handling of materials during construction may result in pollution, noise & public nuisance. What measures are taken to minimize the impacts?

8.3. Are recycled materials used in roads and structures? State the extent of savings achieved?

8.4. Give details of the methods of collection, segregation & disposal of the garbage generated during the operation phases of the project.

**9. ENERGY CONSERVATION**

9.1. Give details of the power requirements, source of supply, backup source etc. What is the energy consumption assumed per square foot of built-up area? How have you tried to minimize energy consumption?

9.2. What type of, and capacity of, power back-up to you plan to provide?

9.3. What are the characteristics of the glass you plan to use? Provide specifications of its characteristics related to both short wave and long wave radiation?

9.4. What passive solar architectural features are being used in the building? Illustrate the applications made in the proposed project.

9.5. Does the layout of streets & buildings maximise the potential for solar energy devices? Have you considered the use of street lighting, emergency lighting and solar hot water systems for use in the building complex? Substantiate with details.

9.6. Is shading effectively used to reduce cooling/heating loads? What principles have been used to maximize the shading of Walls on the East and the West and the Roof? How much energy saving has been effected?

9.7. Do the structures use energy-efficient space conditioning, lighting and mechanical systems? Provide technical details. Provide details of the transformers and motor efficiencies, lighting intensity and air-conditioning load assumptions? Are you using CFC and HCFC free chillers? Provide specifications.

9.8. What are the likely effects of the building activity in altering the micro-climates? Provide a self assessment on the likely impacts of the proposed construction on creation of heat island & inversion effects?

9.9. What are the thermal characteristics of the building envelope? (a) roof; (b) external walls; and (c) fenestration? Give details of the material used and the U-values or the R values of the individual components.

9.10. What precautions & safety measures are proposed against fire hazards? Furnish details of emergency plans.

9.11. If you are using glass as wall material provides details and specifications including emissivity and thermal characteristics.

9.12. What is the rate of air infiltration into the building? Provide details of how you are mitigating the effects of infiltration.

9.13. To what extent the non-conventional energy technologies are utilised in the overall energy consumption? Provide details of the renewable energy technologies used.

**10. Environment Management Plan**

The Environment Management Plan would consist of all mitigation measures for each item wise activity to be undertaken during the construction, operation and the entire life cycle to minimize adverse environmental impacts as a result of the activities of the project. It would also delineate the environmental monitoring plan for compliance of various environmental regulations. It will state the steps to be taken in case of emergency such as accidents at the site including fire.

**APPENDIX III**
**(See paragraph 7)**
**GENERIC STRUCTURE OF ENVIRONMENTAL IMPACT ASSESSENT DOCUMENT**

| S.NO | EIA STRUCTURE | CONTENTS |
|---|---|---|
| 1. | Introduction | • Purpose of the report<br>• Identification of project & project proponent<br>• Brief description of nature, size, location of the project and its importance to the country, region<br>• Scope of the study – details of regulatory scoping carried out (As per Terms of Reference) |
| 2. | Project Description | • Condensed description of those aspects of the project (based on project feasibility study), likely to cause environmental effects. Details should be provided to give clear picture of the following:<br>• Type of project<br>• Need for the project<br>• Location (maps showing general location, specific location, project boundary & project site layout)<br>• Size or magnitude of operation (incl. Associated activities required by or for the project<br>• Proposed schedule for approval and implementation<br>• Technology and process description<br>• Project description. Including drawings showing project layout, components of project etc. Schematic representations of the feasibility drawings which give information important for EIA purpose<br>• Description of mitigation measures incorporated into the project to meet environmental standards, environmental operating conditions, or other EIA requirements (as required by the scope)<br>• Assessment of New & untested technology for the risk of technological failure |
| 3. | Description of the Environment | • Study area, period, components & methodology<br>• Establishment of baseline for valued environmental components, as identified in the scope<br>• Base maps of all environmental components |
| 4. | Anticipated Environmental Impacts & Mitigation Measures | • Details of Investigated Environmental impacts due to project location, possible accidents, project design, project construction, regular operations, final decommissioning or rehabilitation of a completed project<br>• Measures for minimizing and / or offsetting adverse impacts identified<br>• Irreversible and Irretrievable commitments of environmental components<br>• Assessment of significance of impacts (Criteria for determining significance, Assigning significance) |

| | | |
|---|---|---|
| | | • Mitigation measures |
| 5. | Analysis of Alternatives (Technology & Site) | • In case, the scoping exercise results in need for alternatives:<br>• Description of each alternative<br>• Summary of adverse impacts of each alternative<br>• Mitigation measures proposed for each alternative and<br>• Selection of alternative |
| 6. | Environmental Monitoring Program | • Technical aspects of monitoring the effectiveness of mitigation measures (incl. Measurement methodologies, frequency, location, data analysis, reporting schedules, emergency procedures, detailed budget & procurement schedules) |
| 7. | Additional Studies | • Public Consultation<br>• Risk assessment<br>• Social Impact Assessment. R&R Action Plans |
| 8. | Project Benefits | • Improvements in the physical infrastructure<br>• Improvements in the social infrastructure<br>• Employment potential –skilled; semi-skilled and unskilled<br>• Other tangible benefits |
| 9. | Environmental Cost Benefit Analysis | • If recommended at the Scoping stage |
| 10. | EMP | • Description of the administrative aspects of ensuring that mitigative measures are implemented and their effectiveness monitored, after approval of the EIA |
| 11 | Summary & Conclusion (This will constitute the summary of the EIA Report ) | • Overall justification for implementation of the project<br>• Explanation of how, adverse effects have been mitigated |
| 12. | Disclosure of Consultants engaged | • The names of the Consultants engaged with their brief resume and nature of Consultancy rendered |

## APPENDIX III A
**(See paragraph 7)**

## CONTENTS OF SUMMARY ENVIRONMENTAL IMPACT ASSESSMENT

The Summary EIA shall be a summary of the full EIA Report condensed to ten A-4 size pages at the maximum. It should necessarily cover in brief the following Chapters of the full EIA Report: -

1. Project Description
2. Description of the Environment
3. Anticipated Environmental impacts and mitigation measures
4. Environmental Monitoring Programme
5. Additional Studies
6. Project Benefits
7. Environment Management Plan

## APPENDIX IV[96]
**(See paragraph 7)**

## PROCEDURE FOR CONDUCT OF PUBLIC HEARING

1.0 The Public Hearing shall be arranged in a systematic, time bound and transparent manner ensuring widest possible public participation at the project site(s) or in its close proximity District - wise, by the concerned State Pollution Control Board (SPCB) or the Union Territory Pollution Control Committee (UTPCC).

2.0 The Process:

2.1 The Applicant shall make a request through a simple letter to the Member Secretary of the SPCB or Union Territory Pollution Control Committee, in whose jurisdiction the project is located, to arrange the public hearing within the prescribed statutory period. In case the project site is covering more than one District, State or Union Territory in which the project is located and the applicant shall make separate requests to each concerned SPCB or UTPCC for holding the public hearing as per this procedure.

2.2 The Applicant shall enclose with the letter of request, at least 10 hard copies and an equivalent number of soft (electronic) copies of the draft EIA Report with the generic structure given in Appendix III including the Summary Environment Impact Assessment report in English and in the official language of the state / local language, prepared strictly in accordance with the Terms of Reference communicated after Scoping (Stage-2). Simultaneously the applicant shall arrange to forward copies, one hard and one soft, of the above draft EIA Report along with the Summary EIA to the following authorities or offices, within whose jurisdiction the project will be located:

(a) District Magistrate / District Collector / Deputy Commissioner / s

[96] Substituted vide S.O.3067(E) dated 1st December, 2009

(b) Zila Parishad or Municipal Corporation or Panchayats Union
(c) District Industries Office
(d) Urban Local Bodies (ULBs) / PRIs concerned / Development authorities
(e) Concerned Regional Office of the Ministry of Environment and Forests

2.3 On receiving the draft Environmental Impact Assessment report, the above-mentioned authorities except the Regional Office MoEF, shall arrange to widely publicize it within their respective jurisdictions requesting the interested persons to send their comments to the concerned regulatory authorities. They shall also make available the draft EIA Report for inspection electronically or otherwise to the public during normal office hours till the Public Hearing is over.

2.4 The SPCB or UTPCC concerned shall also make similar arrangements for giving publicity about the project within the State/Union Territory and make available the Summary of the draft Environmental Impact Assessment report (Appendix III A) for inspection in select offices or public libraries or any other suitable locations etc. They shall also additionally make available a copy of the draft Environmental Impact Assessment report to the above five authorities/offices as given in para 2.2.

**3.0 Notice of Public Hearing:**

3.1 The Member-Secretary of the concerned SPCB or UTPCC shall finalize the date, time and exact venue for the conduct of public hearing within 7(seven) days of the date of receipt of the draft Environmental Impact Assessment report from the project proponent, and advertise the same in one major National Daily and one Regional vernacular Daily / Official State Language. A minimum notice period of 30 (thirty) days shall be provided to the public for furnishing their responses;

3.2 The advertisement shall also inform the public about the places or offices where the public could access the draft Environmental Impact Assessment report and the Summary Environmental Impact Assessment report before the public hearing. In places where the newspapers do not reach, the Competent Authority should arrange to inform the local public about the public hearing by other means such as by way of beating of drums as well as advertisement / announcement on radio / television.

3.3 No postponement of the date, time, venue of the public hearing shall be undertaken, unless some untoward emergency situation occurs and then only on the recommendation of the concerned District Magistrate / District Collector / Deputy Commissioner, the postponement shall be notified to the public through the same National and Regional vernacular dailies and also prominently displayed at all the identified offices by the concerned SPCB or Union Territory Pollution Control Committee;
"3.3 (a) In the event of any such postponement referred to in sub-paragraph 3.3, the time duration for convening the rescheduled public hearing should not be less than forty-five days from the date of first advertisement already published in accordance to para 3.1 for initial date of public hearing and it shall be ensured that a minimum notice period of fifteen days shall be provided to the public before the re-scheduled date of the public hearing, for furnishing the responses in writing: Provided that SPCB or UTPCC along with concerned authorities, as mentioned at para 2.2, shall ensure that all requisite documents are available to public in accordance with sub-paragraphs 2.3 and 2.4 from

the date of first advertisement published for the initial date of public hearing till convening of the rescheduled public hearing.";[97]

3.4 In the above exceptional circumstances fresh date, time and venue for the public consultation shall be decided by the Member –Secretary of the concerned SPCB or UTPCC only in consultation with the District Magistrate / District Collector / Deputy Commissioner and notified afresh as per procedure under 3.1 above.

**4.0 Supervision and Presiding over the Hearing:**

The District Magistrate / District Collector / Deputy Commissioner or his or her representative not below the rank of an Additional District Magistrate or any other District Level Officer authorised by him or her in this behalf[91] assisted by a representative of SPCB or UTPCC, shall supervise and preside over the entire public hearing process.
"Provided that in case the project or activity is confined to the territorial jurisdiction of one sub-division, the District Magistrate/District Collector/Deputy Commissioner, as the case may be, may alternatively authorise any officer not below the rank of Sub-Divisional Magistrate to supervise and preside over the entire public hearing process assisted by a representative of SPCB or UTPCC, as the case may be.".[91]

**5.0 Videography**

The SPCB or UTPCC shall arrange to video film the entire proceedings. A copy of the videotape or a CD shall be enclosed with the public hearing proceedings while forwarding it to the Regulatory Authority concerned.

**6.0 Proceedings**

6.1 The attendance of all those who are present at the venue shall be noted and annexed with the final proceedings.
6.2 There shall be no quorum required for attendance for starting the proceedings.

6.3 A representative of the applicant shall initiate the proceedings with a presentation on the project and the Summary EIA report.
6.4 Person present at the venue shall be granted the opportunity to seek information or clarifications on the project from the applicant. The summary of the public hearing proceedings accurately reflecting all the views and concerns expressed shall be recorded by the representative of the SPCB or UTPCC and read over to the audience at the end of the proceedings explaining the contents in the local / vernacular language and the agreed minutes shall be signed by the District Magistrate / District Collector / Deputy Commissioner or his or her representative on the same day and forwarded to the SPCB/UTPCC concerned.

6.5 A Statement of the issues raised by the public and the comments of the applicant shall also be prepared in the local language or the Official State Language, as the case may be, and in English and annexed to the proceedings.

[97] Inserted & substituted vide S.O. 2163(E) dated 9th May,2022

6.6 The proceedings of the public hearing shall be conspicuously displayed at the office of the Panchyats within whose jurisdiction the project is located, office of the concerned Zila Parishad, District Magistrate / District Collector / Deputy Commissioner, and the SPCB or UTPCC . The SPCB or UTPCC shall also display the proceedings on its website for general information. Comments, if any, on the proceedings which may be sent directly to the concerned regulatory authorities and the applicant concerned.

**7.0 Time period for completion of public hearing**

7.1 The public hearing shall be completed within a period of 45 (forty five days from date of receipt of the request letter from the Applicant. Therefore the SPCB or UTPCC concerned shall sent the public hearing proceedings to the concerned regulatory authority within 8 (eight) days of the completion of the public hearing. Simultaneously, a copy will also be provided to the project proponent. The applicant may also directly forward a copy of the approved public hearing proceedings to the regulatory authority concerned along with the final Environmental Impact Assessment report or supplementary report to the draft EIA report prepared after the public hearing and public consultations incorporating the concerns expressed in the public hearing along with action plan and financial allocation, item wise, to address these concerns.

7.2 If the SPCB or UTPCC fails to hold the public hearing within the stipulated 45 (forty five) days, the Central Government in Ministry of Environment and Forests for Category 'A' project or activity and the State Government or Union Territory Administration for Category 'B' project or activity at the request of the SEIAA, shall engage any other agency or authority to complete the process, as per procedure laid down in this Notification.

**APPENDIX –V**
**(See paragraph 7)**

**PROCEDURE PRESCRIBED FOR APPRAISAL**

**1.** The applicant shall apply to the concerned regulatory authority through a simple communication enclosing the following documents where public consultations are mandatory: -

- Final Environment Impact Assessment Report [20(twenty) hard copies and 1 (one) soft copy)]
- A copy of the video tape or CD of the public hearing proceedings
- A copy of final layout plan (20 copies)
- A copy of the project feasibility report (1 copy)

**2.** The Final EIA Report and the other relevant documents submitted by the applicant shall be scrutinized in office within 30 days from the date of its receipt by the concerned Regulatory Authority strictly with reference to the TOR and the inadequacies noted shall be communicated electronically or otherwise in a single set to the Members of the EAC /SEAC enclosing a copy each of the Final EIA Report including the public hearing proceedings and other public responses received along with a copy of Form-1or Form-1A and scheduled date of the EAC /SEAC meeting for considering the proposal.

**3.**[98] Where a public consultation is not mandatory, the appraisal shall be made on the basis of prescribed application in Form-1 and environment impact assessment report, in the case of all projects and activities (other than Item 8 of the Schedule), except in case where the said project and activity falls under category 'B2', and in the case of items 8(a) and 8(b) of the Schedule, considering their unique project cycle, the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned shall appraise projects or activities on the basis of Form-1, Form 1A, conceptual plan and the environment impact assessment report [required only for projects listed 8(b)] and make recommendations on the project regarding grant of Environmental Clearance or otherwise and also stipulate the conditions for environmental clearance.

**4.** Every application shall be placed before the EAC /SEAC and its appraisal completed within 60 days of its receipt with requisite documents / details in the prescribed manner.

**5.** The applicant shall be informed at least 15 (fifteen) days prior to the scheduled date of the EAC /SEAC meeting for considering the project proposal.

**6.** The minutes of the EAC /SEAC meeting shall be finalised within 5 working days of the meeting and displayed on the website of the concerned regulatory authority. In case the project or activity is recommended for grant of EC, then the minutes shall clearly list out the specific environmental safeguards and conditions. In case the recommendations are for rejection, the reasons for the same shall also be explicitly stated.

[98] Para substituted vide S.O.3067(E) dated 1st December, 2009, S.O. 695(E) dated 4th April, 2011, and S.O. 156(E) dated 25th January, 2012

**APPENDIX VI**
**(See paragraph 5)**

**COMPOSITION OF THE SECTOR/ PROJECT SPECIFIC EXPERT APPRAISAL COMMITTEE (EAC) FOR CATEGORY A PROJECTS AND THE STATE/UT LEVEL EXPERT APPRAISAL COMMITTEES (SEACs) FOR CATEGORY B PROJECTS TO BE CONSTITUTED BY THE CENTRAL GOVERNMENT `**

1. The Expert Appraisal Committees (EACs) and the State/UT Level Expert Appraisal Committees (SEACs) shall consist of only professionals and experts fulfilling the following eligibility criteria:

**Professional:** The person should have at least (i) 5 years of formal University training in the concerned discipline leading to a MA/MSc Degree, or (ii) in case of Engineering /Technology/Architecture disciplines, 4 years formal training in a professional training course together with prescribed practical training in the field leading to a B.Tech/B.E./B.Arch. Degree, or (iii) Other professional degree (e.g. Law) involving a total of 5 years of formal University training and prescribed practical training, or (iv) Prescribed apprenticeship/article ship and pass examinations conducted by the concerned professional association (e.g. Chartered Accountancy),or (v) a University degree , followed by 2 years of formal training in a University or Service Academy (e.g. MBA/IAS/IFS). In selecting the individual professionals, experience gained by them in their respective fields will be taken note of.
**Expert:** A professional fulfilling the above eligibility criteria with at least 15 years of relevant experience in the field, or with an advanced degree (e.g. Ph.D.) in a concerned field and at least 10 years of relevant experience.

**Age:** Below 70 years. However, in the event of the non-availability of /paucity of experts in a given field, the maximum age of a member of the Expert Appraisal Committee may be allowed up to 75 years

**2.[99] The Members of the EAC shall be Experts with the requisite expertise and experience in the following fields or /disciplines. In the event that persons fulfilling the criteria of "Experts" are not available, Professionals in the same field with sufficient experience may be considered:**

- Environment Quality: Experts in measurement, monitoring, analysis and interpretation of data in relation to environmental quality
- Sectoral Project Management: Experts in Project Management or Management of Process or Operations or Facilities in the relevant sectors.
- Environmental Impact Assessment Process: Experts in conducting and carrying out Environmental Impact Assessments (EIAs) and preparation of Environmental Management Plans (EMPs) and other Management plans and who have wide expertise and knowledge of predictive techniques and tools used in the EIA process
- Risk Assessment
- Life Science (Floral and Faunal Management)
- Forestry and Wildlife
- Environmental Economics with experience in project appraisal

[99] Para substituted vide S.O. 1737 (E) dated 11th October, 2007; word in Para-2 amended & point-4 inserted vide S.O. 2600(E) 9th October, 2014 and amended vide S.O. 3752 dated 20.10.2020

- [99]Public Administration or Management covering various developmental sectors and environmental issues.

3. The Membership of the EAC shall not exceed 15 (fifteen) regular Members. However, the Chairperson may co-opt an expert as a Member in a relevant field for a particular meeting of the Committee.

4.[100] The Chairperson shall be an eminent person having experience in environmental policy related issues, in management or in public administration dealing with various developmental sectors.

5. The Chairperson shall nominate one of the Members as the Vice Chairperson who shall preside over the EAC in the absence of the Chairman /Chairperson.

6. A representative of the Ministry of Environment and Forests shall assist the Committee as its Secretary.
7. The maximum tenure of a Member, including Chairperson, shall be for 2 (two) terms of 3 (three) years each.
Provided that wherever considered necessary and expedient, the Central Government may extend the term of such member for a further period not exceeding twelve months.[101]

8. The Chairman / Members may not be removed prior to expiry of the tenure without cause and proper enquiry.

[100] Omitted vide S.O. 1737 dated 11th October, 2007; and inserted vide S.O. 2600(E) dated 9th October, 2014
[101] Entry inserted vide notification number S.O 1562 (E) dated 21st May 2020; Substituted word vide S.O 3752 (E) dated 20th Oct, 2020

## APPENDIX VII[102]
**(See paragraph 3 A)**

### Qualifications and terms for the Experts in DEIAA and DEAC

1. **Qualification:** The person should have at least (i) 5 years of formal University training in the concerned discipline leading to a MA or M Sc Degree or (ii) in case of Engineering/ Technology/ Architectural discipline, 4 years formal training course together with prescribed practical training in the field leading to a B. Tech/ B.E./ B. Arch. Degree, or (iii) Other professional degree (e.g. MBA etc.) involving a total of 5 years of formal University training and prescribed practical training, or (iv) Prescribed apprenticeship/ article ship and pass examinations conducted by the concerned professional associations (e.g. Chartered Accountancy) or (v) a University degree, followed by two years of formal training in a University or Service Academy (e.g. MBA/MPA etc.). In selecting the individual professionals, experience gained by them in their respective fields will be taken note of.

2. **Expert:** A professional fulfilling the above eligibility criteria with at least 10 years of relevant experience in the field or with an advanced degree (e.g. Ph. D) in a concerned field with at least 5 years of relevant experience.

3. **Age:** Below 70 years. However, in the event of non-availability of paucity of experts in a given field, the maximum age of a member may be allowed up to 75 years.

4. **Fields:** Experts in Mining, Geology, Hydrology, Remote Sensing, Environment Quality, Environment Impact Assessment Division Assessment Process, Risk Assessment, Life Sciences, Marine Sciences, Forestry and Wildlife, Environmental Economics, Bio-diversity, and River Ecology.

5. **Tenure:** The maximum tenure of expert members shall be for two terms of three years each.

6. The Expert Members may not be removed prior to expiry of the tenure without cause and proper enquiry.

[102] Inserted vide S.O. 141(E) dated 15th January, 2016

**APPENDIX VIII**[103]
**(See paragraph 6)**

**FORM 1 M**

**APPLICATION FOR MINING OF MINOR MINERALS UNDER CATEGORY 'B2' FOR LESS THAN AND EQUAL TO FIVE HECTARE**

**(II) Basic Information**

(i) Name of the Mining Lease site:
(ii) Location / site (GPS Co-ordinates):
(iii) Size of the Mining Lease (Hectare):
(iv) Capacity of Mining Lease (TPA):
(v) Period of Mining Lease:
(vi) Expected cost of the Project:
(vii) Contact Information:

**Environmental Sensitivity**

| Sl. No. | Areas | Distance in kilometer / Details |
|---|---|---|
| 1. | Distance of project site from nearest rail or road bridge over the concerned River,<br>Rivulet, Nallah etc. | |
| 2. | Distance from infrastructural facilities<br>Railway line<br>National Highway<br>State Highway<br>Major District Road<br>Any Other Road<br>Electric transmission line pole or tower<br>Canal or check dam or reservoirs or lake or ponds<br>In-take for drinking water pump house<br>Intake for Irrigation canal pumps | |
| 3. | Areas protected under international conventions, national or local legislation for<br>their ecological, landscape, cultural or other related value | |
| 4. | Areas which are important or sensitive for ecological reasons - Wetlands,<br>watercourses or other water bodies, coastal zone, biospheres, mountains, forests | |
| 5. | Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration | |
| 6. | Inland, coastal, marine or underground waters | |
| 7. | State, National boundaries | |

[103] Inserted vide S.O. 141(E) dated 15th January, 2016

| | | |
|---|---|---|
| 8. | Routes or facilities used by the public for access to recreation or other tourist,<br>pilgrim areas | |
| 9. | Defence installations | |
| 10. | Densely populated or built-up area, distance from nearest human habitation | |
| 11. | Areas occupied by sensitive man-made land uses<br>(hospitals, schools, places of worship, community facilities) | |
| 12. | Areas containing important, high quality or scarce resources<br>(ground water resources, surface resources, forestry, agriculture, fisheries, tourism,<br>minerals) | |
| 13. | Areas already subjected to pollution or environmental damage.<br>(those where existing<br>legal environmental standards are exceeded) | |
| 14. | Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding<br>or extreme or adverse climatic conditions) | |
| 15. | Is proposed mining site located over or near fissure / fracture for ground water<br>recharge | |
| 16. | Whether the proposal involves approval or clearance under the following Regulations<br>or Acts, namely: -<br>(a) The Forest (Conservation) Act, 1980;<br>(b) The Wildlife (Protection) Act, 1972;<br>(c) The Coastal Regulation Zone Notification, 2011.<br>If yes, details of the same and their status to be given. | |
| 17. | Forest land involved (hectares) | |
| 18. | Whether there is any litigation pending against the project and/or land in which the project is propose to be set up?<br>(a) Name of the Court<br>(b) Case No.<br>(c) Orders or directions of the Court, if any, and its relevance with the proposed project. | |

**(Signature of Project Proponent**
**Along with name and address)**

## APPENDIX – IX[104]
**[See paragraph 7(i) (B)]**

## EXEMPTION OF CERTAIN CASES FROM REQUIREMENT OF ENVIRONMENTAL CLEARANCE

The following cases shall not require prior environmental clearance, namely: -

1. Extraction of ordinary clay or sand by manual mining, by the Kumhars (Potter) to prepare earthen pots, lamp, toys, etc. as per their customs.
2. Extraction of ordinary clay or sand by manual mining, by earthen tile makers who prepare earthen tiles.
3. Removal of sand deposits on agricultural field after flood by farmers.
4. Customary extraction of sand and ordinary earth from sources situated in Gram Panchayat for personal use or community work in village.
5. Community works, like, de-silting of village ponds or tanks, construction of village roads, ponds or bunds undertaken in Mahatma Gandhi National Rural Employment and Guarantee Schemes, other Government sponsored schemes and community efforts.
6. *Extraction or sourcing or borrowing of ordinary earth for the linear projects such as roads, pipelines, etc. shall be subject to the compliance of standard operating procedures and environmental safeguards issued in this regard from time to time.*
7. *Dredging and de-silting of dams, reservoirs, weirs, barrages, river and canals for the purpose of their maintenance, upkeep and disaster management shall be subject to the compliance of environmental safeguards issued in this regard from time to time.*[105]
8. Traditional occupational work of sand by Vanjara and Oads in Gujarat vide notification number GU/90(16)/MCR-2189(68)/5-CHH, dated the 14th February, 1990 of the Government of Gujarat.
9. Manual extraction of lime shells (dead shell), shrines, etc., within inter tidal zone by the traditional community.
10. Digging of wells for irrigation or drinking water purpose.
11. Digging of foundation for buildings, not requiring prior environmental clearance, as the case may be.
12. Excavation of ordinary earth or clay for plugging of any breach caused in canal, nallah, drain, water body, etc., to deal with any disaster or flood like situation upon orders of the District Collector or District Magistrate or any other Competent Authority.
13. Activities declared by the State Government under legislations or rules as non-mining activity.

[104] Inserted vide S.O. 141(E) dated 15th January, 2016 and substituted vide S.O. 1224 (E) dated 28th March, 2020
[105] Para substituted vide S.O. 3840(E) dated 30th August, 2023

## APPENDIX - X[106]

**[See paragraph 7 (iii) (a)]**

## PROCEDURE FOR PREPARATION OF DISTRICT SURVEY REPORT FOR SAND MINING OR RIVER BED MINING

The main objective of the preparation of District Survey Report (as per the Sustainable Sand Mining Guideline) is to ensure the following:

Identification of 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 calculation of annual rate of replenishment and allowing time for replenishment after mining in that area.

The report shall have the following structure:

1. Introduction
2. Overview of Mining Activity in the District
3 The List of Mining Leases in the District with location, area and period of validity
4. Details of Royalty or Revenue received in last three years
5. Detail of Production of Sand or Bajari or minor mineral in last three years
6. Process of Deposition of Sediments in the rivers of the District
7. General Profile of the District
8. Land Utilization Pattern in the district: Forest, Agriculture, Horticulture, Mining etc.
9. Physiography of the District
10. Rainfall: month-wise
11. Geology and Mineral Wealth

In addition to the above, the report shall contain the following:

(a) District wise detail of river or stream and other sand source.
(b) District wise availability of sand or gravel or aggregate resources.
(c) District wise detail of existing mining leases of sand and aggregates.

A survey shall be carried out by the DEIAA with the assistance of Geology Department or Irrigation Department or Forest Department or Public Works Department or Ground Water Boards or Remote Sensing Department or Mining Department etc. in the district.

**Drainage system with description of main rivers**

| S. No. | Name of the River | Area drained (Sq. Km) | % Area drained in the District |
|---|---|---|---|
| (1) | | | |
| (2) | | | |

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

| S. No. | Name of the River or Stream | Total Length in the District (in Km) | Place of origin | Altitude at Origin |
|---|---|---|---|---|
| (1) | | | | |
| (2) | | | | |

[106] Inserted vide S.O. 141(E) dated 15th January, 2016; amended vide S.O 3611 (E) dated 25th July 2016

| Portion of the River or Stream Recommended for Mineral Concession | Length of area recommended for mineral concession (in kilometer) | Average width of area recommended for mineral concession (in meters) | Area recommended for mineral concession (in square meter) | Mineable mineral potential (in metric tonne) (60% of total mineral potential) |
|---|---|---|---|---|
| | | | | |
| | | | | |

Mineral Potential

| Boulder (MT) | Bajari (MT) | Sand (MT) | Total Mineable Mineral Potential (MT) |
|---|---|---|---|
| | | | |
| | | | |

Annual Deposition

| | | | |
|---|---|---|---|
| | | | |

| S. No. | River or Stream | Portion of the river or stream recommended for mineral concession | Length of area recommended for mineral concession (in kilometer) | Average width of area recommended for mineral concession (in meters) | Area recommended for mineral concession (in square meter) | Mineable mineral potential (in metric tonne) (60% of total mineral potential) |
|---|---|---|---|---|---|---|
| | | | | | | |
| | | | | | | |
| Total for the District | | | | | | |

A Sub-Divisional Committee comprising of (i) Sub-Divisional Magistrate, (ii) Officers from (a) Irrigation department, (b) State Pollution Control Board or Committee, (c) Forest department, (d) Geology or mining officer shall visit each site for which environmental clearance has been applied for and make recommendation on suitability of site for mining or prohibition thereof.

**Methodology adopted for calculation of Mineral Potential:**

The mineral potential is calculated based on field investigation and geology of the catchment area of the river or streams. As per the site conditions and location, depth of minable mineral is defined. The area for removal of the mineral in a river or stream can be decided depending on geo-morphology and other factors, it can be 50 % to 60 % of the area of a particular river or stream. For Example, in some hill States mineral constituents like boulders, river born Bajri, sand up to a depth of one meter are considered as resource mineral. Other constituents like clay and silt are excluded as waste while calculating the mineral potential of particular river or stream.

The District Survey Report shall be prepared in the district and its draft shall be placed in the public domain by keeping its copy in Collectorate and posting it on the district's website for twenty-one

days. The comments received shall be considered and if found correct, shall be incorporated in the final Report to be finalised within six months by the District Environment Impact Assessment Authority.
The District Survey Report shall form the basis for application for environmental clearance, preparation of reports and appraisal of projects. The Report shall be updated once every five years.

**II. PROCEDURE FOR PREPARATION OF DISTRICT SURVEY REPORT OF MINOR MINERALS OTHER THAN SAND MINING OR RIVER BED MINING**

The District Survey Report shall be prepared for each minor mineral in the district separately and its draft shall be placed in the public domain by keeping its copy in Collectorate and posting it on district's website for twenty-one days. The comments received shall be considered and if found fit, shall be incorporated in the final Report to be finalised within six months by the DEIAA.
The District Survey Report for minor minerals other than sand mining or River bed mining shall be as per structure mentioned below: -

**FORMAT FOR PREPARATION OF DISTRICT SURVEY REPORT FOR MINOR MINERALS OTHER THAN SAND MINING OR RIVER BED MINING**

(1) Introduction;
(2) Overview of Mining Activity in the District;
(3) General Profile of the District;
(4) Geology of the District;
(5) Drainage of Irrigation pattern;
(6) Land Utilisation Pattern in the District: Forest, Agricultural, Horticultural, Mining etc.;
(7) Surface Water and Ground Water scenario of the district;
(8) Rainfall of the district and climatic condition;
(9) Details of the mining leases in the District as per the following format: -

| SI No. | Name of the Mineral | Name of the Lessee | Address & Contact No. of Lessee | Mining lease Grant Order No. & Date | Area of Mining lease (ha) | Period of Mining Lease (Initial) | | Period of Mining Lease (1st /2nd renewal) | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | **From** | **To** | **From** | **To** |
| **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** |
| | | | | | | | | | |
| | | | | | | | | | |

| **Date of Commencement of Mining Operation** | **Status (Working/Non-working/Temp. Working for dispatch, etc.)** | **Captive/ Non-Captive** | **Obtained Environmental Clearance (yes/No), if Yes Letter No. with date of grant of EC** | **Location of the Mining Lease (Latitude & Longitude)** | **Method of Mining (opencast/underground)** |
|---|---|---|---|---|---|
| | | | | | |

| 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|

(10) details of Royalty or Revenue received in last three years;
(11) details of Production of Minor Mineral in last three years;
(12) mineral Map of the District;
(13) list of Letter of Intent (LOI) Holders in the District along with its validity as per the following format:-
(14) total Mineral Reserve available in the District;

| SI No. | Name of the Mineral | Name of the Lessee | Address & Contact No. of Letter of Intent Holder | Letter of Intent Grant Order No. & Date | Area of Mining lease to be allotted | Validity of LoI | Use (Captive/ Non-Captive) | Location of Mining lease (Latitude & Longitude) |
|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| | | | | | | | | |

(15) quality /Grade of Mineral available in the District;
(16) use of Mineral;
(17) demand and Supply of the Mineral in the last three years;
(18) mining leases marked on the map of the district;
(19) details of the area of where there is a cluster of mining leases viz. number of mining leases, location (latitude and longitude);
(20) details of Eco-Sensitive Area, if any, in the District;
(21) impact on the Environment (Air, Water, Noise, Soil, Flora & Fauna, land use, agriculture, forest etc.) due to mining activity;
(22) remedial Measures to mitigate the impact of mining on the Environment;
(23) reclamation of Mined out area (best practice already implemented in the district, requirement as per rules and regulation, proposed reclamation plan);
(24) risk Assessment & Disaster Management Plan;
(25) details of the Occupational Health issues in the District. (Last five-year data of number of patients of Silicosis & Tuberculosis is also needs to be submitted);
(26) plantation and Green Belt development in respect of leases already granted in the District;
(27) any other information.

The District Environment Impact Assessment Authority (DEIAA) based on the nature and type of minor mineral in the District may include the additional parameters in the District Survey Report in consultation with the Department of Mines and Geology of the concerned State Government.

The District Survey Report shall form the basis for application for environmental clearance, preparation of reports and appraisal of projects. The Report shall be updated once every five years.

## APPENDIX - XI[107]

**[See paragraph 7 (iii) (b)]**

## PROCEDURE FOR ENVIRONMENTAL CLEARANCE FOR MINING OF MINOR MINERALS INCLUDING CLUSTER

The following policy shall be followed for environmental clearance of mining of minor minerals including cluster situation: -

(1). The data provided by the States (Sustainable Sand Mining Guidelines) shows that most of the mining leases for minor minerals are of lease area less than 5 hectare. It is also reported that in hill States getting a stretch in river with area more than 5 hectare is very uncommon. So, the size of lease for minor minerals including river sand mining will be determined by the States as per their circumstances.

(2). The mining of minor minerals is mostly in clusters. The Environment Impact Assessment or Environment Management Plan are required to be prepared for the entire cluster in order to capture all the possible externalities. These reports shall capture carrying capacity of the cluster, transportation and related issues, replenishment and recharge issues, geo-hydrological study of the cluster area. The Environment Impact Assessment Division Assessment or Environment Management Plan shall be prepared by the State or State nominated Agency or group of project proponents in the Cluster or the project proponent in the cluster.

(3). There shall be one public consultation for entire cluster after which the final Environment Impact Assessment or Environment Management Plan report for the cluster shall be prepared.

(4). Environmental clearance shall be applied for and issued to the individual project proponent. The individual lease holders in cluster can use the same Environment Impact Assessment or Environment Management Plan for application for environmental clearance. The cluster Environment Impact Assessment or Environment Management Plan shall be updated as per need keeping in view any significant change.

(5). The details of cluster Environment Impact Assessment or Environment Management Plan shall be reflected in each environmental clearance in that cluster and DEAC, SEAC, and EAC shall ensure that the mitigative measures emanating from the Environment Impact Assessment or Environment Management Plan study are fully reflected as environmental clearance conditions in the environmental clearance's of individual project proponents in that cluster.

(6). [108]A cluster shall be formed when the distance between the peripheries of one lease is less than 500 meters from the periphery of other lease in a homogeneous mineral area which shall be applicable to the mine leases or quarry licenses granted on and after 9th September, 2013.

(7). Form 1M, Pre-Feasibility Report and mine plan for Category 'B2' projects for mining of minor minerals shall be prepared by the Registered Qualified Person or Accredited Consultants of Quality Council of India, National Accreditation Board for Education and Training. The Environment Impact Assessment or Environment Management Plan for Category 'A' and Category 'B1' projects shall be prepared by the accredited consultants of Quality Council of India, National Accreditation Board for Education and Training.

(8). The SEIAAs shall have supervisory jurisdiction over the DEIAAs and decisions of DEIAA shall be reviewed by the SEIAA without prejudice to any provisions under any existing law.

### Schematic Presentation of Requirements on Environmental Clearance of Minor Minerals including cluster situation[109]

[107] Inserted vide S.O. 141(E) dated 15th January, 2016

[108] Para substituted vide S.O. 2269(E) dated 1st July, 2016

| Area of Lease (Hectare) | Category of Project | Requirement of EIA / EMP/DSR | Requirement of Public Hearing | Requirement of EC | Who can prepare EIA/ EMP | Who will apply for EC | Authority to appraise/ grant EC | Authority to monitor EC compliance |
|---|---|---|---|---|---|---|---|---|
| **EC Proposal of Sand Mining and other Minor Mineral Mining on the basis of individual mine lease** | | | | | | | | |
| **0 – 5ha** | **'B2'** | Form –1M, PFR, DSR and Approved Mine Plan | No | Yes | Project Proponent | Project Proponent | DEAC/ DEIAA | DEIAA SEIAA SPCB CPCB MoEFCC Agency nominated by MoEFCC |
| **> 5 ha and < 25 ha** | **'B2'** | Form –I, PFR, DSR and Approved Mine Plan and EMP | No | Yes | Project Proponent | Project Proponent | SEAC / SEIAA | |
| **≥ 25ha and ≤ 100ha** | **'B1'** | Form –I, PFR, DSR and Approved Mine Plan EIA and EMP | Yes | Yes | Project Proponent | Project Proponent | SEAC / SEIAA | |
| **>100 ha** | **'A'** | Form –I, PFR, DSR and Approved Mine Plan EIA and EMP | Yes | Yes | Project Proponent | Project Proponent | EAC/ MoEFCC | |
| **EC Proposal of Sand Mining and other Minor Mineral Mining in cluster situation** | | | | | | | | |
| **Cluster area of mine leases up to 5 ha** | **'B2'** | Form –1M, PFR, DSR and Approved Mine Plan | No | Yes | State, State Agency, Group of Project Proponents, Project Proponent | Project Proponent | DEAC/ DEIAA/ | DEIAA SEIAA SPCB CPCB MoEFCC Agency nominated by MoEFCC |
| **Cluster area of Mine leases > 5 ha and < 25 ha with no individual lease > 5 ha** | **'B2'** | Form –I, PFR, DSR and approved Mine Plan and one EMP for all leases in the Cluster | No | Yes | State, State Agency, Group of Project Proponents, Project Proponent | Project Proponent | DEAC/ DEIAA/ | |
| **Cluster area of Mine leases > 5 ha and < 25 ha with any individual lease > 5 ha** | **'B2'** | Form –I, PFR, DSR and approved Mine Plan and one EMP for all leases in the Cluster | No | Yes | State, State Agency, Group of Project Proponents, Project Proponent | Project Proponent | SEAC/ SEIAA | |
| **Cluster of** | **'B1'** | Form –I, | Yes | Yes | State, State | Project | SEAC/ | |

[109] Substituted vide S.O. 3977(E) dated 14th August, 2018

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **mine leases of area ≥ 25 hectares with individual lease size ≤ 100ha** | | PFR, DSR and approved Mine Plan and one EIA/EMP for all leases in the Cluster | | | Agency, Group of Project Proponents, Project Proponent | Proponent | SEIAA | |
| **Cluster of any size with any of the individual lease > 100ha** | **'A'** | Form –I, PFR, DSR and approved Mine Plan and one EIA/EMP for all leases in the Cluster | Yes | Yes | State, State Agency, Group of Project Proponents, Project Proponent | Project Proponent | SEAC/ SEIAA | |

[110]**Note-** (1) In the State of Rajasthan, for mining of minor minerals, in situation of a large number of leases or quarry licenses of very small size (up to one hectare each) in contiguous area, the Mines and Geology Department of the State Government shall, -

(A) define the size of cluster as per local situation for effective formulation and implementation of mine plan and Environment Management Plan;

(B) prepare mine plan and an Environment Management Plan for the cluster;

(C) prepare a Regional Mine Plan and Regional Environment Management Plan including all the clusters in that contiguity.

(D) provide for mobilistation of funds from the Project Proponents in predetermined proportion for implementation of cluster and Regional Environment Management
Plan.

(2) The District Mineral Fund can also be used to augment the fund for implementation of Environment Management Plans.

(3) The Environment Management Plan shall be prepared and presented within ninety days from the date of publication of this notification in the Official Gazette for environment clearance granted on or after 15th January, 2016 to any lease in that cluster. The recommendation of the State Expert Appraisal Committee and approval of the State Environment Impact Assessment Authority shall be granted within sixty days of presentation of the Environment Management Plan.
(4) The implementation of the Environment Management Plan shall begin within six months from the date of publication of this notification in the Official Gazette. The Environment Management Plan shall be monitored at the interval of six months by the concerned State Environment Impact Assessment Authority.

(5) The leases not operative for three years or more and leases which have got environmental clearance as on 15th January, 2016 shall not be counted for calculating the area of cluster, but shall be included in the Environment Management Plan and the Regional
Environmental Management Plan.[109]

[110] Inserted vide S.O. 2269(E) dated 1st July, 2016

## APPENDIX - XII[111]

**[See paragraph 10 (iv)]**

## PROCEDURE FOR MONITORING OF SAND MINING OR RIVER BED MINING

1. The security feature of Transport Permit shall be as under:
   (a)Printed on Indian Banks' Association (IBA) approved Magnetic Ink Character Recognition (MICR) Code paper.
   (b) Unique Barcode.
   (c) Unique Quick Response (QR) code.
   (d) Fugitive Ink Background.
   (e) Invisible Ink Mark.
   (f) Void Pantograph.
   (g) Watermark.

2. Requirement at Mine Lease Site:
   (a) Small Size Plot (Up to 5 hectare): Android Based Smart Phone.
   (b) Large Size Plots (More than 5 hectare): CCTV camera, Personal Computer (PC), Internet Connection, Power Back up.
   (c) Access control of mine lease site.
   (d) Arrangement for weight or approximation of weight of mined out mineral on basis of volume of the trailer of vehicle used.

3. Scanning of Transport Permit or Receipt and Uploading on Server:
   (a) Website: Scanning of receipt on mining site can be done through barcode scanner and computer using the software;
   (b) Android Application: Scanning on mining site can be done using Android Application using smart phone. It will require internet availability on SIM card;
   (c) SMS: Transport Permit or Receipt shall be uploaded on server even by sending SMS through mobile. Once Transport Permit or Receipt get uploaded, an unique invoice code gets generated with its validity period.

4. Proposed working of the system:
   The State Mining Department should print the Transport Permit or Receipt with security features enumerated at Paragraph 1 above and issue them to the mine lease holder through the District Collector. Once these Transport Permits or Receipts are issued, they would be uploaded on the server against that mine lease area. Each receipt should be preferably with pre-fixed quantity, so the total quantity gets determined for the receipts issued. When the Transport Permit or Receipt barcode gets scanned and invoice is generated, that particular barcode gets used and its validity time is recorded on the server. So all the details of transporting of mined out material can be captured on the server and the Transport Permit or Receipt cannot be reused.

5. Checking on Route:
   The staff deployed for the purpose of checking of vehicles carrying mined mineral should be in a position to check the validity of Transport Permit or Receipt by scanning them using website, Android Application and SMS.

[111] Inserted vide S.O. 141(E) dated 15th January, 2016

6. Breakdown of Vehicle:
In case the Vehicle breakdown, the validity of Transport Permit or Receipt shall be extended by sending SMS by driver in specific format to report breakdown of vehicle. The server will register this information and register the breakdown. The State can also establish a call centre, which can register breakdowns of such vehicles and extend the validity period. The subsequent restart of the vehicle also should be similarly reported to the server or call centre.

7. Tracking of Vehicles:
The route of vehicle from source to destination can be tracked through the system using check points, RFID Tags, and GPS tracking.

8. Alerts or Report Generation and Action Review:
The system will enable the authorities to develop periodic report on different parameters like daily lifting report, vehicle log or history, lifting against allocation, and total lifting. The system can be used to generate auto mails or SMS. This will enable the District Collector or District Magistrate to get all the relevant details and shall enable the authority to block the scanning facility of any site found to be indulged in irregularity. Whenever any authority intercepts any vehicle transporting illegal sand, it shall get registered on the server and shall be mandatory for the officer to fill in the report on action taken. Every intercepted vehicle shall be tracked.

The monitoring of mined out mineral, environmental clearance conditions and enforcement of Environment Management Plan will be ensured by the DEIAA, SEIAA and the State Pollution Control Board or Committee. The monitoring arrangements envisaged above shall be put in place not later than three months. The monitoring of enforcement of environmental clearance conditions shall be done by the Central Pollution Control Board, Ministry of Environment, Forest and Climate Change and the agency nominated by the Ministry for the purpose.

## Appendix –XIII[112]
## Verification of No Increase in Pollution Load

The instant amendment in EIA Notification exempts the requirement of Prior Environmental Clearance for any increase in production capacity in respect of processing or production or manufacturing sectors (listed against item numbers 2,3, 4 and 5 in the Schedule to this notification) with or without any change in (i) raw material-mix or (ii) product-mix or (ii) quantities within products or (ii) number of products including new products falling in the same category or (iv) configuration of the plant or process or operations in existing area or in areas contiguous to the existing area specified in the environmental clearance of the project. This facility is available to those units which have obtained prior environmental clearance under EIA Notification, 1994 and EIA Notification, 2006. To claim exemption from obtaining Prior Environment Clearance in respect of such cases, the project proponent shall follow the following process:-

1. The project proponent is required to obtain a certificate of 'no increase in the pollution load' from the environmental auditors or reputed institutions, to be empanelled by the State Pollution Control Board or Central Pollution Control Board or Ministry of Environment, Forest and Climate Change (hereinafter referred to as the Ministry).
2. A copy of 'no increase in pollution load' certificate and intimation, as provided by the Ministry from time to time on PARIVESH portal, shall be uploaded by the unit for which system generated acknowledgement shall be issued online;
3. The unit shall inform the State Pollution Control Board or Union Territory Pollution Control Committee, as the case may be, in specified format along with-
   i. 'no increase in pollution load' certificate from the Environmental Auditor or reputed institutions empanelled by the State Pollution Control Board or Pollution Control Committee or Central Pollution Control Board or Ministry;
   ii. last Consent to Operate certificate for the project or activity; and
   iii. online system generated acknowledgement of uploading of intimation and 'no increase in pollution load' certificate on PARIVESH Portal;
4. The information so received shall be examined by the State Pollution Control Board or Union Territory Pollution Control Committee, as the case may be, who shall take decision on such information, received from the project proponent.
5. If on verification the State Pollution Control Board or Union Territory Pollution Control Committee, as the case may be, holds that the change or expansion or modernisation will result or has resulted in increase in pollution load, the exemption claimed under this clause shall not be valid and it shall be deemed that the project proponent was liable to obtain Prior Environmental Clearance before under taking such changes or increase, as per the clause (a) of sub-paragraph (ii) of paragraph 7 of this notification and the provisions of Environment (Protection) Act, 1986 shall apply accordingly.

Note: For removal of doubts, it is clarified that it shall be the responsibility of the project proponent to satisfy itself about 'no increase in pollution load' as a result of changes, expansion or modernisation, as the case may be, before under taking such changes or increase, and the project

[112] Inserted *vide* notification number S.O. 3518(E), dated the 23rd November, 2016 and subsequently substituted vide notification number S.O.980(E), dated the 2nd March, 2021

proponent shall be liable for action under the provisions of the Environment (Protection) Act, 1986 if on verification of facts or claim it is found that such change or expansion or modernisation involves increase in pollution load

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***Note:** The principal notification was published in the Gazette of India, Extraordinary, Part II, Section 3, Sub-section (ii) *vide* number S.O. 1533 (E), dated the 14th September, 2006 and subsequently amended *vide* the following numbers: -

1. S.O. 1939 (E) dated the 13th November, 2006;
2. S.O. 1737 (E) dated the 11th October, 2007;
3. S.O. 3067 (E) dated the 1st December, 2009;
4. S.O. 695 (E) dated the 4th April, 2011;
5. S.O. 156 (E) dated the 25th January, 2012;
6. S.O. 2896 (E) dated the 13th December, 2012;
7. S.O. 674 (E) dated the 13th March, 2013;
8. S.O. 2204 (E) dated the 19th July 2013;
9. S.O. 2555 (E) dated the 21st August, 2013;
10. S.O. 2559 (E) dated the 22nd August, 2013;
11. S.O. 2731 (E) dated the 9th September, 2013;
12. S.O. 562 (E) dated the 26th February, 2014;
13. S.O. 637 (E) dated the 28th February, 2014;
14. S.O. 1599 (E) dated the 25th June, 2014;
15. S.O. 2601 (E) dated the 7th October, 2014;
16. S.O. 2600 (E) dated the 9th October, 2014
17. S.O. 3252 (E) dated the 22nd December, 2014;
18. S.O. 382 (E) dated the 3rd. February, 2015;
19. S.O. 811 (E) dated the 23rd. March, 2015;
20. S.O. 996 (E) dated the 10th April, 2015;
21. S.O. 1142 (E) dated the 17th April, 2015;
22. S.O. 1141 (E) dated the 29th April, 2015;
23. S.O. 1834 (E) dated the 6th July, 2015;
24. S.O. 2571 (E) dated the 31st August, 2015;
25. S.O. 2572 (E) dated the 14th September, 2015;
26. S.O. 141 (E) dated the 15th January, 2016;
27. S.O. 190 (E) dated the 20th January, 2016;
28. S.O. 648 (E) dated the 3rd March, 2016;
29. S.O. 2269(E) dated the 1st July, 2016;
30. S.O. 3518 (E) dated 23rd November 2016;
31. S.O. 3999 (E) dated the 9th December, 2016;
32. S.O. 4241(E) dated the 30th December, 2016;
33. S.O. 3611(E) dated the 25th July, 2018;
34. S.O. 3977 (E) dated the 14th August, 2018;
35. S.O. 5733 (E) dated the 14th November, 2018;
36. S.O. 5736 (E) dated the 15th November, 2018;
37. S.O. 5845(E) dated the 26th November, 2018;
38. S.O. 6250(E), dated the 19th December, 2018
39. S.O. 345(E) dated the 17th January, 2019;

40. S.O. 1960(E) dated the 13th June, 2019;
41. S.O. 236(E) dated the 16th January, 2020; and
42. S.O. 751(E) dated the 17th February, 2020
43. S.O. 1223(E), dated the 27th March, 2020
44. S.O. 1224(E), dated the 28th March, 2020
45. S.O. 1562(E), dated the 21st May, 2020
46. S.O. 3636(E), dated the 15th October, 2020
47. S.O. 3752(E), dated the 20th October, 2020
48. S.O. 4254(E), dated the 27th November, 2020
49. S.O. 221(E), dated the 18th January, 2021
50. S.O. 908 (E), dated the 2nd March, 2021
51. S.O. 1247(E), dated the 18th March, 2021
52. S.O. 2339(E), dated the 16th June, 2021
53. S.O. 2817(E), dated the 13th July, 2021
54. S.O. 2859(E), dated the 16th July, 2021
55. S.O. 861(E), dated the 25th February, 2022
56. S.O.1807(E), dated the 12th April, 2022
57. S.O.1886(E), dated the 20th April, 2022
58. S.O.1953(E), dated the 27th April, 2022
59. S.O.2163(E), dated the 9th May, 2022
60. S.O.3194(E), dated the 14th July, 2022
61. S.O.1832(E), date the 21st April, 2023
62. S.O. 2226(E), dated the 18th May, 2023
63. S.O.3840(E) dated 30th August, 2023

**Disclaimer:** In case of any discrepancy found or noted same may be reported to the Ministry.

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ANNEXURE A-2



**(2012) 4 Supreme Court Cases 629**

(BEFORE K.S.P. RADHAKRISHNAN AND C.K. PRASAD, JJ.)

DEEPAK KUMAR AND OTHERS .. Petitioners;

*Versus*

STATE OF HARYANA AND OTHERS .. Respondents.

IAs Nos. 12-13 of 2011 in SLPs (C) Nos. 19628-29 of 2009† with SLPs (C) Nos. 729-31 of 2011, 21833 of 2009, 12498-99 of 2010, SLPs (C) Nos. CC … 16157 and 18235 of 2011, decided on February 27, 2012

A. **Environment Protection and Pollution Control — Mining — Minor minerals — Environmental impact assessment not required for mining areas of less than 5 ha — Invalidity — Mining/quarrying of minor minerals, boulders, gravel and sand in notified areas and riverbeds — Environmental consequences of — Necessary directions issued**

**— Inspection report submitted by CEC silent on serious illegal sand mining activities in rivers and prevailing degree of degradation of environment especially on riverbeds — Auction notices concerned stating that for mining leases of area less than 5 ha no environmental impact assessment clearance was required by MoEF, GoI Noti. dt. 14-9-2006 — No light thrown on question whether there has been, in fact, an attempt to flout the Noti. dt. 14-9-2006 by breaking the homogeneous area into pieces of less than 5 ha — Deep concern expressed by Supreme Court on possible adverse environmental/ecological consequences of mining leases on rivers of fragile Shivalik Hills**

**— Held, there are no materials to come to conclusion that removal of minor minerals, boulders, gravel and sand quarries, etc. covered by auction notices would not cause environmental degradation or threat to biodiversity — Auction notices were issued without conducting any study on possible environmental impact on/in riverbeds and elsewhere**

**— When faced with a situation where extraction of alluvial material within or near a riverbed has an impact on river's physical habitat characteristics it is not an answer to say that extraction is in blocks of less than 5 ha, separated by 1 km — Collective impact may be significant, therefore, necessity of a proper environmental assessment plan is not done away with — Hence, States/UTs directed that all leases of minor minerals including their renewal for an area of less than five hectares could be granted only after getting EIA (environmental impact assessment) clearance from MoEF, GoI — Recommendation issued to States to prepare "comprehensive mines plan" for contiguous stretches of mineral deposits to be suitably incorporated in Mineral Concession Rules, 1960 by Ministry of Mines, GoI — Constitution of India — Arts. 21, 48-A and 51-A(g) — Minor Minerals Conservation and Development Rules, 2010 — Mines and Minerals (Development and Regulation) Act, 1957, Ss. 3(e), 70 and 15**

**(Paras 3, 4, 8 to 15 and 20 to 29)**

† From the Judgment and Order dated 15-5-2009 of the High Court of Punjab and Haryana at Chandigarh in CWPs Nos. 20134 of 2004 and 4758 of 2008

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B. **Environment Protection and Pollution Control — Mining — Effective mining plan framework — Necessity of — Recommendations issued by MoEF, Government of India and Model Rules, 2010 framed by Ministry of Mines, GoI — Non-implementation of, by States and UTs — Directions issued — Held, all States', UTs' MoEFs and Ministries of Mines directed to give effect to recommendations of MoEF, GoI and model guidelines within a period of six months from date of this order and to submit their compliance reports — Central Government also directed to take steps to bring into force Minor Minerals Conservation and Development Rules, 2010 at the earliest — Directions issued to State Governments and UTs to take immediate steps to frame necessary rules under S. 15 of Mines and Minerals (Development and Regulation) Act, 1957 — Further directions passed — Mines and Minerals (Development and Regulation) Act, 1957, S. 15 (Paras 22 to 29)**

B-D/49566/C

Advocates who appeared in this case :

Mohan Jain, Additional Solicitor General, Narender Hooda, Senior Additional Advocate General, Dr Manish Singhvi, Additional Advocate General, P.S. Narasimha, Gopal Subramanium, Ranjit Kumar, P.S. Patwalia and Ranbir Chandra, Senior Advocates [Gaurav Agarwal, K. Parmeswar, Haris Beeran, P.K. Manohar, V. Venayagam Balan, Shish Pal Laler, N.P. Midha, Balbir Singh Gupta, D.K. Thakur, B.K. Prasad, S.N. Terdal, Shivendra Dwivedi, Tarjit Singh, Manjit Singh (for Kamal Mohan Gupta), Aseem Mehrotra, Mohd. F. Khan, Ms Shefai Jain, R.P. Singh, Shree Pal Singh, Devashish Bharuka, Radhashyam Jena, Tapesh Kr. Singh, Samir Ali Khan, Jitender Mohan Sharma, Sandeep Singh, Vibhor Verdhan, Sameer Singh, Mohit Kr. Shah, Ashutosh Singh, Devanshu K. Devesh, Irshad Ahmad, Sarvesh Singh, A. Benayagamblan, Manish Pitale, Wasi Haider, C.S. Ashri, Ms Asha G. Nair, Sanand Ramakrishnan, Ms Meena C.R., M/s Karanjawala & Co., Prakash Kr. Singh, Vijay Panjwani, Ms Anitha Shenoy, Ms Vibha Datta Makhija, D.S. Mahra, Ms H. Wahi, D.K. Sinha, Milind Kumar, Krishananand Pandey, Kamlendra Mishra, Ms Rachana Srivastava, B.S. Banthia, Gopal Singh, Anil Srivastava, M/s Corporate Law Group, T.V. George, Naresh K. Sharma, Prashant Bhushan, Shibashish Misra, Ms Prerna Mehta, S.M. Jadhav, Shiv Kr. Suri, G. Prakash, E.M.S. Anam, Subhro Sanyal, Himinder Lal, Moinuddin Ansari, L.R. Singh, C.D. Singh, Ms Lalitha Kaushik, K.S. Bhati, Neeraj Shekhar, Ms Sumita Hazarika, M/s Suresh A. Shroff & Co., S. Prasad, M/s Khaitan & Co., Ms Pragati Neekhra, Naresh K. Sharma, R. Nedumaran, K.K. Mani, Ms Srikala Gurukrishna Kumar, S. Srinivasan, Prashant Kumar, L.K. Pandey, Shiv Prakash Pandey, Ms Sangeeta Kumar, Nikhil Nayyar, V. Ramasubramanian, Pratap Venugopal, Ms Namrata Sood (for M/s K.J. John & Co.), R. Ayyam Perumal, Ms Prabha Swami, M.A. Chinnasamy, C.N. Sreekumar, Naveen R. Nath, Ms Revathy Raghavan, L.C. Agrawala and Ashwani Bhardwaj, Advocates] for the appearing parties.

The Order of the Court was delivered by

**K.S.P. RADHAKRISHNAN, J.**— IAs Nos. 12-13 of 2011 are allowed. SLPs (C) Nos. 12498-99 of 2010 be detagged and be listed after two weeks.

**2.** The Department of Mines and Geology, Government of Haryana issued an auction notice dated 3-6-2011 proposing to auction the extraction of minor minerals, boulders, gravel and sand quarries of an area not exceeding 4.5 ha in each case in the district of Panchkula, auction notices

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dated 8-8-2011 in the districts of Panchkula, Ambala and Yamuna Nagar exceeding 5 ha and above, quarrying minor mineral, road metal and masonry stone mines in the district of Bhiwani, stone and sand mines in the district of Mohindergarh, slate stone mines in the district of Rewari, and also in the districts of Kurukshetra, Karnal, Faridabad and Palwal, with certain restrictions for quarrying in the riverbeds of Yamuna, Tangri, Markanda, Ghaggar, Krishnavati River basin, Dohan River basin, etc. The validity of those auction notices is under challenge before us, apart from the complaint of illegal mining going on in the States of Rajasthan and Uttar Pradesh.

**3.** When the matter came up for hearing on 25-11-2011, we passed an order directing the CEC to make a local inspection with intimation to MoEF, the States of U.P., Rajasthan and Haryana with regard to the alleged illegal mining going on in the States of Uttar Pradesh, Rajasthan and also with regard to the areas identified for mining in the State of Haryana and submit a report. We also directed the CEC to examine whether there has been an attempt to flout EIA Notification dated 14-9-2006 by breaking the homogeneous area into pieces of less than 5 ha. CEC was also directed to examine whether the activities going on in that area have any adverse environmental impact.

**4.** CEC, in response to our order, submitted a detailed report on 4-1-2012. However, the report is silent with regard to the disturbing trend of serious illegal and unrestricted upstream, instream and flood plain sand mining activities and the prevailing degree of degradation of the sites and the environment, especially on the riverbeds mentioned earlier. The report of CEC however states that the auction notice also refers to mining leases of less than 5 ha and hence no environmental clearance need be obtained as per the MoEF Notification dated 14-9-2006. No light is also thrown on the question whether there has been, in fact, an attempt to flout the Notification dated 14-9-2006 by breaking the homogeneous area into pieces of less than 5 ha and the possible environmental or ecological impact on quarrying of minor minerals.

**5.** Mr Patwalia, learned Senior Counsel appearing for the petitioners, submitted that the CEC report is silent about those aspects and also whether 1 km distance has been maintained between the mining blocks of less than 5 ha. The learned counsel also submitted that mining areas earmarked are at the foothills of fragile Himalayan ranges known as Shivalik Hills, which are spread over the districts of Panchkula, Ambala and Yamuna Nagar and the illegal and excessive mining has caused serious environmental degradation and ecological impact, and no environmental impact assessment has ever taken place in areas earmarked for mining especially on the riverbeds.

**6.** Shri Gopal Subramanium, learned Senior Counsel appearing for the State of Haryana, submitted that the State has taken adequate and effective precautions to maintain 1 km separation between mining blocks of less than 5 ha each and that the auction notice dated 3-6-2011 itself has imposed strict restrictions on quarrying in the riverbeds so also the auction notice dated

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8-8-2011. Further, it was pointed out that the Notification dated 14-9-2006 would not apply for quarrying minor minerals from areas of less than 5 ha and therefore, no environmental impact assessment needs to be undertaken either at the instance of the State Government or the project proponent.

**7.** Shri Mohan Jain, learned Additional Solicitor General, appearing for MoEF submitted that the grant or allotment of mining licence/lease of smaller plots of less than five hectares should not be encouraged from the environmental point of view and that the applicability of EIA Notification of 2006, has to be seen in its letter and spirit so as to ensure environmental safeguards in place and implemented for sustainable mining. The learned counsel also assured, if environmental clearance is sought for covering a mining area of less than five hectares, the same shall be immediately attended to and necessary clearance would be granted in accordance with law.

**8.** We have no materials before us to come to the conclusion that the removal of minor minerals, boulders, gravel, sand quarries, etc. covered by the auction notices dated 3-6-2011 and 8-8-2011, in the places notified therein and also in the riverbeds of Yamuna, Ghaggar, Tangri, Markanda, Krishnavati River basin, Dohan River basin, etc. would not cause environmental degradation or threat to the biodiversity, destroy riverine vegetation, cause erosion, pollute water sources, etc. Sand mining on either side of the rivers, upstream and instream, is one of the causes for environmental degradation and also a threat to the biodiversity. Over the years, India's rivers and riparian ecology have been badly affected by the alarming rate of unrestricted sand mining which damage the ecosystem of rivers and the safety of bridges, weakening of riverbeds, destruction of natural habitats of organisms living on the riverbeds, affects fish breeding and migration, spells disaster for the conservation of many bird species, increases saline water in the rivers, etc.

**9.** Extraction of alluvial material from within or near a streambed has a direct impact on the stream's physical habitat characteristics. These characteristics include bed elevation, substrate composition and stability, instream roughness elements, depth, velocity, turbidity, sediment transport, stream discharge and temperature. Altering these habitat characteristics can have deleterious impacts on both instream biota and the associated riparian habitat. The demand for sand continues to increase day by day as building and construction of new infrastructures and expansion of existing ones is continuous thereby placing immense pressure on the supply of the sand resource and hence mining activities are going on legally and illegally without any restrictions. Lack of proper planning and sand management cause disturbance of marine ecosystem and also upset the ability of natural marine processes to replenish the sand.

**10.** We are expressing our deep concern since we are faced with a situation where the auction notices dated 3-6-2011 and 8-8-2011 have permitted quarrying, mining and removal of sand from instream and upstream of several rivers, which may have serious environmental impact on

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ephemeral, seasonal and perennial rivers and riverbeds and sand extraction may have an adverse effect on biodiversity as well. Further, it may also lead to bed degradation and sedimentation having a negative effect on the aquatic life. The rivers mentioned in the auction notices are on the foothills of the fragile Shivalik Hills. Shivalik Hills are the source of rivers like Ghaggar, Tangri, Markanda, etc. River Ghaggar is a seasonal river which rises up in the outer Himalayas between Yamuna and Satluj and enters Haryana near Pinjore, District Panchkula, which passes through Ambala and Hissar and reaches Bikaner in Rajasthan. River Markanda is also a seasonal river like Ghaggar, which also originates from the lower Shivalik Hills and enters Haryana near Ambala. During monsoon, this stream swells up into a raging torrent, notorious for its devastating power, as also, River Yamuna.

**11.** We find that it is without conducting any study on the possible environmental impact on/in the riverbeds and elsewhere the auction notices have been issued. We are of the considered view that when we are faced with a situation where extraction of alluvial material within or near a riverbed has an impact on the river's physical habitat characteristics, like river stability, flood risk, environmental degradation, loss of habitat, decline in biodiversity, it is not an answer to say that the extraction is in blocks of less than 5 ha, separated by 1 km, because their collective impact may be significant, hence the necessity of a proper environmental assessment plan.

**12.** Possibly this may be the reason that in the affidavit filed by MoEF on 23-11-2011 along with Annexure 2, report, the following stand has been taken:

> "The Ministry is of the opinion that where the mining area is homogenous, physically proximate and on identifiable piece of land of 5 ha or more, it should not be broken into smaller sizes to circumvent the EIA Notification, 2006 as the EIA Notification, 2006 is not applicable to the mining projects having lease area of less than 5 ha. The report of the Committee on Minor Minerals, under the Chairmanship of the Secretary (Environment & Forests) with representatives of various State Governments as members including the States of Haryana and Rajasthan recommended a minimum lease size of 5 ha for minor minerals for undertaking scientific mining for the purpose of integrating and addressing environmental concerns. Only in cases of isolated discontinued mineral deposits in less than 5 ha, such mining leases may be considered keeping in view the mineral conservation."

**13.** Situations referred to earlier prevail not only in the State of Haryana but also in the neighbouring and other States of the country as well and those issues had come up for serious deliberations before the Government of India, on various occasions.

**14.** The Government of India was receiving various reports regarding the adverse impacts on riverbeds and groundwater due to quarrying/mining of minerals. The Mines and Minerals (Development and Regulation) Act, 1957 empowers the State Governments to make rules in respect of minor minerals.

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It was noticed that proposals for mining of major minerals typically undergo environmental impact assessment and environmental clearance procedure, but due attention has not been given to environmental aspects of mining of minor minerals. Environmental Impact Assessment Notification of 1994 did not apply to the mining of minor minerals, noticing that minor minerals were brought under the ambit of the Environmental Impact Assessment Notification of 2006 and as per the said notification mining of minerals with a lease area of 5 ha and above require prior environmental clearance.

**15.** MoEF's attention was drawn to several instances across the country regarding damage to lakes, riverbeds and groundwater leading to drying up of waterbeds and causing water scarcity on account of quarry/mining leases and mineral concessions granted under the Mineral Concession Rules framed by the State Governments under Section 15 of the Mines and Minerals (Development and Regulation) Act, 1957. MoEF noticed that less attention was given on environmental aspects of mining of minor minerals since the area was small, but it was noticed that the collective impact in a particular area over a period of time might be significant. Taking note of those aspects, MoEF constituted a Core Group under the Chairmanship of the Secretary (Environment & Forests) to look into the environmental aspects associated with mining of minor minerals, vide its Order dated 24-3-2009.

**16.** The terms of reference to the Core Group were as under:

(*i*) To consider the environmental aspects of mining of minor minerals (quarrying as well as riverbed mining) for their integration into the mining process.

(*ii*) Specific safeguard measures required to minimise the likely adverse impacts of mining on environment with specific reference to impact on water bodies as well as groundwater so as to ensure sustainable mining.

(*iii*) To evolve model guidelines so as to address mining as well as environmental concerns in a balanced manner for their adoption and implementation by all the mineral-producing States.

**17.** The Core Group held its first meeting on 7-7-2009 and discussed the impact that may be caused by quarrying/mining of minor minerals on riverbeds and groundwaters. It was noticed that individual mines of minor minerals being small in size may have insignificant impact, however, their collective impacts, taking into consideration various mines on a regional scale, is significantly adverse. It was, therefore, felt necessary to consider various aspects since appropriate guidelines have to be issued on the basis of the report of the Committee. The issues which were brought up for consideration were; (*i*) the need to relook the definition of minor mineral, (*ii*) minimum size of lease for adopting eco-friendly scientific mining practices, (*iii*) period of lease, (*iv*) cluster of mine approach for addressing and implementing EMP in case of small mines, (*v*) depth of mining to minimise adverse impact on hydrological regime, (*vi*) requirement of mine plan for minor minerals, similar to major minerals, and (*vii*) reclamation of mined out area, post mine land use, progressive mine closure plan, etc.

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**18.** Comments and inputs from various States and experts were also invited so as to prepare a report for consideration of MoEF. Based on the discussion held and subsequent inputs received, a draft report was prepared and circulated to all members for their further inputs. The report was further discussed on 29-1-2010 for its finalisation. The observations/comments made during the meeting were incorporated in the report and it was again circulated to all members for their consideration. The report so circulated was ultimately finalised. The decision taken by MoEF affects generally the mining of minor minerals including the riverbed mining throughout the country.

**19.** For an easy reference, we may extract the issues and recommendations made by MoEF, which are as follows:

"**4.0.** ***Issues and recommendations***

**4.1.** *Definition of minor mineral*

The term 'minor mineral' is defined in clause (*e*) of Section 3 of the MMDR Act, 1957 as:

> '**3. (*e*) "minor minerals"** means building stones, gravel, ordinary clay, ordinary sand other than sand used for prescribed purposes, and any other mineral which the Central Government may, by notification in the Official Gazette declare to be a minor mineral;'

The term 'ordinary sand' used in clause (*e*) of Section 3 of the MMDR Act, 1957 has been further clarified in Rule 70 of the MCR, 1960 as:

> '**70.** ***Sand not be treated as minor mineral when used for certain purpose***.—Sand shall not be treated as a minor mineral when used for any of the following purposes, namely:
>
> (*i*) purpose of refractory and manufacture of ceramic;
>
> (*ii*) metallurgical purposes;
>
> (*iii*) optical purposes;
>
> (*iv*) purposes of stowing in coal mines;
>
> (*v*) for manufacture of silvicrete cement;
>
> (*vi*) manufacture of sodium silicate; and
>
> (*vii*) for manufacture of pottery and glass.'

Additionally, the Central Government has declared the following minerals as minor minerals: (*i*) boulder, (*ii*) shingle, (*iii*) chalcedony pebbles used for ball mill purposes only, (*iv*) limeshell, kankar and limestone used in kilns for manufacture of lime used as building material, (*v*) murrum, (*vi*) brick-earth, (*vii*) fuller's earth, (*viii*) bentonite, (*ix*) road metal, (*x*) reh-matti, (*xi*) slate and shale when used for building material, (*xii*) marble, (*xiii*) stone used for making household utensils, (*xiv*) quartzite and sandstone when used for purposes of building or for making road metal and household utensils, (*xv*) saltpetre and (*xvi*) ordinary earth (used for filling or levelling purposes in construction or embankments, roads, railways building).

It may thus be observed that minerals have been classified into major and minor minerals based on their end use rather than level of

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production, level of mechanisation, export and import, etc. There do exist some minor mineral mines of silica sand and limestone where the scale of mechanisation and level of production is much higher than those of industrial mineral mines. Further, in terms of the economic cost and revenue, it has been estimated that the total value of minor minerals constitutes about 10% of the total value of mineral production whereas the value of non-metallic minerals comprises only 3%. It is, therefore, evident that the operation of mines of minor minerals need to be subject to some regulatory parameters as that of mines of major minerals.

Further, unlike India there does not exist any such system based on end usage in other countries for classifying minerals into major and minor categories. Thus, there is a need to relook at the definition of 'minor minerals' per se.

*It is, therefore, recommended that the Ministry of Mines along with Indian Bureau of Mines, in consultation with the State Governments may re-examine the classification of minerals into major and minor categories so that the regulatory aspects and environment mitigation measures are appropriately integrated for ensuring sustainable and scientific mining with least impacts on environment.*

**4.2.** *Size of the mine lease*

Area for grant of mine lease varies from State to State. Maximum area which can be held under one or more mine lease is 2590 ha or 25.90 sq miles in Jammu and Kashmir. Rajasthan prescribed a minimum limit of 1 ha for a lease. Maximum area prescribed for permit is 50 × 50 m. In most of the States area of permit is not specified in the Rules. It has recently been observed by the Punjab and Haryana High Court in its order dated 15-5-2009 that the State Government apparently granting short-term permits by dividing the mining area into small zones in effect avoids environmental norms.

There is, thus a need to bring uniformity in the extent of area to be granted for mine lease so as to ensure that eco-friendly scientific mining practices can be adopted. *It is recommended that the minimum size of mine lease should be 5 ha. Further, preparation of comprehensive mine plan for contiguous stretches of mineral deposits by the respective State Governments may also be encouraged. This may suitably be incorporated in the Mineral Concession Rules, 1960 by the Ministry of Mines.*

**4.3.** *Period of mine lease*

The period of lease varies from State to State depending on type of concessions, minerals and its end use. The minimum lease period is one year and maximum 30 years. Minerals like granite where huge investments are required, a period of 20 years is generally given with the provisions of renewal. Permits are generally granted for short periods which vary from one month to a maximum of one year. In States like Haryana, minor mineral leases are auctioned for a particular time period. Mining is considered to be capital intensive industry and considerable time is lost for developing the mine before it attains the status of fully developed mine. If the tenure of the mine lease is short, it would encourage the lessee to concentrate more on rapid exploitation of

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mineral without really undertaking adequate measures for reclamation and rehabilitation of mined out area, posing thereby a serious threat to the environment and health of the workers and public at large.

a

There is thus, a need to bring uniformity in the period of lease. *It is recommended that a minimum period of mine lease should be 5 years, so that eco-friendly, scientific and sustainable mining practices are adopted. However, under exceptional circumstances arising due to judicial interventions, short-term mining leases/contracts could be granted to the State Agencies to meet the situation arising therefrom.*

b

**4.4.** *Cluster of mine approach for small-sized mines*

Considering the nature of occurrence of minor mineral, economic condition of the lessee and the likely difficulties to be faced by Regulatory Authorities in monitoring the environmental impacts and implementation of necessary mitigation measures, *it may be desirable to adopt cluster approach in case of smaller mine leases being operated*

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*presently. Further, these clusters need be provided with processing/ crusher zones for forward integration and minimising excessive pressure on road infrastructure. The respective State Governments/mine owners' associations may facilitate implementation of Environment Management Plans in such cluster of mines.*

**4.5.** *Requirement of mine plan for minor minerals*

d

At present, most of the State Governments have not made it mandatory for preparation of mining plan in respect of minor minerals. In some States like Rajasthan, eco-friendly mining plans are prepared, which are approved by the State Mining Department. The eco-friendly mining plans so prepared, though conceptually welcome, are observed to be deficient and need to be made comprehensive in a manner as is being done for major minerals. Besides, the aspects of reclamation and

e

rehabilitation of mined out areas, progressive mine closure plan, as in vogue for major minerals could be introduced for minor minerals as well.

*It is recommended that provision for preparation and approval of mine plan, as in the case of major minerals may appropriately be provided in the rules governing the mining of minor minerals by the*

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*respective State Governments. These should specifically include the provision for reclamation and rehabilitation of mined out area, progressive mine closure plan and post mine land use.*

**4.6.** *Creation of separate corpus for reclamation/rehabilitation of mines of minor minerals*

Mining of minor minerals, in our country, is by and large an

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unorganised sector and is practised in haphazard and unscientific manner. At times, the size of the leasehold is also too small to address the issue of reclamation and rehabilitation of mined out areas. It may, therefore, be desirable that before the concept of mine closure plan for minor minerals is adopted, the existing abandoned mines may be reclaimed and rehabilitated with the involvement of the State Government. *There is thus, a need to create a separate corpus, which*

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*may be utilised for reclamation and rehabilitation of mined out areas. The respective State Governments may work out a suitable mechanism*

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*for creation of such corpus on the 'polluter pays' principle. An organisational structure may also need to be created for undertaking and monitoring these activities.*

**4.7.** *Depth of mining*

Mining of minerals, whether major or minor have a direct bearing on the hydrological regime of the area. Besides affecting the availability of water as a resource, it also affects the quality of water through direct run of going into the surface water bodies and infiltration/leaching into groundwater. Further, groundwater withdrawal, dewatering of water from mine-pit and diversion of surface water may cause surface and subsurface hydrologic systems to dry up. An ideal situation would require that quarrying should be restricted to unsaturated zone only above the phreatic water table and should not intersect the groundwater table at any point of time. However, from the point of view of mineral conservation, it may not be desirable to impose blanket ban on mining operation below groundwater table.

*It is, therefore, recommended that detailed hydrogeological report should be prepared in respect of any mining operation for minor minerals to be undertaken below groundwater table. Based on the findings of the study so undertaken and the comments/recommendations of the Central Groundwater Authority/State Groundwater Board, a decision regarding restriction on depth of mining for any area should be taken on case-to-case basis.*

**4.8.** *Uniform minor mineral concession rules*

The economic value of the minor minerals excavated in the country is estimated to contribute to about 9% of the total value of the minerals whereas the non-metallic minerals contribute to about 2.8%. Keeping in view the large extent of mining of minor minerals and its significant potential to adversely affect the environment, it is *recommended that model mineral concession rules may be framed for minor minerals as well and the minor minerals may be subjected to a simpler regulatory regime, which is, however, similar to major minerals regime.*

**4.9.** *Riverbed mining*

4.9.1. Environment damage being caused by unregulated riverbed mining of sand, bazari and boulders is attracting considerable attention including in the courts. The following recommendations are therefore made for the riverbed mining:

(*a*) *In the case of mining leases for riverbed sand mining, specific river stretches should be identified and mining permits/lease should be granted stretchwise, so that the requisite safeguard measures are duly implemented and are effectively monitored by the respective Regulatory Authorities.*

(*b*) *The depth of mining may be restricted to 3m/water level, whichever is less.*

(*c*) *For carrying out mining in proximity to any bridge and/or embankment, appropriate safety zone should be worked out on case-to-case basis, taking into account the structural parameters, locational aspects, flow rate, etc. and no mining should be carried out in the safety zone so worked out.*

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**5.0.** *Conclusion*

Mining of minor minerals, though individually, because of smaller size of mine leases is perceived to have lesser impact as compared to mining of major minerals. However, the activity as a whole is seen to have significant adverse impacts on environment. It is, therefore, necessary that the mining of minor minerals is subjected to simpler but strict regulatory regime and *carried out only under an approved framework of mining plan, which should provide for reclamation and rehabilitation of the mined out areas. Further, while granting mining leases by the respective State Governments location of any eco-fragile zone(s) within the impact zone of the proposed mining area, the linked rules/notifications governing such zones and the judicial pronouncements, if any, need be duly noted.* The Union Ministry of Mines along with the Indian Bureau of Mines and respective State Governments should therefore make necessary provisions in this regard under the Mines and Minerals (Development and Regulation) Act, 1957, Mineral Concession Rules, 1960 and adopt model guidelines to be followed by all States." (emphasis supplied)

**20.** The Report clearly indicates that operation of mines of minor minerals needs to be subjected to strict regulatory parameters as that of mines of major minerals. It was also felt necessary to have a relook to the definition of "minor minerals" per se. The necessity of the preparation of "comprehensive mines plan" for contiguous stretches of mineral deposits by the respective State Governments may also be encouraged and the same be suitably incorporated in the Mineral Concession Rules, 1960 by the Ministry of Mines.

**21.** Further, it was also recommended that the States, Union Territories would see that mining of minor minerals is subjected to simpler but strict regulatory regime and carried out only under an *approved framework of mining plan*, which should provide for *reclamation and rehabilitation* of mined out areas. Mining plan should take note of the level of production, level of mechanisation, type of machinery used in the mining of minor minerals, quantity of diesel consumption, the number of trees uprooted, export and import of mining minerals, environmental impact, restoration of flora and host of other matters referred to in the 2010 Rules. A proper framework has also to be evolved on cluster of mining of minor minerals for which there must be a *Regional Environmental Management Plan*. Another important decision taken was that while granting of mining leases by the respective State Governments, *location of any eco-fragile zone(s)* within the *impact zone* of the proposed mining area, the linked rules/notifications governing such zones and the judicial pronouncements, if any, need to be duly noted.

**22.** The Minister for (Environment and Forests) wrote DO Letter dated 1-6-2010 to all the Chief Ministers of the States to examine the Report and to issue necessary instructions for incorporating the recommendations made in the Report in the Mineral Concession Rules for mining of minor minerals

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under Section 15 of the Mines and Mineral (Development and Regulation) Act, 1957. Following are the key recommendations reiterated in the letter:

"(*1*) Minimum size of mine lease should be 5 ha.

(*2*) Minimum period of mine lease should be 5 years.

(*3*) A cluster approach to mines should be taken in case of smaller mine leases operating currently.

(*4*) Mine plans should be made mandatory for minor minerals as well.

(*5*) A separate corpus should be created for reclamation and rehabilitation of mined out areas.

(*6*) Hydrogeological reports should be prepared for mining proposed below groundwater table.

(*7*) For riverbed mining, leases should be granted stretchwise, depth may be restricted to 3m/water level, whichever is less, and safety zones should be worked out.

(*8*) The present classification of minerals into major and minor categories should be re-examined by the Ministry of Mines in consultation with the States."

**23.** The Ministry of Mines, Government of India sent Communication No. 296/7/2000/MRC dated 16-5-2011 called "Environmental Aspects of Quarrying and of Minor Minerals—Evolving of Model Guidelines" along with a draft model guidelines calling for inputs before 30-6-2011. Draft rules called Minor Minerals Conservation and Development Rules, 2010 were also put on the website. Further, it may be noted that Section 15(1-A)(*i*) of the Act specifies:

"**15. (1-A)(*i*)** the manner in which rehabilitation of flora and other vegetation such as trees, shrubs and the like destroyed by reason of any quarrying or mining operations shall be made in the same area or in any other area [once] selected by the State Government (whether by way of reimbursement of the cost of rehabilitation or otherwise) by the person holding the quarrying or mining lease;"

**24.** We are of the view that all State Governments/Union Territories have to give due weight to the abovementioned recommendations of MoEF which are made in consultation with all the State Governments and Union Territories. The Model Rules of 2010 issued by the Ministry of Mines are very vital from the environmental, ecological and biodiversity point of view and therefore the State Governments have to frame proper rules in accordance with the recommendations, under Section 15 of the Mines and Minerals (Development and Regulation) Act, 1957.

**25.** Quarrying of river sand, it is true, is an important economic activity in the country with river sand forming a crucial raw material for the infrastructural development and for the construction industry but excessive instream sand and gravel mining causes the degradation of rivers. Instream mining lowers the stream bottom of rivers which may lead to bank erosion. Depletion of sand in the streambed and along coastal areas causes the

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deepening of rivers which may result in destruction of aquatic and riparian habitats as well. Extraction of alluvial material as already mentioned from within or near a streambed has a direct impact on the stream's physical habitat characteristics.

**26.** We are of the considered view that it is highly necessary to have an effective framework of mining plan which will take care of all environmental issues and also evolve a long-term rational and sustainable use of natural resource base and also the bio-assessment protocol. Sand mining, it may be noted, may have an adverse effect on biodiversity as loss of habitat caused by sand mining will affect various species, flora and fauna and it may also destabilise the soil structure of river banks and often leaves isolated islands. We find that, taking note of those technical, scientific and environmental matters, MoEF, Government of India, issued various recommendations in March 2010 followed by the Model Rules, 2010 framed by the Ministry of Mines which have to be given effect to, inculcating the spirit of Article 48-A and Article 51-A(*g*) read with Article 21 of the Constitution.

**27.** The State of Haryana and various other States have not so far implemented the above recommendations of MoEF or the guidelines issued by the Ministry of Mines before issuing auction notices granting short-term permits by way of auction of minor minerals boulders, gravel, sand, etc., in the riverbeds and elsewhere of less than 5 ha. We, therefore, direct all the States, Union Territories, MoEF and the Ministry of Mines to give effect to the recommendations made by MoEF in its Report of March 2010 and the model guidelines framed by the Ministry of Mines, within a period of six months from today and submit their compliance reports.

**28.** The Central Government also should take steps to bring into force the Minor Minerals Conservation and Development Rules, 2010 at the earliest. The State Governments and UTs also should take immediate steps to frame necessary rules under Section 15 of the Mines and Minerals (Development and Regulation) Act, 1957 taking into consideration the recommendations of MoEF in its Report of March 2010 and model guidelines framed by the Ministry of Mines, Government of India. Communicate the copy of this order to MoEF, Secretary, Ministry of Mines, New Delhi; Ministry of Water Resources, Central Government Water Authority; the Chief Secretaries of the respective States and Union Territories, who would circulate this order to the Departments concerned.

**29.** We, in the meanwhile, order that leases of minor minerals including their renewal for an area of less than five hectares be granted by the States/ Union Territories only after getting environmental clearance from MoEF. Ordered accordingly.

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ANNEXURE A-3

10 का.आ. 562(अ) तारीख 26 फ़रवरी 2014;

11. का.आ. 637(अ) तारीख 28 फ़रवरी 2014;

12. का.आ. 1599(अ) तारीख 25 जून 2014;

13. का.आ. 2601(अ) तारीख 7 अक्टूबर 2014;

14. का.आ. 2600(अ) तारीख 9 अक्टूबर 2014

15. का.आ. 3252(अ) तारीख 22 दिसम्बर 2014;

16. का.आ. 382(अ) तारीख 3 फरवरी, 2015;

17. का.आ. 811(अ) तारीख 23 मार्च, 2015;

18. का.आ. 996(अ) तारीख 10 अप्रैल 2015;

19. का.आ. 1142(अ) तारीख 17 अप्रैल 2015;

20. का.आ. 1141(अ) तारीख 29 अप्रैल 2015;

21. का.आ. 1834(अ) तारीख 6 जुलाई 2015;

## MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

## NOTIFICATION

New Delhi, the 15th January, 2016

**S.O. 141(E).—**Whereas in exercise of the powers conferred by sub-section (1) and clause (v) of sub-section (2) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986), a draft notification for making certain amendments in the Environment Impact Assessment Notification, 2006, issued *vide* number S.O. 1533(E), dated the 14th September 2006, was published under sub-rule (3) of rule (5) of the Environment (Protection) Rules, 1986, vide number S.O. 2588(E ), dated 22nd September, 2015, inviting objections and suggestions from all persons likely to be affected thereby, within a period of sixty days from the date of publication on which copies of Gazette containing the said notification were available to the public;

And whereas, copies of said notification were made available to the public on 22nd September 2015;

And whereas, all objections and suggestions received in response to the above mentioned draft notification have been duly considered by the Central Government;

And whereas, in pursuance to the order of Hon'ble Supreme Court dated the 27th February, 2012 in I.A. No.12-13 of 2011 in Special Leave Petition (C) No.19628-19629 of 2009, in the matter of Deepak Kumar etc. Vs. State of Haryana and Others etc., prior environmental clearance has now become mandatory for mining of minor minerals irrespective of the area of mining lease;

And whereas, as a result of the above said Order of Hon'ble Supreme Court, the number of cases which are now required to obtain prior environmental clearance has increased substantially;

And whereas, the Hon'ble National Green Tribunal, *vide* its order dated the 13th January, 2015 in the matter regarding sand mining has directed for making a policy on environmental clearance for mining leases in cluster for minor minerals;

And whereas, the State Governments have represented for streamlining the process of environmental clearance for mining of minor mineral;

And whereas, the Ministry of Environment, Forest and Climate Change in consultation with State Governments has prepared Guidelines on Sustainable Sand Mining detailing the provisions on environmental clearance for cluster, creation of District Environment Impact Assessment Authority and proper monitoring of sand mining using information technology and information technology enabled services to track the mined out material from source to destination;

Now, therefore, in exercise of the powers conferred by sub-section (1) and clause (v) of sub-section (2) of section 3 of the Environment (Protection) Act, 1986 read with clause (d) of sub-rule (3) of rule 5 of the Environment (Protection) Rules, 1986, the Central Government hereby makes the following amendments in the said notification, namely:-

**In the said notification**,-

**(a)** in paragraph 2, after the words "in the said Schedule", the following words shall be inserted, namely:-

"and at District level, the District Environment Impact Assessment Authority (DEIAA) for matters falling under Category 'B2' for mining of minor minerals in the said Schedule";

**(b)** after paragraph 3, the following paragraph shall be inserted, namely:-

**"3 A. District Level Environment Impact Assessment Authority:-**

(1) A District Level Environment Impact Assessment Authority hereinafter referred to as the DEIAA shall be constituted by the Central Government under sub-section (3) of section 3 of the Environment (Protection) Act, 1986 comprising of four members including a Chairperson and a Member-Secretary.

(2) The District Magistrate or District Collector shall be the Chairperson of the DEIAA.

(3) The Sub-Divisional Magistrate or Sub-Divisional Officer of the district head quarter of the concerned district of the State shall be the Member-Secretary of the DEIAA.

(4) The other two members of the DEIAA shall be the senior most Divisional Forest Officer and one expert. The expert shall be nominated by the Divisional Commissioner of the Division or Chief Conservator of Forest, as the case may be. The term and qualifications of the expert fulfilling the eligibility criteria are given in Appendix VII to this notification.

(5) The members of the DEIAA who are serving officers of the concerned State Government or the Union territory Administration shall be *ex-officio* members except the expert member.

(6) The District Level Expert Appraisal Committee hereinafter referred to as the DEAC shall comprise of eleven members, including a Chairman and a Member-Secretary.

(7) The senior most Executive Engineer, Irrigation Department in the district of respective State Governments or Union territory Administration shall be the Chairperson of the DEAC.

(8) The Assistant Director or Deputy Director of the Department of Mines and Geology or District Mines Officer or Geologist of the district shall be the Member-Secretary of the DEAC in that order.

(9) A representative of the State Pollution Control Board or Committee, senior most Sub-Divisional Officer (Forest) in the district, representative of Remote Sensing Department or Geology Department or State Ground Water Department, one occupational health expert or Medical Officer to be nominated by the District Magistrate or District Collector, Engineer from Zila Parishad, and three expert members to be nominated by the Divisional Commissioner or Chief Conservator of Forest, as the case may be, shall be the other members of the DEAC. The term and qualifications of the experts fulfilling the eligibility criteria are given in Appendix VII to this notification.

(10) The members of the DEAC who are serving officers of the concerned State Government or the Union territory Administration shall be *ex-officio* members except the expert members.

(11) The District Magistrate or District Collector shall notify an agency to act as Secretariat for the DEIAA and the DEAC and shall provide all financial and logistic support for their statutory functions.

(12) The DEIAA and DEAC shall exercise the powers and follow the procedure as specified in the said notification, as amended from time to time.

(13) The DEAC shall function on the principle of collective responsibility and the Chairman shall endeavor to reach a consensus in each case and if consensus cannot be reached, the view of the majority shall prevail. ";

**(c)** in paragraph 4, after sub-paragraph (iii), the following sub-paragraph shall be inserted, namely:-

"(iv) The 'B2' Category projects pertaining to mining of minor mineral of lease area less than or equal to five hectare shall require prior environmental clearance from DEIAA. The DEIAA shall base its decision on the recommendations of DEAC, as constituted for this notification." ;

**(d)** for paragraph 5, the following paragraph shall be substituted, namely:-

**"5. Screening, Scoping and Appraisal Committees:-**

The same Expert Appraisal Committees (EACs) at the Central Government, SEACs at the State or Union territory level and DEAC at the district level shall screen, scope and appraise projects or activity in category 'A', 'B1 and B2' and 'B2' projects for mining of minor minerals of lease area less than and equal to five hectare respectively. EAC, SEACs and DEACs shall meet at least once every month.

(a) The composition of the EAC shall be as given in Appendix VI. The SEAC at the State or the Union territory level shall be constituted by the Central Government in consultation with the concerned State Government or the Union

territory Administration with identical composition. DEAC at the district level shall be constituted by the Central Government as per the composition given in paragraph 3 A.

(b) The Central Government may with the prior concurrence of the concerned State Governments or the Union territory Administration constitute one SEAC for more than one State or Union territory for reasons of administrative convenience and cost.

(c) The EAC and SEAC shall be reconstituted after every three years.

(d) The authorised members of the EAC, SEACs and DEACs concerned, may inspect any site connected with the project or activity in respect of which the prior environmental clearance is sought for the purpose of screening or scoping or appraisal with prior notice of at least seven days to the project proponent who shall provide necessary facilities for the inspection.

(e) The EAC, SEACs and DEACs shall function on the principle of collective responsibility. The Chairperson shall endeavor to reach a consensus in each case and if consensus cannot be reached the view of the majority shall prevail.";

**(e)** for paragraph 6, the following paragraph shall be substituted, namely:-

**"6. Application for Prior Environmental Clearance (EC):-**

An application seeking prior environmental clearance in all cases shall be made by the project proponent in the prescribed Form 1 annexed herewith and Supplementary Form 1A, if applicable, as given in Appendix II after the identification of prospective site (s) for the project and/or activities to which the application relates; and in Form 1M for mining of minor minerals up to five hectare under Category 'B2' projects, as given in Appendix VIII, before commencing any construction activity, or preparation of land, or mining at the site by the project proponent. The project proponent shall furnish along with the application, a copy of the pre-feasibility project report, in addition to Form 1, Form 1A, and Form 1M; and in case of construction projects or activities (item 8 of the Schedule), a copy of the conceptual plan shall be provided instead of pre-feasibility report.";

**(f)** in paragraph 7,-

(i) in sub-paragraph (i), under the heading "I. Stage (1)- Screening:", the existing sub-paragraph shall be lettered as sub-paragraph "(A)" and after sub-paragraph as so lettered, the following sub-paragraph shall be inserted, namely:-

"(B) The cases as specified in Appendix IX shall be exempted from prior environmental clearance." ;

(ii) after sub-paragraph 7 (ii), the following sub-paragraph shall be inserted, namely:-

**"7 (iii) Preparation of District Survey Report for Sand Mining or River Bed Mining and Mining of other Minor Minerals:**

(a) The prescribed procedure for preparation of District Survey Report for sand mining or river bed mining and mining of other minor minerals is given in Appendix X.

(b) The prescribed procedure for environmental clearance for mining of minor minerals including cluster situation is given in Appendix XI.";

**(g)** in paragraph 8,-

(i) for the letters and word "EAC or SEAC", the words and letters "EAC or SEAC or DEAC" shall be substituted;

(ii) for the words "Expert Appraisal Committee or State Level Expert Appraisal Committee" wherever they occur, the words "Expert Appraisal Committee or State Level Expert Appraisal Committee or District Level Expert Appraisal Committee" shall be substituted;

**(h)** in paragraph 9, in sub-paragraph (i),-

for the words "Expert Appraisal Committee or State Level Expert Appraisal Committee", the words "Expert Appraisal Committee or State Level Expert Appraisal Committee or District Level Expert Appraisal Committee" shall be substituted;

**(i)** in paragraph 10, after sub-paragraph (iii), the following sub-paragraph shall be inserted, namely:-

"(iv) The prescribed procedure for sand mining or river bed mining and monitoring is given in Appendix XII.";

**(j)** in paragraph 11, -

for the words "Expert Appraisal Committee or State Level Expert Appraisal Committee", the words "Expert Appraisal Committee or State Level Expert Appraisal Committee or District Level Expert Appraisal Committee" shall be substituted;

**(k)** in the Schedule,-

(i) for item 1 (a) and the entries relating thereto, the following item and entries shall be substituted, namely:-

| (1) | (2) | (3) | (4) | (5) |
|---|---|---|---|---|
| "1(a) | (i) Mining of minerals | ≥50 ha of mining lease area in respect of non-coal mine lease<br><br>>150 ha of mining lease area in respect of coal mine lease<br><br>Asbestos mining | <50 ha of mining lease area in respect of non-coal mine lease<br><br>≤150 ha of mining lease area in respect of coal mine lease | General Conditions shall apply except:<br><br>(i) for project or activity of mining of minor minerals of Category 'B2' (up to 25 ha of mining lease area);<br><br>(ii) River bed mining projects on account of inter-state boundary. |

| | | | | |
|---|---|---|---|---|
| | | irrespective of mining area | | **Note:**<br><br>(1) Mineral prospecting is exempted. '';<br><br>(2) The prescribed procedure for environmental clearance for mining of minor minerals including cluster situation is given in Appendix XI.";<br><br>(3) The mining leases which have obtained environmental clearance under Environment Impact Assessment Notification, 1994 and Environment Impact Assessment Notification, 2006 shall not require fresh environmental clearance during renewal provided the project has valid and subsisting environmental clearance. |
| | (ii) Slurry pipelines (coal lignite and other ores) passing through national parks or sanctuaries or coral reefs, ecologically sensitive areas. | All projects. | | |

**(l)** after Appendix VI, the following appendices shall be inserted, namely:-

**"APPENDIX VII**

**(See paragraph 3 A)**

**Qualifications and terms for the Experts in DEIAA and DEAC**

1. **Qualification:** The person should have at least (i) 5 years of formal University training in the concerned discipline leading to a MA or M Sc Degree or (ii) in case of Engineering/ Technology/ Architectural discipline, 4 years formal training course together with prescribed practical training in the field leading to a B. Tech/ B.E./ B. Arch. Degree, or (iii) Other professional degree (e.g. MBA etc.) involving a total of 5 years of formal University training and prescribed practical training, or (iv) Prescribed apprenticeship/ article ship and pass examinations conducted by the concerned professional associations (e.g. Chartered Accountancy) or (v) a University degree, followed by two years of formal training in a University or Service Academy (e.g. MBA/MPA etc.). In selecting the individual professionals, experience gained by them in their respective fields will be taken note of.
2. **Expert:** A professional fulfilling the above eligibility criteria with at least 10 years of relevant experience in the field or with an advanced degree (e.g. Ph. D) in a concerned field with at least 5 years of relevant experience.
3. **Age:** Below 70 years. However, in the event of non-availability of paucity of experts in a given field, the maximum age of a member may be allowed up to 75 years.
4. **Fields:** Experts in Mining, Geology, Hydrology, Remote Sensing, Environment Quality, Environment Impact Assessment Process, Risk Assessment, Life Sciences, Marine Sciences, Forestry and Wildlife, Environmental Economics, Bio-diversity, and River Ecology.

5. **Tenure:** The maximum tenure of expert members shall be for two terms of three years each.

6. The Expert Members may not be removed prior to expiry of the tenure without cause and proper enquiry.

**APPENDIX VIII**
**(See paragraph 6)**
**FORM 1 M**
**APPLICATION FOR MINING OF MINOR MINERALS UNDER CATEGORY 'B2' FOR LESS THAN AND EQUAL TO FIVE HECTARE**

**(II) Basic Information**

(viii) Name of the Mining Lease site:
(ix) Location / site (GPS Co-ordinates):
(x) Size of the Mining Lease (Hectare):
(xi) Capacity of Mining Lease (TPA):
(xii) Period of Mining Lease:
(xiii) Expected cost of the Project:
(xiv) Contact Information:

**Environmental Sensitivity**

| Sl. No. | Areas | Distance in kilometer / Details |
|---|---|---|
| 1. | Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc. | |
| 2. | Distance from infrastructural facilities<br>Railway line<br>National Highway<br>State Highway<br>Major District Road<br>Any Other Road<br>Electric transmission line pole or tower<br>Canal or check dam or reservoirs or lake or ponds<br>In-take for drinking water pump house<br>Intake for Irrigation canal pumps | |
| 3. | Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value | |
| 4. | Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests | |
| 5. | Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration | |
| 6. | Inland, coastal, marine or underground waters | |
| 7. | State, National boundaries | |
| 8. | Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas | |
| 9. | Defence installations | |
| 10. | Densely populated or built-up area, distance from nearest human habitation | |
| 11. | Areas occupied by sensitive man-made land uses<br>(hospitals, schools, places of worship, community facilities) | |
| 12. | Areas containing important, high quality or scarce resources<br>(ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals) | |
| 13. | Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded) | |
| 14. | Areas susceptible to natural hazard which could cause the project to present environmental problems<br>(earthquakes, subsidence, landslides, erosion, flooding<br>or extreme or adverse climatic conditions) | |

| | | |
|---|---|---|
| 15. | Is proposed mining site located over or near fissure / fracture for ground water recharge | |
| 16. | Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:-<br>(a) The Forest (Conservation) Act, 1980;<br>(b) The Wildlife (Protection) Act, 1972;<br>(c) The Coastal Regulation Zone Notification, 2011.<br>If yes, details of the same and their status to be given. | |
| 17. | Forest land involved (hectares) | |
| 18. | Whether there is any litigation pending against the project and/or land in which the project is propose to be set up?<br>(a) Name of the Court<br>(b) Case No.<br>(c) Orders or directions of the Court, if any, and its relevance with the proposed project. | |

**(Signature of Project Proponent**
**Along with name and address)**

**APPENDIX – IX**
**[See paragraph 7(i) (B)]**
**EXEMPTION OF CERTAIN CASES FROM REQUIREMENT OF ENVIRONMENTAL CLEARANCE**

The following cases shall not require prior environmental clearance, namely:-

1. Extraction of ordinary clay or sand, manually, by the Kumhars (Potter) to prepare earthen pots, lamp, toys, etc. as per their customs.
2. Extraction of ordinary clay or sand, manually, by earthen tile makers who prepare earthen tiles.
3. Removal of sand deposits on agricultural field after flood by farmers.
4. Customary extraction of sand and ordinary earth from sources situated in Gram Panchayat for personal use or community work in village.
5. Community works like de-silting of village ponds or tanks, construction of village roads, ponds, bunds undertaken in Mahatama Gandhi National Rural Employment and Guarantee Schemes, other Government sponsored schemes, and community efforts.
6. Dredging and de-silting of dams, reservoirs, weirs, barrages, river, and canals for the purpose of their maintenance, upkeep and disaster management.
7. Traditional occupational work of sand by Vanjara and Oads in Gujarat *vide* notification number GU/90(16)/ MCR-2189(68)/5-CHH, dated the 14th February, 1990 of the Government of Gujarat.
8. Digging of well for irrigation or drinking water.
9. Digging of foundation for buildings not requiring prior environmental clearance.
10. Excavation of ordinary earth or clay for plugging of any breach caused in canal, nala, drain, water body, etc., to deal with any disaster or flood like situation upon orders of District Collector or District Magistrate.
11. Activities declared by State Government under legislations or rules as non-mining activity with concurrence of the Ministry of Environment, Forest and Climate Change, Government of India.

**APPENDIX - X**
**[See paragraph 7 (iii) (a)]**
**PROCEDURE FOR PREPARATION OF DISTRICT SURVEY REPORT**

The main objective of the preparation of District Survey Report (as per the Sustainable Sand Mining Guideline) is to ensure the following:

Identification of 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 calculation of annual rate of replenishment and allowing time for replenishment after mining in that area.

The report shall have the following structure:

1. Introduction
2. Overview of Mining Activity in the District
3 The List of Mining Leases in the District with location, area and period of validity
4. Details of Royalty or Revenue received in last three years
5. Detail of Production of Sand or Bajari or minor mineral in last three years
6. Process of Deposition of Sediments in the rivers of the District
7. General Profile of the District
8. Land Utilization Pattern in the district: Forest, Agriculture, Horticulture, Mining etc.

9. Physiography of the District
10. Rainfall: month-wise
11. Geology and Mineral Wealth

In addition to the above, the report shall contain the following:

(a) District wise detail of river or stream and other sand source.
(b) District wise availability of sand or gravel or aggregate resources.
(c) District wise detail of existing mining leases of sand and aggregates.

A survey shall be carried out by the DEIAA with the assistance of Geology Department or Irrigation Department or Forest Department or Public Works Department or Ground Water Boards or Remote Sensing Department or Mining Department etc. in the district.

**Drainage system with description of main rivers**

| S. No. | Name of the River | Area drained (Sq. Km) | % Area drained in the District |
|---|---|---|---|
| | | | |
| | | | |

Salient Features of Important Rivers and Streams:

| S. No. | Name of the River or Stream | Total Length in the District (in Km) | Place of origin | Altitude at Origin |
|---|---|---|---|---|
| | | | | |
| | | | | |

| Portion of the River or Stream Recommended for Mineral Concession | Length of area recommended for mineral concession (in kilometer) | Average width of area recommended for mineral concession (in meters) | Area recommended for mineral concession (in square meter) | Mineable mineral potential (in metric tonne) (60% of total mineral potential) |
|---|---|---|---|---|
| | | | | |

Mineral Potential

| Boulder (MT) | Bajari (MT) | Sand (MT) | Total Mineable Mineral Potential (MT) |
|---|---|---|---|
| | | | |
| | | | |

Annual Deposition

| | | | |
|---|---|---|---|
| | | | |
| | | | |

| S. No. | River or Stream | Portion of the river or stream recommended for mineral concession | Length of area recommended for mineral concession (in kilometer) | Average width of area recommended for mineral concession (in meters) | Area recommended for mineral concession (in square meter) | Mineable mineral potential (in metric tonne) (60% of total mineral potential) |
|---|---|---|---|---|---|---|
| | | | | | | |
| | | | | | | |
| Total for the District | | | | | | |

A Sub-Divisional Committee comprising of Sub-Divisional Magistrate, Officers from Irrigation department, State Pollution Control Board or Committee, Forest department, Geology or mining officer shall visit each site for which environmental clearance has been applied for and make recommendation on suitability of site for mining or prohibition thereof.

**Methodology adopted for calculation of Mineral Potential:**

The mineral potential is calculated based on field investigation and geology of the catchment area of the river or streams. As per the site conditions and location, depth of minable mineral is defined. The area for removal of the mineral in a river or stream can be decided depending on geo-morphology and other factors, it can be 50 % to 60 % of the area of a particular river or stream. For example in some hill States mineral constituents like boulders, river born Bajri, sand up

to a depth of one meter are considered as resource mineral. Other constituents like clay and silt are excluded as waste while calculating the mineral potential of particular river or stream.

The District Survey Report shall be prepared for each minor mineral in the district separately and its draft shall be placed in the public domain by keeping its copy in Collectorate and posting it on district's website for twenty one days. The comments received shall be considered and if found fit, shall be incorporated in the final Report to be finalised within six months by the DEIAA.

The District Survey Report shall form the basis for application for environmental clearance, preparation of reports and appraisal of projects. The Report shall be updated once every five years.

## APPENDIX - XI

**[See paragraph 7 (iii) (b)]**

## PROCEDURE FOR ENVIRONMENTAL CLEARANCE FOR MINING OF MINOR MINERALS INCLUDING CLUSTER

The following policy shall be followed for environmental clearance of mining of minor minerals including cluster situation:-

(1). The data provided by the States (Sustainable Sand Mining Guidelines) shows that most of the mining leases for minor minerals are of lease area less than 5 hectare. It is also reported that in hill States getting a stretch in river with area more than 5 hectare is very uncommon. So the size of lease for minor minerals including river sand mining will be determined by the States as per their circumstances.

(2). The mining of minor minerals is mostly in clusters. The Environment Impact Assessment or Environment Management Plan are required to be prepared for the entire cluster in order to capture all the possible externalities. These reports shall capture carrying capacity of the cluster, transportation and related issues, replenishment and recharge issues, geo-hydrological study of the cluster area. The Environment Impact Assessment or Environment Management Plan shall be prepared by the State or State nominated Agency or group of project proponents in the Cluster or the project proponent in the cluster.

(3). There shall be one public consultation for entire cluster after which the final Environment Impact Assessment or Environment Management Plan report for the cluster shall be prepared.

(4). Environmental clearance shall be applied for and issued to the individual project proponent. The individual lease holders in cluster can use the same Environment Impact Assessment or Environment Management Plan for application for environmental clearance. The cluster Environment Impact Assessment or Environment Management Plan shall be updated as per need keeping in view any significant change.

(5). The details of cluster Environment Impact Assessment or Environment Management Plan shall be reflected in each environmental clearance in that cluster and DEAC, SEAC, and EAC shall ensure that the mitigative measures emanating from the Environment Impact Assessment or Environment Management Plan study are fully reflected as environmental clearance conditions in the environmental clearance's of individual project proponents in that cluster.

(6). A cluster shall be formed when the distance between the peripheries of one lease is less than 500 meters from the periphery of other lease in a homogeneous mineral area.

(7). Form 1M, Pre-Feasibility Report and mine plan for Category 'B2' projects for mining of minor minerals shall be prepared by the Registered Qualified Person or Accredited Consultants of Quality Council of India, National Accreditation Board for Education and Training. The Environment Impact Assessment or Environment Management Plan for Category 'A' and Category 'B1' projects shall be prepared by the accredited consultants of Quality Council of India, National Accreditation Board for Education and Training.

(8). The SEIAAs shall have supervisory jurisdiction over the DEIAAs and decisions of DEIAA shall be reviewed by the SEIAA without prejudice to any provisions under any existing law.

**Schematic Presentation of Requirements on Environmental Clearance of Minor Minerals including cluster situation**

| Area of Lease (Hectare) | Category of Project | Require-ment of EIA / EMP | Require-ment of Public Hearing | Require-ment of EC | Who can prepare EIA/ EMP | Who will apply for EC | Authority to appraise/ grant EC | Authority to monitor EC compliance |
|---|---|---|---|---|---|---|---|---|
| **EC Proposal of Sand Mining and other Minor Mineral Mining on the basis of individual mine lease** | | | | | | | | |
| **0 – 5ha** | **'B2'** | Form –1M, PFR and Approved Mine Plan | No | Yes | Project Proponent | Project Proponent | DEAC/ DEIAA | DEIAA SEIAA SPCB CPCB MoEFCC Agency |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **> 5 ha and < 25 ha** | **'B2'** | Form –I, PFR and Approved Mine Plan and EMP | No | Yes | Project Proponent | Project Proponent | SEAC / SEIAA | nominated by MoEFCC |
| **≥ 25ha and < 50ha** | **'B1'** | Yes | Yes | Yes | Project Proponent | Project Proponent | SEAC/ SEIAA | |
| **≥ 50 ha** | **'A'** | Yes | Yes | Yes | Project Proponent | Project Proponent | EAC/ MoEFCC | |
| **EC Proposal of Sand Mining and other Minor Mineral Mining in cluster situation** | | | | | | | | |
| **Cluster area of mine leases up to 5 ha** | **'B2'** | Form –1M, PFR and Approved Mine Plan | No | Yes | State, State Agency, Group of Project Proponents, Project Proponent | Project Proponent | DEAC/ DEIAA/ | DEIAA SEIAA SPCB CPCB MoEFCC Agency nominated by MoEFCC |
| **Cluster area of Mine leases > 5 ha and < 25 ha with no individual lease > 5 ha** | **'B2'** | Form –I, PFR and Approved Mine Plan and one EMP for all leases in the Cluster | No | Yes | State, State Agency, Group of Project Proponents, Project Proponent | Project Proponent | DEAC/ DEIAA/ | |
| **Cluster of mine leases of area ≥ 25 hectares with individual lease size < 50ha** | **'B1'** | Yes | Yes | Yes | State, State Agency, Group of Project Proponents, Project Proponent | Project Proponent | SEAC/ SEIAA | |
| **Cluster of any size with any of the individual lease ≥ 50ha** | **'A'** | Yes | Yes | Yes | State, State Agency, Group of Project Proponents, Project Proponent | Project Proponent | EAC/ MoEFCC | |

## APPENDIX - XII

**[See paragraph 10 (iv)]**

## PROCEDURE FOR MONITORING OF SAND MINING OR RIVER BED MINING

1. The security feature of Transport Permit shall be as under:

   (a) Printed on Indian Banks' Association (IBA) approved Magnetic Ink Character Recognition (MICR) Code paper.

   (b) Unique Barcode.

   (c) Unique Quick Response (QR) code.

   (d) Fugitive Ink Background.

   (e) Invisible Ink Mark.

   (f) Void Pantograph.

   (g) Watermark.

2. Requirement at Mine Lease Site:

   (a) Small Size Plot (Up to 5 hectare): Android Based Smart Phone.

(b) Large Size Plots (More than 5 hectare): CCTV camera, Personal Computer (PC), Internet Connection, Power Back up.

(c) Access control of mine lease site.

(d) Arrangement for weight or approximation of weight of mined out mineral on basis of volume of the trailer of vehicle used.

3. Scanning of Transport Permit or Receipt and Uploading on Server:

(a) Website: Scanning of receipt on mining site can be done through barcode scanner and computer using the software;

(b) Android Application: Scanning on mining site can be done using Android Application using smart phone. It will require internet availability on SIM card;

(c) SMS: Transport Permit or Receipt shall be uploaded on server even by sending SMS through mobile. Once Transport Permit or Receipt get uploaded, an unique invoice code gets generated with its validity period.

4. Proposed working of the system:

The State Mining Department should print the Transport Permit or Receipt with security features enumerated at Paragraph 1 above and issue them to the mine lease holder through the District Collector. Once these Transport Permits or Receipts are issued, they would be uploaded on the server against that mine lease area. Each receipt should be preferably with pre-fixed quantity, so the total quantity gets determined for the receipts issued.

When the Transport Permit or Receipt barcode gets scanned and invoice is generated, that particular barcode gets used and its validity time is recorded on the server. So all the details of transporting of mined out material can be captured on the server and the Transport Permit or Receipt cannot be reused.

5. Checking On Route:

The staff deployed for the purpose of checking of vehicles carrying mined mineral should be in a position to check the validity of Transport Permit or Receipt by scanning them using website, Android Application and SMS.

6. Breakdown of Vehicle:

In case the Vehicle breakdown, the validity of Transport Permit or Receipt shall be extended by sending SMS by driver in specific format to report breakdown of vehicle. The server will register this information and register the breakdown. The State can also establish a call centre, which can register breakdowns of such vehicles and extend the validity period. The subsequent restart of the vehicle also should be similarly reported to the server or call centre.

7. Tracking of Vehicles:

The route of vehicle from source to destination can be tracked through the system using check points, RFID Tags, and GPS tracking.

8. Alerts or Report Generation and Action Review:

The system will enable the authorities to develop periodic report on different parameters like daily lifting report, vehicle log or history, lifting against allocation, and total lifting. The system can be used to generate auto mails or SMS. This will enable the District Collector or District Magistrate to get all the relevant details and shall enable the authority to block the scanning facility of any site found to be indulged in irregularity. Whenever any authority intercepts any vehicle transporting illegal sand, it shall get registered on the server and shall be mandatory for the officer to fill in the report on action taken. Every intercepted vehicle shall be tracked.

The monitoring of mined out mineral, environmental clearance conditions and enforcement of Environment Management Plan will be ensured by the DEIAA, SEIAA and the State Pollution Control Board or Committee. The monitoring arrangements envisaged above shall be put in place not later than three months. The monitoring of enforcement of environmental clearance conditions shall be done by the Central Pollution Control Board, Ministry of Environment, Forest and Climate Change and the agency nominated by the Ministry for the purpose.".

[No. Z-11013/98/2014-IA-II (M)]

MANOJ KUMAR SINGH, Jt. Secy.

**Note:** The principal rules were published in the Gazette of India, Extraordinary, Part II, Section 3, Sub-section (ii) *vide* number S.O. 1533 (E), dated the 14th September, 2006 and subsequently amended *vide* the following numbers :-

1. S.O. 1737 (E) dated the 11th October, 2007;
2. S.O. 3067 (E) dated the 1st December, 2009;
3. S.O. 695 (E) dated the 4th April, 2011;
4. S.O. 2896 (E) dated the 13th December, 2012;
5. S.O. 674 (E) dated the 13th March, 2013;
6. S.O. 2204 (E ) dated the 19th July 2013;
7. S.O. 2555 (E ) dated the 21st August, 2013;
8. S.O. 2559 (E) dated the 22nd August, 2013;
9. S.O. 2731 (E) dated the 9th September, 2013;
10. S.O. 562 (E) dated the 26th February, 2014;
11. S.O. 637 (E) dated the 28th February, 2014;
12. S.O. 1599 (E) dated the 25th June, 2014;
13. S.O. 2601 (E) dated the 7th October, 2014;
14. S.O. 2600 (E) dated the 9th October, 2014
15. S.O. 3252 (E) dated the 22nd December, 2014;
16. S.O. 382 (E) dated the 3rd. February, 2015;
17. S.O. 811 (E) dated the 23rd March, 2015;
18. S.O. 996 (E) dated the 10th April, 2015;
19. S.O. 1142 (E ) dated the 17th April, 2015;
20. S.O. 1141 (E) dated the 29th April, 2015;
21. S.O. 1834 (E) dated the 6th July, 2015.

Printed by the Manager, Government of India Press, Ring Road, Mayapuri, New Delhi-110064
and Published by the Controller of Publications, Delhi-110054.

Varsha

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सत्यमेव जयते

# SUSTAINABLE SAND MINING MANAGEMENT GUIDELINES 2016

पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
इंदिरा पर्यावरण भवन, जोर बाग रोड, नई दिल्ली–110 003
Ministry of Environment, Forest and Climate Change
Indira Paryavaran Bhavan, Jor Bagh Road, New Delhi - 110 003
www.moef.nic.in

# Acknowledgment

The Sustainable Sand Mining Management Guidelines 2016, has been prepared after extensive consultation with the States and stakeholders over a period of last one year. The Guideline assimilates the knowledge and experience of stakeholder. The main objective of the Guidelines is to ensure sustainable sand mining and environment friendly management practices in order to restore and maintain the ecology of river and other sand sources. The team of the officers of Ministry of Environment, Forest and Climate Change who have worked for preparing these Guidelines comprised of following:

1. Shri Manoj Kumar Singh, Joint Secretary
2. Dr. U. Sridharan, Scientist 'F'
3. Dr. R.B. Lal, Scientist 'D'
4. Dr. Sonu Singh, Scientist 'D'

# SUSTAINABLE SAND MINING MANAGEMENT GUIDELINES

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प्रकाश जावडेकर
**Prakash Javadekar**

सत्यमेव जयते

राज्य मंत्री (स्वतंत्र प्रभार)
MINISTER OF STATE (INDEPENDENT CHARGE)
पर्यावरण, वन एवं जलवायु परिवर्तन
ENVIRONMENT, FOREST & CLIMATE CHANGE
भारत सरकार / GOVERNMENT OF INDIA

## FOREWORD

Environmental Protection and Sustainable Development have been the cornerstones of the policies and procedures governing the industrial and other developmental activities in India. The Ministry of Environment, Forest and Climate Change has taken several policy initiatives and enacted environmental and pollution control legislations to prevent indiscriminate exploitation of natural resources and to promote integration of environmental concerns in developmental projects. One such initiative is the Notification on Environmental Impact Assessment (EIA) of developmental projects issued on 14th September, 2006 under the provisions of Environment (Protection) Act, 1986, making EIA mandatory for certain categories of developmental projects.

Another land mark decision has been taken with the new notifications dated 15.01.2016 and 20.01.2016 on mining of minor minerals and constitution of District Level Environment Impact Assessment Authority and District Level Environment Appraisal Committee. This will ensure environmentally sustainable mining especially for sand and gravel under close supervision of district authorities. Use of information technology and information technology enabled services for scientific monitoring of mining and transportation of mined out material is another important feature of above notification.

Sand and gravel are one of the most important construction materials. Ensuring their availability is vital for the development of the infrastructure in the country. There are different sources of sand and gravel, the most important among them is the river. As the requirement of these construction materials is on rise, they also are very vital for the health, physical character of the river and the different important functions of the river. The extraction of sand and gravel from the river bodies has to be regulated and done with adoption of required environmental safeguards.

In view of evolving scenario in industry and development sector, My Ministry has prepared a "Sustainable Sand Mining Management Guidelines". The Guidelines *inter-alia* focus on preparation of District Survey Report; Management Plan; Marine Sand Mining and Impact on Marine Biodiversity; Issues and Management of Mining in Cluster; Management of Sand Deposited after Flood on Agricultural Field of Farmers; Mining of Sand from Agricultural Field; Monitoring System for Sustainable Sand Mining using Information Technology System; Creation of District Level Environment Impact Assessment Authority (DEIAA) and District Level Expert Appraisal Committee (DEAC) for granting Environment Clearance for Mining of Minor Minerals; Exemption of certain cases for requirement of Environment Clearance and Standard Environmental Conditions for Sustainable Sand Mining.

The Guidelines will help the Departments of Mines and Geology, State Pollution Control Boards/Committees, Industries, Regulators, Authorities and various Stakeholders to ensure environmentally sustainable mining in the Country.

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सत्यमेव जयते

सचिव
भारत सरकार
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
Secretary
Government of India
Ministry of Environment, Forest and Climate Change

## PREFACE

Sand is naturally occurring granular material composed of finely divided rock and mineral particles. Sand and gravel together known as aggregate, represent the highest volume of raw material used on earth. The mining of aggregate has been continuing for many years. Now the mining of aggregates has reached a level threatening the environment and ecosystem besides also reaching a level of scarcity that would threaten the economy. It is recommended that sand and aggregate mining, and quarrying should be done only after sound scientific assessment and adopting best practices to limit the impact on the environment.

The main objectives of the Guidelines, inter-alia, includes to ensure that sand and gravel mining is done in environmentally sustainable and socially responsible manner; availability of adequate quantity of aggregate in sustainable manner; improve the effectiveness of monitoring of mining and transportation of mined out material; conservation of the river equilibrium and its natural environment by protection and restoration of the ecological system; avoid aggradation at the *downstream* reach especially those with hydraulic structures such as jetties, water intakes etc.; to ensure the rivers are protected from bank and bed erosion beyond its stable profile; no obstruction to the river flow, water transport and restoring the riparian rights and in-stream habitats; to avoid pollution of river water leading to water quality deterioration; to prevent depletion of ground water reserves due to excessive draining out of ground water; and streamlining the process for grant of environmental clearance (EC) for sustainable mining.

The recommendations for management of sustainable sand extraction are the key objectives of the Guidelines. Emphasis is given to the setting up of monitoring plans that will provide data on profile changes and sediment transport capacity to enable the authorities to evaluate the long-term effect of the mining activities both upstream and downstream of sand extraction sites. Special emphasis is given on monitoring of the mined out material, which is key to the success of environment management plan. So use of IT and IT enabled services for effective monitoring of the quantity of mined out material and transportation along with process reengineering has been made a part of the Guideline. The Guidelines propose delegation of responsibility and authority to the cutting edge level i.e. the District Environment Impact Assessment Authority along with streamlining the process of impact assessment, environment management plan and environment clearance in cluster situation.

(Ashok Lavasa)

**New Delhi**
**Date: 15-03-2016**

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# EXECUTIVE SUMMARY

The sand and gravel are one of the most important construction materials. Ensuring their availability is vital for the development of the infrastructure in the country. There are different sources of sand and gravel, the most important among them is the river. As the requirement of these construction materials is on rise, they also are very vital for the health, physical character of the river and the different important functions of the river. The extraction of sand and gravel from the river bodies has to be regulated and done with adoption of required environmental safeguards.

For making available these resources, a mapping of these resources at the district level, identification of appropriate sites for extraction, appraisal of the extraction process, putting in place the required environmental safeguards, and rigorous monitoring of the volume of extracted material is required to ensure sustainability of the entire process.

The district is the unit of administration which is best placed to do the mapping of these resources, adopt the best environmental practices for extraction of these materials and monitor its extraction and movement. The large number of leases which are awarded, the scattered geographical location of the availability of these materials and decentralized requirement and usage of the sand and aggregates also places districts in a unique position to play a vital role in adoption of environmental safeguards needed for sustainable extraction of river sand and gravel.

Recommendations for management of sustainable sand extraction are the key objective of the Guidelines. Emphasis is given to the setting up of monitoring plans that will provide data on profile changes and sediment transport capacity to enable the authorities to evaluate the long-term effect of the mining activities both upstream and downstream of sand extraction sites.

Special emphasis is given on monitoring of the mined out material, which is key to the success of environment management plan. So use of IT and IT enabled services for effective monitoring of the quantity of mined out material and transportation along with process reengineering has been made a part of the Guideliness. The Guidelines proposes delegation of responsibility and authority to the cutting edge level i.e. the District Environment Impact Assessment Authority along with streamlining the process of impact assessment, environment management plan and environment clearance in cluster situation.

Promotion of manufactured sand, artificial sand and alternative technologies in construction materials and processes are also required for reducing the dependence and demand on naturally occurring sand and gravel. Development of slag sand, sand from stone chips and there certification under BIS is an important step in this direction.

# INTRODUCTION

Sustainable Development is built on three pillars - environmental, social and economic. Sustainable development cannot be achieved if the environment is protected but poverty is prevalent in a significant part of the population. Similarly, sustainable development cannot be achieved through inappropriate economic growth, if it undermines the environment in which people and businesses exists. These Guideliness support that fundamental concept, promoting environmental protection, limiting negative physiological, hydrological and social impacts under pinning sustainable economic growth.

Sand and gravel have long been used as aggregate for construction of roads and building. Today, the demand for these materials continues to rise. In India, the main sources of sand are river flood plain, coastal sand, paleo channel sand, and sand from agricultural fields.

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.

Removing sediment from the active channel bed in river interrupt the continuity of sediment transport through the river system, disrupting the sediment mass balance in the river downstream and induces channel adjustments (usually incision) extending considerable distances (commonly one kilometer or more) beyond the extraction site.

The magnitude of the impact basically depends on the magnitudes of the extraction relative to bed load sediment supply and transport through the reach. Implementation of the principles and processes outlined in this Guidelines will limit the negative externalities of sand and gravel mining.

# NEED FOR POLICY GUIDELINES

Sand is naturally occurring granular material composed of finely divided rock and mineral particles between 150 micron to 4.75 mm in diameter (IS 383-1970). Sand is formed due to weathering of rocks due to mechanical forces. In the process the weathered rocks forms gravel and then sand.

Sand and gravel together known as aggregate, represent the highest volume of raw material used on earth after water. The mining of aggregate has been continuing for many years. Now the mining of aggregates has reached a level threatening the environment and ecosystem besides also reaching a level of scarcity that would threaten the economy. It is recommended that sand & aggregate mining, and quarrying should be done only after sound scientific assessment and adopting best practices to limit the impact on the environment.

It is also felt that the greater use of substitute material (Manufactured Sand, artificial sand etc.) & construction technology, and sustainable use of the resource could drastically reduce adverse impact of mining on the environment.

# OBJECTIVE OF THE GUIDELINES

The Guideliness has been based on the following principles:

- Uncontrolled sand mining is not sustainable.
- Compliance with present and future legislation and regulations on the subject is mandatory and not voluntary.
- Each lease holder should be given the opportunity to self-regulate to the extent that it can demonstrate compliance with legislation and regulations.
- Where self- regulation fails to deliver compliance with legislation and regulations, increased formal enforcement and monitoring should be implemented with punitive measures applied in line with the legal framework.
- There is a need to protect the environment and the right of the population to live in clean and safe surroundings, with the need to use natural resources in a way that will make a positive and sustainable contribution to the economy.

**The main objectives of the Guidelines**

- To ensure that sand and gravel mining is done in environmentally sustainable and socially responsible manner.
- To ensure availability of adequate quantity of aggregate in sustainable manner.
- To improve the effectiveness of monitoring of mining and transportation of mined out material.

- Ensure conservation of the river equilibrium and its natural environment by protection and restoration of the ecological system.
- Avoid aggradation at the downstream reach especially those with hydraulic structures such as jetties, water intakes etc.
- Ensure that the rivers are protected from bank and bed erosion beyond its stable profile.
- No obstruction to the river flow, water transport and restoring the riparian rights and in-stream habitats.
- Avoid pollution of river water leading to water quality deterioration.
- To prevent depletion of ground water reserves due to excessive draining out of ground water.
- To prevent ground water pollution by prohibiting sand mining on fissures where it works as filter prior to ground water recharge.
- To maintain the river equilibrium with the application of sediment transport principles in determining the locations, period and quantity to be extracted.
- Streamlining and simplifying the process for grant of environmental clearance (EC) for sustainable mining.

# THE EFFECT OF SAND AND GRAVEL MINING

Mining within or near riverbed has a direct impact on the stream's physical characteristics, such as channel geometry, bed elevation, substratum composition and stability, in-stream roughness of the bed, flow velocity, discharge capacity, sediment transport capacity, turbidity, temperature etc. Alteration or modification of the above attributes may cause hazardous impact on ecological equilibrium of riverine regime. This may also cause adverse impact on in-stream biota and riparian habitats. This disturbance may also cause changes in channel configuration and flow-paths.

**The effects of sand and gravel mining are as follows:**

a) Extraction of bed material in excess of replenishment by transport from upstream causes the bed to lower (degrade) upstream and downstream of the site of removal.

b) In-stream habitat is impacted by increase in river gradient, suspended load, sediment transport and sediment deposition. Excessive sediment deposition for replenishment increases turbidity which prevents penetration of light required for photosynthesis and reduces food availability of aquatic fauna.

c) Riparian habitat including vegetative cover on and adjacent to the river banks it controls erosion, provide nutrient inputs into the stream and prevents intrusion of pollutants in the stream through runoff. Bank erosion and change of morphology of the river can destroy the riparian vegetative cover.

d) Bed degradation are responsible for channel shifting, causing loss of properties and degradation of landscape, it can also undermine bridge supports, pipe lines or other structures.

e) Degradation may change the morphology of the river bed, which constitutes one aspect of the aquatic habitat.

f) Degradation can deplete the entire depth of gravelly bed material, exposing other substrates that may underlie the gravel, which could in turn affect the quality of aquatic habitat. Lowering of ground water table in the flood plain because of lowering of riverbed level as well as river water level takes place because of extraction and draining out of excessive ground water from the adjacent areas. So, if a floodplain aquifer drains to the stream, groundwater levels can be lowered as a result of bed degradation.

g) Lowering of the water table can destroy riparian vegetation.

h) Excessive pumping of ground water in the process of mining in abandoned channels depletes ground water causing scarcity of irrigation and drinking water. In extreme cases it may create ground fissures and subsidence in adjacent areas.

i) Flooding is reduced as bed elevations and flood heights decrease, reducing hazard for human occupancy of floodplains and the possibility of damage to engineering works.

j) The supply of overbank sediments to floodplains is reduced as flood heights decrease.

k) An un-scientific and unregulated sand and gravel mining tends to increase channel bank

scouring and erosion. This causes a large degree of meandering of rivers and sometimes it could be in kms.

l) Rapid bed degradation may induce bank collapse and erosion by increasing the heights of banks.

m) Polluting ground water by reducing the thickness of the filter material especially if mining is taking place at top of recharge fissures.

n) Choking of sand layer which acts as filter for ingress of ground water from river by dumping of finer material, compaction of filter zone due to movement of heavy vehicles. It also reduces the permeability and porosity of the filter material.

o) Removal of gravel from bars may cause downstream bars to erode if they subsequently receive less bed material than is carried downstream from them by fluvial transport.

p) Ecological effects on bird nesting, fish migration, angling, etc.

q) Indiscrete mining activities lead to increased concentration of suspended sediment in the river which in turn causes siltation of water resources projects.

r) Un-scientific and unregulated sand and gravel mining leads to the severe health hazards like air quality degradation and dust fog.

s) Direct destruction from heavy equipment operation; discharges from equipment and refueling.

t) Biosecurity and pest risks.

u) Impacts on coastal processes.

### The other deleterious impacts of indiscrete mining include

Loss of riparian habitat resulting from direct removal of vegetation along the stream bank to facilitate the use of a dragline or through the process of lowering the water table, bank undercutting, and channel incision. The physical composition and stability of substrates are altered as a result of in-stream mining and most of these physical effects may exacerbate sediment entrainment in the channel.

Furthermore, the process of in-stream mining and gravel washing produces fine sediments under all flow conditions, resulting in a deposition of fine sediment in riffles as well as other habitats at low discharge. Excess sediment is considered the greatest pollutant in waters and constitutes one of the major environmental factors in the degradation of stream fisheries.

However, in-stream mining may contribute additional sediment to downstream reaches due to the disruption of substrate stability. Once sediment enters the stream, it is best to let natural geomorphological and hydrological processes reach a dynamic equilibrium, rather than further exacerbating the situation by additional disturbance.

**All other things being equal:**

a) Extracting gravel from an excavation that does not penetrate the water table and is located away from an active stream channel should cause little or no change to the natural hydrological processes unless the stream captures the pit during periods of flooding.

b) 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.

c) In-stream extraction of gravel below the deepest part of the channel (the thalweg) generally causes more changes to the natural hydrological processes than limiting extraction to a reference point above the thalweg.

d) Excavating sand and gravel from a small straight channel with a narrow floodplain generally will have a greater impact on the natural hydrological processes than excavations on a braided channel with a wide floodplain.

e) 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.

f) Over-extraction of gravel can destabilise channels and banks, and/or affect the ecologic functioning of rivers particularly if undertaken at the wrong time, or in the wrong place, or in a way that damages the river bed or margins.

# GENERAL APPROACH TO SUSTAINABLE SAND AND GRAVEL MINING

**Following considerations should be kept in mind for sand / gravel mining:**

a) Parts of the river reach that experience deposition or aggradation shall be identified first. The Lease holder/ Environmental Clearance holder may be allowed to extract the sand and gravel deposit in these locations to manage aggradation problem.

b) The distance between sites for sand and gravel mining shall depend on the replenishment rate of the river. Sediment rating curve for the potential sites shall be developed and checked against the extracted volumes of sand and gravel.

c) Sand and gravel may be extracted across the entire active channel during the dry season.

d) Abandoned stream channels on terrace and inactive floodplains be preferred rather than active channels and their deltas and flood plains. Stream should not be diverted to form inactive channel.

e) Layers of sand and gravel which could be removed from the river bed shall depend on the width of the river and replenishment rate of the river.

f) Sand and gravel shall not be allowed to be extracted where erosion may occur, such as at the concave bank.

g) Segments of braided river system should be used preferably falling within the lateral migration area of the river regime that enhances the feasibility of sediment replenishment.

h) Sand and gravel shall not be extracted within 200 to 500 meter from any crucial hydraulic structure such as pumping station, water intakes, and bridges. The exact distance should be ascertained by the local authorities based on local situation. The cross-section survey should cover a minimum distance of 1.0 km upstream and 1.0 km downstream of the potential reach for extraction. The sediment sampling should include the bed material and bed material load before, during and after extraction period. Develop a sediment rating curve at the upstream end of the potential reach using the surveyed cross- section. Using the historical or gauged flow rating curve, determine the suitable period of high flow that can replenish the extracted volume. Calculate the extraction volume based on the sediment rating curve and high flow period after determining the allowable mining depth.

i) Sand and gravel could be extracted from the downstream of the sand bar at river bends. Retaining the upstream one to two thirds of the bar and riparian vegetation is accepted as a method to promote channel stability.

j) Flood discharge capacity of the river could be maintained in areas where there are significant flood hazard to existing structures or infrastructure. Sand and gravel mining may be allowed to maintain the natural flow capacity based on surveyed cross- section history.

k) Alternatively, off-channel or floodplain extraction is recommended to allow rivers to replenish the quantity taken out during mining.

l) The Piedmont Zone (Bhabhar area) particularly in the Himalayan foothills, where riverbed material is mined, this sandy-gravelly track constitutes excellent conduits and holds the greater potential for ground water recharge. Mining in such areas should be preferred in locations selected away from the channel bank stretches.

m) Mining depth should be restricted to 3 meter and distance from the bank should be 3 meter or 10 percent of the river width whichever less.

n) The borrow area should preferably be located on the river side of the proposed embankment, because they get silted up in course of time. For low embankment less than 6 m in height, borrow area should not be selected within 25 m from the toe/heel of the embankment. In case of higher embankment the distance should not be less than 50 m. In order to obviate development of flow parallel to embankment, cross bars of width eight times the depth of borrow pits spaced 50 to 60 meters centre-to-centre should be left in the borrow pits.

o) Demarcation of mining area with pillars and geo-referencing should be done prior to start of mining.

# THE WORLD SCENARIO

Sand and gravel are mined world-wide and account for the largest volume of solid material extracted globally. Formed by erosive processes over thousands of years, they are now being extracted at a rate far greater than their renewal. Furthermore, the volume being extracted is having a major impact on rivers, deltas and coastal and marine ecosystems, resulting in loss of land through river or coastal erosion, lowering of the water table and decrease in the amount of sediment supply. Despite the colossal quantities of sand and gravel being used, increasing dependence on them and the significant impact that their extraction has on the environment, this issue needs far better attention and awareness.

Globally, between 47 and 59 billion tonnes of material is mined every year of which sand and gravel, known as aggregates, account for both the largest share (from 68% to 85%) and the fastest growth in extraction increase. Although more sand and gravel are mined than any other material, reliable data on their extraction is not available. The absence of global data on aggregates mining makes environmental assessment very difficult and has contributed to the lack of awareness about this issue. One way to estimate the global use of aggregates indirectly is through the production of cement for concrete (concrete is made with cement, water, sand and gravel). The production of cement is reported by 150 countries and it reached 3.7 billion tonnes in 2012 (USGS, 2013a). For each tonne of cement, the building industry needs about six to seven times more tonnes of sand and gravel (USGS, 2013b). Thus, the world's use of aggregates for concrete can be estimated at 25.9 billion tonnes a year for 2012 alone.

Added to this are all the aggregates used in land reclamation, shoreline developments and road embankments (for which the global statistics are unavailable), added to this is the 180 million tonnes of sand used in industry (USGS, 2012). Aggregates also contribute to 90% of asphalt pavements and 80% of concrete roads (Robinson and Brown, 2002). Taking all these estimates into account, a conservative estimate for the world consumption of aggregates exceeds 40 billion tonnes a year.

This large quantity of material cannot be extracted and used without a significant impact on the environment. Extraction has an impact on biodiversity, water turbidity, water table levels and landscape and on climate through carbon dioxide emissions from transportation. There are also socio-economic, cultural and even political consequences. In some extreme cases, the mining of marine aggregates has changed international boundaries, such as through the disappearance of sand islands in Indonesia (New York Times, 2010; Guerin, 2003).

The impacts of sand mining can be mainly categorized as follows:

| IMPACTS ON | DESCRIPTION |
|---|---|
| **Biodiversity** | Impacts on related ecosystems (for example; fisheries) |
| **Land losses** | Both inland and coastal through erosion |
| **Hydrological functions** | Change in water flows, flood regulation and marine currents |
| **Water supply** | Through lowering of the water table and pollution |
| **Infrastructures** | Damage to bridges, river embankments and coastal infrastructures |
| **Climate** | Directly through transport emissions |
| **Landscape** | Coastal erosion, changes in deltaic structures, quarries, pollution of rivers |
| **Extreme events** | Decline of protection against extreme events (flood, drought, storm surge) |

World over sand was until recently extracted in land quarries and riverbeds; however, a shift to marine and coastal aggregates mining has occurred due to the decline of inland resources. River and marine aggregates remain the main sources for building and land reclamation. For concrete, in-stream gravel requires less processing and produces high-quality material while marine aggregate needs to be thoroughly washed to remove salt. If the chloride is not removed from marine aggregate, a structure built with it might collapse after few decades due to corrosion of steel reinforced structures. Most sand from deserts cannot be used for concrete and land reclaiming, as the wind erosion process forms round grains that do not bind well.

# INDIAN SCENARIO

The data on consumption of sand and aggregate in country is not available with any source. It can be derived indirectly from the usage of cement, construction of roads and stowing of mines. The trend for aggregates extraction can be estimated using cement production as a proxy.

Cement production has multiplied three-fold in the last 20 years from 1.37 billion tonnes of cement in 1994 to 3.7 billion tonnes in 2012 (USGS, 2013a) mainly as a result of rapid economic growth in Asia (UNEP and CSIRO, 2011). Five countries: China (58%), India (6.75%), the United States (2%), Brazil and Turkey - produce 70% of the world's cement (USGS, 2013c). The consumption of cement is expected to reach 324 million tonnes, which equates to use of 2.2 billion tonnes of aggregates. This is in addition to sand and aggregates used in stowing of mines, industry and other allied usage.

**In India the main sources of sand are:**

(a) River (riverbed and flood plain).

(b) Lakes and reservoirs.

(c) Agricultural fields (Haryana).

(d) Coastal / marine sand.

(e) Palaeo-channels (Bikaner in Rajasthan).

## THE PRICE ELASTICITY FOR DEMAND OF SAND

As the price elasticity of demand for sand is inelastic (-0.88), any increase in price in absence of marketable alternative will not have any significant impact on demand. Use of crushed stones or other substitute material should be promoted. The regional context of aggregate resources, market demand, and the environmental impacts of various alternatives must be understood before any site-specific proposal for aggregate extraction can be reviewed.

Evaluation of aggregate supply and demand should be undertaken on the basis of production-consumption regions, encompassing the market for aggregate and all potential sources of aggregate within an economical transport distance. The finite nature of high-quality alluvial gravel resources must be recognized, and high-quality PCC-grade aggregates should be reserved only for the uses demanding this quality material (such as concrete). Alternative sources should be used in less demanding applications (such as road sub-base). Part replacement with fly ash in roads and embankments be promoted in place of sand and aggregates.

The environmental costs of sand mining should be incorporated into the price of the product so that alternative sources that require more processing but have less environmental impact become more attractive.

## PROCESS OF SEDIMENT TRANSPORT

The loose boundary (consisting of movable material) of an alluvial channel deforms under the action of flowing water and the deformed bed with its changing roughness (bed forms) interacts with the flow. The resulting movement of the bed material (sediment) in the direction of flow is called sediment transport and a critical bed shear stress must be exceeded to start the particle movement.

Such a critical shear stress is referred as incipient (threshold) motion condition, below which the particles will be at rest and the flow is similar to that on a rigid boundary. Some sediment particles roll or slide along the bed intermittently and some others saltate (hopping or bouncing along the bed). The material transported in one or both of these modes is called 'bed load'.

Finer particles (with low fall velocities) are entrained in suspension by the fluid turbulence and transported along the channel in suspension. This mode of transport is called 'suspended load'. Sometimes finer particles from upland catchment (sizes which are not present in the bed material), called 'wash load', are also transported in suspension. The combined bed material and wash load is called 'total load'.

Bed load ranges from a few percent of total load in lowland rivers to perhaps 15% in Mountain Rivers to over 60% in some arid catchments. Although a relatively small part of the total sediment load, the arrangement of bed load sediment constitutes the architecture of sand, and gravel-bed channels.

The rate of sediment transport typically increases as a power function of flow; that is, a doubling of flow typically produces more than a doubling in sediment transport and most sediment transport occurs during floods. The environmental impacts from in-stream mining can be avoided, if the annual bed load is calculated and aggregate extraction is restricted to that value or some portion of it. To accurately limit extraction to some portion of bed load, the amount of sediment that passes the in-stream mining site during a given period of time must be calculated.

There is a large amount of uncertainty in the process of calculating annual rates of bed load transport. How much coarse material is moved, how long it remains in motion as also how far it moves depends on the size, shape & packing of the material and the characteristics of the river flow.

Downstream movement commonly occurs as irregular bursts of short-distance movement separated by longer periods, when the particles remain at rest. Because bed load changes from hour-to-hour, day-to-day, and year-to-year, estimating annual bed load rates is a dynamic process involving careful examination.

Constant variations in the flow of the river make the channel floor and riverbanks a dynamic interface, where some materials are being eroded while others are being deposited. The net balance of this activity, on a short- term basis, is referred to as scour or fill.

On a long-term basis, continued scour results in erosion (degradation), while continued fill results in deposition (aggradation).

A general indicator of the stability of a stream relates to the amount of vegetation present. Gravel bars that are vegetated or where the gravel is tightly packed, generally indicate streams, where the gravel supply is in balance. Streams with excessive gravel generally have gravel bars with little or no vegetation, and are surfaced with loosely packed gravel.

# SUSTAINABLE SAND AND GRAVEL MINING GUIDELINES

The broad principle on which any sustainable sand mining Guidelines / policy can be based is that river/ natural resources must be utilized for the benefit of the present and future generation, so river resources should be prudently managed and developed. The preparation of District Survery Report is an important initial step.

The Processes under the Guidelines:

(a) Identification of areas of aggradation / deposition where mining can be allowed; and identification of areas of erosion and proximity to infrastructural structures and installations where mining should be prohibited. Use of satellite imagery for identifying areas of sand deposit and quantity be done.

(b) Calculation of annual rate of replenishment and allowing time for replenishment after mining in area.

(c) Identifying ways of scientific and systematic mining.

(d) Identifying measures for protection of environment and ecology.

(e) Determining measures for protection of bank erosion.

(f) A bench mark (BM) with respect to mean sea level (MSL) should be made essential to in-mining channel reaches (MCR). Below which no mining shall be allowed.

(g) Identifying steps for conservation of mineral.

(h) Permanent gauging facilities (for discharge and sediment both) should be made compulsory for the sites having excessive mining in consultation with Central Water Commission or any competent State Agency.

(i) Implementing safeguards for checking illegal and indiscrete mining.

Following the above processes, to begin with it is important to prepare a survey document mapping the status of sand sources in a district. This survey should be conducted and report be prepared for each district. Though it is an acceptable fact that rivers cut across districts and States and every river is an ecosystem in itself. But, keeping in view the fact that the district is the most established unit of administration at which this kind of survey, planning and monitoring can be ensured effectively, it is proposed that every district will prepare this document taking the river stretch in that district as an ecological unit and inventorising other sources of sand in the district.

Besides, the production of aggregate in a particular area is a function of availability of natural resources, the size of the population, the economy of the area and various developmental and infrastructural works being undertaken in the area.

The natural resources must be utilized in environment friendly manner in scientific and systematic way and with the objective of sustainable development the policy on the subject should have provisions for protection of environment & ecology. These factors can be accounted for in a most efficient manner at district level.

The sustainable mining plan needs to be dynamic. A survey should be carried out by the District Environment Impact Assessment Authority (DEIAA) with the assistance of Geology Department, Irrigation Department, Forest Department, Public Works Department, Ground Water Boards, Remote Sensing Department and Mining Department etc. in the district at regular intervals.

**The survey shall contain:**

1. District wise detail of river or stream and other sand source.
2. District wise availability of sand or gravel or aggregate resources.
3. District wise detail of existing mining leases of sand and aggregates.

**Based on this survey document, the action plan shall divide the river/ stream/ other sources of the District into the following categories:**

1. River / Stream beds sections / other sources suitable for extraction of sand and aggregates.
2. River / Stream beds sections / other sources prohibited for extraction of sand and aggregates.

**The river/ streams/ other sources of sand and aggregate are studied on following parameters:**

**a) Geomorphological studies**

i) Place of origin
ii) Catchment area.
iii) General profile of river stream.
iv) Annual deposition factor.
v) Replenishment.
vi) Total potential of minor mineral in the river bed.

**b) Geological studies**

i) Lithology of catchment area.
ii) Tectonics and structural behavior of rocks.

**c) Climatic Factors**

i) Intensity of rainfall.
ii) Climate Zone.
iii) Temperature variation

**The following points to be considered while selecting the river / stream for mining besides the above parameters:**

i) A stable river is able to constantly transport the flow of sediments produced by watershed such that it's dimensions (width and depth) pattern and vertical profile are maintained without aggrading (building up) or degrading (scouring down).

ii) The amount of boulders, cobbles, pebbles, and sand deposited in river bed equals to the amount delivered to the river from catchment area and from bank erosion minus amount transported downstream each year.

iii) It is compulsive nature of river to meander in their beds and therefore they will have to be provided with adequate corridor for meandering without hindrance. Any attempt to diminish the width of the corridor (floodway) and curb the freedom to meander would prove counterproductive.

iv) Erosion and deposition is law of nature. The river stream has to complete its geomorphological cycles from youth, mature to old age.

v) River capturing is unavoidable.

vi) Fundamentally the lowest point of any stream is fixed by sea level.

This survey document should be prepared in the district based on direct and indirect benefits of mining and identification of the potential threats to the river / stream beds in the district.

Besides, calculating the carrying capacity of the river / stream beds / other sources to find out maximum quantity available to be allowed for removal each year from the sources, it should also provide various measures to regulate sand and aggregate mining in a systemic way.

It has to provide for environmentally safe depth of mining and safeguards of banks by prescribing safe distance from banks. It is required that there should be a Sub-Divisional Committee which should visit each site and make recommendation. The Committee should comprise of Sub-Divisional Magistrate, Officers from Irrigation department, State Pollution Control Board or Committee, Forest department, Geology or mining officer shall visit each site for which environmental clearance has been applied for and make recommendation on suitability of site for mining or prohibition thereof.

# THE STRUCTURE OF DISTRICT SURVEY REPORT

**The report can have following structure:**

1. Introduction
2. Overview of Mining Activity in the District
3 The List of Mining Leases in the District with location, area and period of validity
4. Details of Royalty or Revenue received in last three years
5. Detail of Production of Sand or Bajari or minor mineral in last three years
6. Process of Deposition of Sediments in the rivers of the District
7. General Profile of the District
8. Land Utilization Pattern in the district: Forest, Agriculture, Horticulture, Mining etc.
9. Physiography of the District
10. Rainfall: month-wise
11. Geology and Mineral Wealth

**12. Drainage System with description of main rivers.**

| Sl.No. | NAME OF RIVER | AREA DRAINED (Sq. Km) | % AREA DRAINED |
|---|---|---|---|
| | | | |

**13. Salient Features of Important Rivers and Streams:**

| Sl.No. | Name of the River / Stream | Total Length in the District (in Km) | Place of origin | Altitude at Origin |
|---|---|---|---|---|
| | | | | |

**14. 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 geo-morphology

and other factors, it can be 50% to 60% of the area of a particular river/stream, e.g. in Himachal Pradesh mineral constituents like boulders, river born bajari, sand up to a depth of one 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. While calculating the mineral potential, the average specific gravity is taken as 2.25. The percent of mineral constituent like boulder, river bajari, sand also varies for different river and streams. While calculating the mineral potential the percentage of each mineral constituent is taken as, Boulders 35-40%, Bajari - 30-35%, Sand 25-30% 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.

**For illustration one example of Yamuna River in Sirmaour district of Himachal Pradesh is given below:**

| Portion of the River / Stream Recommended for Mineral Concession | Length of area recommended for mineral concession (in kilometer) | Average width of area recommended for mineral concession (in meters) | Area recommended for mineral concession (in square meter) | Mineable mineral potential (in metric tonne) (60% of total mineral potential) |
|---|---|---|---|---|
| From Downstream of confluence with Tons River to Behral near Haryana and Uttar Pradesh border | 31 | 478 | 14818000 | 16803612 |

Note: Considering the density of river bed material to be **1.89 g/cm$^3$**

**Present Status of Mining**

This gives the detail of mining leases already in operation in this stretch, area and production in last three years from these leases is calculated.

**Mineral Potential is calculated in following way:**

**Mineral Potential**

| Boulder (MT) | Bajari (MT) | Sand (MT) | Total Mineable Mineral Potential (MT) |
|---|---|---|---|
| 5601204 | 6801462 | 4400946 | 16803612 |

**Annual Deposition**

| | | | |
|---|---|---|---|
| 336072 | 408088 | 264057 | 1008217 |

**Recommendation:**

From the above it is clear that about 16803612 metric tonnes of mineral is available up to depth of one meter in the river bed of Yamuna in Sirmour district.
The annual deposition is 1008217 MT.
The average annual production is 80000 MT.
So, 16723612 MT of mineral can be safely removed.

**In similar manner it should be calculated for each river and stream in the district and compiled in following format:**

| Sl.No. | River/ Stream | Portion of the river / stream recommended for mineral concession | Length of the recommended area for mineral concession (in kilometer) | Average width of the recommended area for mineral concession (in meters) | Area recommended for mineral concession (in sq.mtrs.) | Mineable mineral potential (in metric tonne) (60% of total mineral potential) |
|---|---|---|---|---|---|---|
| | | | | | | |
| | | | | | | |
| **Total for the District** | | | | | | |

About the size of the mining leases for the aggregates it should be borne in mind that a river / stream can be divided into two zones, which in-turn is dynamic i.e. the zone of erosion and

zone of deposition. These zones of deposition and erosion are extended in different patches in the river.

Any mining lease granted in larger tract can cover both the zones, and mining activity in zone of erosion can further aggravate the problem of erosion and as such the mining activity can be allowed only in the zone of the deposition. The mining leases of larger areas in rivers are neither in interest of environment nor in the interest of mineral conservation.

In Himalayan states the rivers and wasteland has been mostly classed as forest land and mining on that requires diversion of forest land and payment of compensatory afforestation and NPV etc. The land in river beds in hilly tracts and many small rivers at any one site seldom exceed 5 hectare, so not allowing sand mining leases less than 5 hectare on river beds further aggravates the situation. So the size of mining lease for river sand mining should be determined by the State as per the local situation.

# MANAGEMENT PLAN

## 1. River Bed Mining Recommendations:

### a) Permit Mining Volume Based on Measured Annual Replenishment

In the first year following adoption of the management plan, a volume equal to the estimated annual replenishment could be extracted from the reach of channel. Replenishment (up to the elevation of the selected channel configuration) would need to occur before subsequent extraction could take place. The concept of annual replenishment accounts for the episodic nature of sediment transport. For example, during wet periods with high stream flows, and a high contribution of sediment from hill slopes and tributaries, monitoring data would show that sand and gravel bars are replenished quickly. During drought periods with low stream flow, and little sediment supply or transport, monitoring data would likely show that bars were replenished at a slower rate.

The use of monitoring data is essential in measuring when actual replenishment occurs. The use of the concept of annual replenishment protects long-term channel stability as well as aquatic and riparian habitat by extracting a volume sustainable by watershed processes.

### b) Establish an Absolute Elevation below Which No Extraction May Occur (Minimum Enveloped Level or Redline).

The absolute elevation below which no mining could occur or "redline" would be surveyed on a site-specific basis in order to avoid impacts to structures such as bridges and to avoid vegetation impacts associated with down-cutting due to excessive removal of sediment. An extraction site can be determined after setting the deposition level at 1 m above natural channel thalweg elevation, as determined by the survey approved by mine plan approving authority.

### c) Limit River Bed Extraction Methods to Bar Skimming

If mining is limited to the downstream end of the bar with a riparian buffer on both the channel and hill slope (or floodplain) side, bar skimming would minimise impacts. Other methods such as excavation of trenches or pools in the low flow channel lower the local base level, and maximise upstream (head cutting and incision) and downstream (widening and braiding) impacts. In addition, direct disturbance of the substrate in the low flow channel should be avoided. Trenching on bars may be beneficial in the future if the river becomes severely aggraded, flat, shallow and braided. Trenching of bars may initially impact a smaller area of riparian habitat than skimming - as a result of excavating deeper rather than shallow skimming of a large area. However, over the

long-term, the upstream and downstream effects of a trench on the bar or in the channel may offset any short-term benefit derived from this method.

**d) Extract Sand and Gravel from the Downstream Portion of the Bar:**

Retaining the upstream one to two thirds of the bar and riparian vegetation while excavating from the downstream one to two third of the bar is accepted as a method to promote channel stability and protect the narrow width of the low flow channel necessary for aquatic life. Sand and gravel would be re-deposited in the excavated downstream one to two thirds of the bar (or downstream of the widest point of the bar) where an eddy would form during sediment transporting flows. In contrast, if excavation occurs on the entire bar after removing existing riparian vegetation, there is a greater potential for widening and braiding of the low flow channel.

**e) Concentrate Activities to Minimise Disturbance:**

River bed extraction activities should be concentrated or localised to a few bars rather than spread out over many bars. This localisation of extraction will minimise the area of disturbance of upstream and downstream effects. Skimming decreases habitat and species diversity - these effects should not be expanded over a large portion of the area.

**f) Review Cumulative Effects of Sand and Gravel Extraction:**

The cumulative impact of all mining proposals should be reviewed on an annual basis to determine if cumulative riverine effects or effects to the estuary are likely.

**g) Maintain Flood Capacity:**

Flood capacity in the river should be maintained in areas where there are significant flood hazards to existing structures or infrastructure.

**h) Establish a Long-term Monitoring Program:**

Monitoring of changes in bed elevation and channel morphology, and aquatic and riparian habitat upstream and downstream of the extraction would identify any impacts of sand and gravel extraction to biologic resources. Long-term data collected over a period of decades as sand and gravel extraction occurs will provide data to use in determining trends.

**i) Minimise Activities That Release Fine Sediment to the River:**

No washing, crushing, screening, stockpiling, or plant operations should occur at or below the streams "average high water elevation," or the dominant discharge. These and similar activities have the potential to release fine sediments into the stream, providing habitat conditions harmful to local fish.

**j) Retain Vegetation Buffer at Edge of Water and Against River Bank:**

Riparian vegetation performs several functions essential to the proper maintenance of geomorphic and biological processes in rivers. It shields river banks and bars from erosion. Additionally, riparian vegetation, including roots and downed trees, serves as cover for fish, provides food source, works as a filter against sediment inputs, and aids in nutrient cycling. More broadly, the riparian zone is necessary to the integrity of the ecosystem providing habitat for invertebrates, birds and other wildlife.

**k) The River Bed mining should only be allowed during the dry season.**

No River bed mining should be permitted during rainy season (see Appendix 9).

**l) An Annual Status and Trends Report:**

This report should review permitted extraction quantities in light of results of the monitoring program, or as improved estimates of replenishment become available. The report should document changes in bed elevation, channel morphology, and aquatic and riparian habitat. The report should also include a record of extraction volumes permitted, and excavation location. Finally, recommendations for reclamation, if needed should be documented.

## 2. Off-Channel or Floodplain Extraction Recommendations

**a) Floodplain Extraction should be set back from the Main Channel**

In a dynamic alluvial system, it is not uncommon for meanders to migrate across a floodplain. In areas where sand and gravel occurs on floodplains or terraces, there is a potential for the river channel to migrate toward the pit. If the river erodes through the area left between the excavated pit and the river, there is a potential for "river capture," a situation where the low flow channel is diverted though the pit. In order to avoid river capture, excavation pits should set back from the river to provide a buffer, and should be designed to withstand the 100-year flood (100-year ARI). Adequate buffer widths and reduced pit slope gradients are preferred over engineered structures which require maintenance in perpetuity. Hydraulic, geomorphic, and geotechnical studies should be conducted prior to design and construction of the pit and bund. In addition to river capture, extraction pits create the possibility of stranding fish.

**b) The maximum depth of Floodplain Extraction should remain above the Channel Thalweg**

Floodplain pits should not be excavated below the elevation of the thalweg in the adjacent channel. This will minimise the impacts of potential river capture by limiting the potential for head cutting and the potential of the pit to trap sediment. A shallow excavation (above the water table) would provide a depression that would fill with

water part of the year, and develop seasonal wetland habitat. An excavation below the water table would provide deep water habitat.

**c) Side Slopes of Floodplain Excavation Should Range from 3:1 to 10:1**

Side slopes of a floodplain pit should be graded to a slope that ranges from 3:1 to 10:1. This will allow for a range of vegetation from wetland to upland. Steep side slopes excavated in floodplain pits on other systems have not been successfully reclaimed, since it is difficult for vegetation to become stabilised. Terrace pits should be designed with a large percentage of edge habitat with a low gradient which will naturally sustain vegetation at a variety of water levels.

**d) Place Stockpiled Topsoil above the 25-year Return Period or ARI Level**

Stockpiled topsoil can introduce a large supply of fines to the river during a flood event and degrade fish habitat. Storage above the 25-year flood (25-year ARI) inundation level is sufficient to minimise this risk.

**e) Floodplain Pits Should Be Restored to Wetland Habitat or Reclaimed for Agriculture**

The key to successful restoration or reclamation is to conserve or import adequate material to re-fill the pit, while ensuring that pit margins are graded to allow for development of significant wetland and emergent vegetation.

**f) Establish a Long-term Monitoring Program**

A long-term monitoring program should provide data illustrating any impacts to river stability, groundwater, fisheries, and riparian vegetation. The monitoring program should assess the success of any reclamation or restoration attempted.

**g) An Annual Status and Trends Report**

The status and trends report described previously should include a section on the hydrologic and biologic components of floodplain pit reclamation.

## 3. Extraction Methods

**The important methods of sand and gravel mining operations are as below:**

**a)** **Bar scalping or skimming** is extraction of sand and gravel from the surface of bars. This method generally requires that surface irregularities be smoothed out and that the extracted material be limited to what could be taken above an imaginary line sloping upwards and away from the water from a specified level above the river's water surface at the time of extraction (typically 0.3 - 0.6 m (1-2 ft). Bar scalping is commonly repeated year after year. To maintain the hydraulic control provided to upstream by the Riffle head, the preferred method of bar scalping is now generally to leave the top one-third (approximately) of the bar undisturbed, mining only from the downstream two-

thirds.

**b) Dry-Pit Channel Mining**

Dry-pit channel mines are pits excavated within the active channel on dry intermittent or ephemeral stream beds. Dry pits are often left with abrupt upstream margins, from which head cuts are likely to propagate upstream.

**c) Wet-Pit Channel Mining**

Wet-pit mining involves excavation of a pit in the active channel below the surface water in a perennial stream or below the alluvial groundwater table.

**d) Bar Excavation**

A pit is excavated at the downstream end of the bar as a source of aggregate and as a site to trap sand and gravel. Upon completion, the pit may be connected to the channel at its downstream end to provide side channel habitat.

**e) Channel-wide River bed Mining**

In rivers with a highly variable flow regime, sand and gravel are commonly extracted across the entire active channel during the dry season. The bed is evened out and uniformly (or nearly so) lowered.

## 4. Reclamation Plans

**Reclamation plans should include:**

a) A baseline survey consisting of existing condition cross-section data: Cross-sections must be surveyed between two documented endpoints set back from the top of bank, and elevations should be referenced to bench mark;

b) The proposed mining cross-section data should be plotted over the baseline data to illustrate the vertical extent of the proposed excavation;

c) The cross-section of the replenished bar should be the same as the baseline data. This illustrates that the bar elevation after the bar is replenished will be the same as the bar before extraction;

d) A planimetric map showing the aerial extent of the excavation and extent of the riparian buffers;

e) A planting plan developed by a plant ecologist familiar with the flora of the river for any areas such as roads that need to be restored;

f) A monitoring plan: The appropriate reclamation plans can turn river-bed and floodplain sand and gravel mining operations into something perceived by the public as desirable.

# MARINE SAND MINING AND IMPACT ON MARINE BIODIVERSITY

The mining of marine aggregates is increasing significantly. Marine sand mining has had an impact on seabed flora and fauna. Dredging and extraction of aggregates from the benthic (sea bottom) zone destroys organisms, habitats and ecosystems and deeply affects the composition of biodiversity, usually leading to a net decline in faunal biomass and abundance or a shift in species composition. Aggregate particles that are too fine to be used are rejected by dredging boats, releasing vast dust plumes and changing water turbidity, resulting in major changes to aquatic and riparian habitats over large areas.

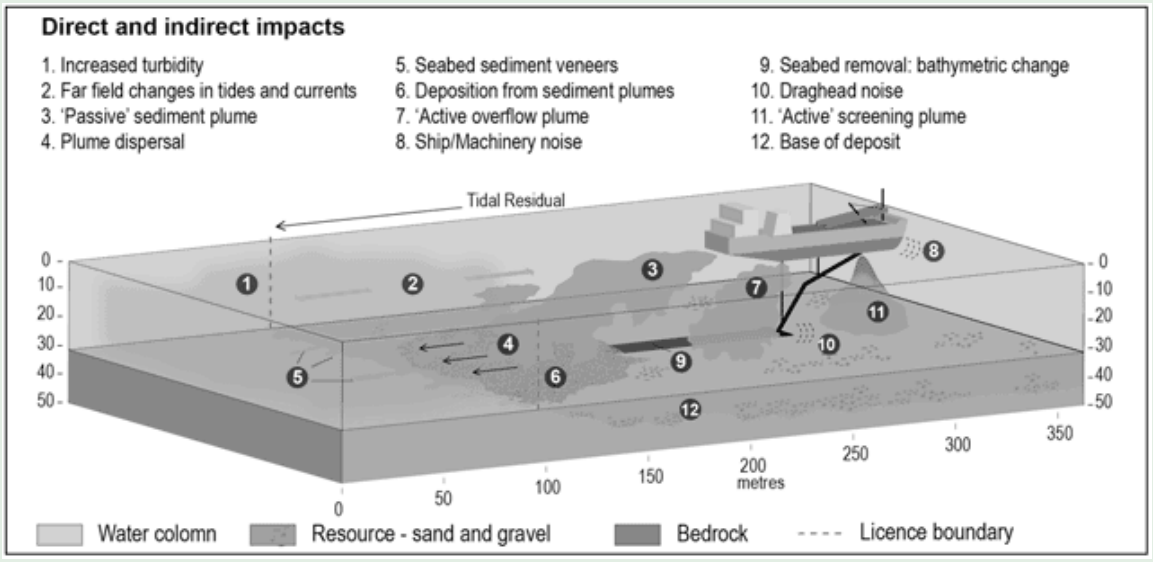


Figure: Direct and indirect consequences of aggregates dredging on the marine environment.

Source: Tillin, H.M., Houghton, A.J., Saunders, J.E., Drabble, R. and Hull, S.C., 2011. Direct and Indirect Impacts of Aggregate Dredging, Marine Aggregate Levy Sustainability Fund (MALSF). Science Monograph Series 1, 1-46.

# REDUCING CONSUMPTION OF SAND

Because sand is still very cheap - sand itself is freely accessible; only extraction and transportation costs need to be covered - there is little or no incentive to induce a change in our consumption. Despite the very high value of minerals found in the sand, it is mostly used for concrete or is buried under highways. Recycled building and quarry dust material can be a substitute for sand. Concrete rubble should be recycled to avoid using aggregates, at least for low-quality uses.

Substitutes for sand are available. Quarry dust could be used to replace sand in general concrete structures. The replacement of sand by up to 40% of incinerator ash exhibits higher compressive strength than regular cement mortars. Some desert sand can be used if mixed with other material. There are alternatives for building houses, including wood, straw and recycled material. However, the current building industry is geared toward concrete know-how and equipment.

Training of architects and engineers, new laws and regulations, and positive incentives are needed to initiate a shift for lowering our dependency on sand. Renewable and recycled materials need to be targeted for building houses and roads. Use of Manufactured Sand (M-Sand) also needs to be promoted.

Alternative sources of sand and gravel, which accumulate at the bottom of dams, can also be targeted. Their use would address the problem of these aggregates accumulating which leads to a reduced capacity of dams to store water and could result in the dams' water intakes being blocked. Dams regularly release large amounts of water to flush out aggregates.

The important standard setting bodies in India are taking steps to promote the usage of alternatives to sand and gravel. Bureau of Indian Standards, the National Standards Body of the country, considering the scarcity of sand and coarse aggregates from natural sources, has evolved number of alternatives which are ultimately aimed at conservation of natural resources apart from promoting use of various waste materials without compromising in quality.

These measures include permitting in the Concrete Code (IS 456) as also in the National Building Code of India, the use of slag - a waste from steel industry, fly ash - a waste from thermal power plants, crushed over-burnt bricks and tiles - waste from clay brick and tile industry, in plain cement concrete as an alternative to sand/natural aggregate, subject to fulfilling the requirements of the Code. This Code, further, encourages use of fly ash and ground granulated blast furnace slag as part replacement of ordinary Portland cement in plain as well as reinforced cement concrete.

The Indian Standard on concrete mix design (IS 10262) has been upgraded to include guidance and examples of designing concrete mixes using fly ash and slag. Provisions for compliance for requisite quality of concrete made using fly ash and slag have been duly covered for the manufacturers of ready-mixed concrete in the Indian Standard Code of practice for RMC (IS 4926).

BIS has also formulated an Indian Standard Specification for artificial lightweight aggregates covering manufactured aggregates, such as foamed blast furnace slag, bloated clay aggregate, sintered fly ash aggregate and cinder aggregate (IS 9142).

A series of Indian Standards has also been formulated on various precast concrete products such as solid and hollow concrete blocks, light weight concrete blocks, autoclaved aerated concrete blocks, preformed foam concrete blocks, partial prefabricated concrete flooring and roofing units, concrete pipes, etc, all permitting use of fly ash and slag.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Cluster of mine leases of area ≥ 25 hectares with individual lease size < 50ha** | **'B1'** | Yes | Yes | Yes | State, State Agency, Group of Project Proponents, Project Proponent | Project Proponent | SEAC/ SEIAA | |
| **Cluster of any size with any of the individual lease ≥ 50ha** | **'A'** | Yes | Yes | Yes | State, State Agency, Group of Project Proponents, Project Proponent | Project Proponent | EAC/ MoEFCC | |

General Conditions will not apply on account of inter- state boundaries for river sand mining leases.

# EXEMPTION OF CERTAIN CASES FROM BEING CONSIDERED AS MINING FOR THE PURPOSE OF REQUIREMNT OF ENVIRONMENTAL CLEARANCE

Keeping in view the purpose, maintenance of infrastructure, abatement of disasters, customary easement and property rights, it is felt that following cases may not be treated as mining for the purpose of requirement of environmental clearance. The following cases shall not require prior environmental clearance, namely:-

1. Extraction of ordinary clay or sand, manually, by the Kumhars (Potter) to prepare earthen pots, lamp, toys, etc. as per their customs.
2. Extraction of ordinary clay or sand, manually, by earthen tile makers who prepare earthen tiles.
3. Removal of sand deposits on agricultural field after flood by farmers.
4. Customary extraction of sand and ordinary earth from sources situated in Gram Panchayat for personal use or community work in village.
5. Community works like de-silting of village ponds or tanks, construction of village roads, ponds, bunds undertaken in Mahatama Gandhi National Rural Employment and Guarantee Schemes, other Government sponsored schemes, and community efforts.
6. Dredging and de-silting of dams, reservoirs, weirs, barrages, river, and canals for the purpose of their maintenance, upkeep and disaster management.
7. Traditional occupational work of sand by Vanjara and Oads in Gujarat vide notification number GU/90(16)/MCR-2189(68)/5-CHH, dated the 14th February, 1990 of the Government of Gujarat.
8. Digging of well for irrigation or drinking water.
9. Digging of foundation for buildings not requiring prior environmental clearance.
10. Excavation of ordinary earth or clay for plugging of any breach caused in canal, nala, drain, water body, etc., to deal with any disaster or flood like situation upon orders of District Collector or District Magistrate.
11. Activities declared by State Government under legislations or rules as non- mining activity with concurrence of the Ministry of Environment, Forest and Climate Change, Government of India.

# STANDARD ENVIRONMENTAL CONDITIONS FOR SAND MINING

| Impact Category | S.No. | Environmental Conditions |
|---|---|---|
| Stakeholder Engagement | 1 | In the case of private land not owned by the lease holder an affidavit should be obtained regarding consent of the concerned land owner (s) for carrying out the mining operation. |
| | 2 | Stakeholder awareness and ability to raise concerns and getting it to be addressed. |
| | 3 | Implementation of Action Plan on the issues raised during the Public Hearing. The Proponent shall complete all the tasks as per the Action Plan submitted with the budgetary provisions during the Public Hearing. |
| | 4 | Having valid lease and all the permits is very much needed. |
| | 5 | To establish a Monitoring Committee including Local Panchayat, to check on traffic due to transportation and submit an annual report on the same. |
| | 6 | The directions given by the Hon'ble Supreme Court of India vide order dated 27.02.2012 in Deepak Kumar case [SLP(C) Nos. 19628-19629 of 2009] and order dated 05.08.2013 of the Hon'ble National Green Tribunal in application No. 171/2013 may be strictly followed. |
| | 7 | All the provisions made and restrictions imposed as covered in the Minor Mineral Rule, shall be complied with, particularly regarding Environment Management Practices and its fund management and Payment of compensation to the land owners. |
| **Sustainable Mining Practices** | 8 | District level Survey Report should be prepared and area suitable for mining and area prohibited for mining be identified. |
| | 9 | The depth of mining in Riverbed shall not exceed one meter or water level whichever is less, provided that where the Joint Inspection Committee certifies about excessive deposit or over accumulation of mineral in certain reaches requiring channelization, it can go up to 3 meters on defined reaches of the River. |
| | 10 | No River sand mining be allowed in rainy season. |
| | 11 | To submit annual replenishment report certified by an authorized agency. In case the replenishment is lower than the approved rate of production, |

| | | |
|---|---|---|
| | | then the mining activity / production levels shall be decreased / stopped accordingly till the replenishment is completed. |
| | 12 | Ultimate working depth shall be up to 3.0 m from Riverbed level and not less than one meter from the water level of the River channel whichever is reached earlier. In hilly terrain this depth be preferably restricted to one meter. |
| | 13 | In River flood plain mining a buffer of 3 meter to be left from the River bank for mining. |
| | 14 | In mining from agricultural field a buffer of 3 meter to be left from the adjacent field. |
| | 15 | Mining shall be done in layers of 1 meter depth to avoid ponding effect and after first layer is excavated, the process will be repeated for the next layers. |
| | 16 | To maintain safety and stability of Riverbanks i.e. 3 meter or 10% of the width of the River whichever is more will be left intact as no mining zone. |
| | 17 | No stream should be diverted for the purpose of sand mining. No natural water course and/ or water resources are obstructed due to mining operations. |
| | 18 | No blasting shall be resorted to in River mining and without permission at any other place. |
| | 19 | Depending upon the location, thickness of sand, deposition, agricultural land/Riverbed, the method of mining may be manual, semi-mechanized or mechanized; however, manual method of mining shall be preferred over any other method. |
| **Identification and Preparation of Mining Site** | 20 | Mining should be done only in area / stretch identified in the District Level Survey Report suitable for mining and so certified by the Sub-Divisional Level Committee after site visit. |
| | 21 | Mining should begin only after pucca pillar marking the boundary of lease area is erected at the cost of the lease holder after certification by the mining official and its geo coordinates are made available to the District Level Committee. |
| | 22 | The top soil in case of surface land mining shall be stored temporarily in an earmarked site and concurrently used for land reclamation. |

| | | |
|---|---|---|
| **Monitoring the Mining of Mineral and its Transportation** | 23 | The EC holder shall keep a correct account of quantity of mineral mined out, dispatched from the mine, mode of transport, registration number of vehicle, person in-charge of vehicle and mine plan. This should be produced before officers of Central Government and State for inspection. |
| | 24 | For each mining lease site the access should be controlled in a way that vehicles carrying mineral from that area are tracked and accounted for. |
| | 25 | The State / District Level Environment Committee should use technology like Bar Coding, Information and Communications Technology (ICT), Web based and ICT enabled services, mobile SMS App etc. to account for weight of mineral being taken out of the lease area and the number of trucks moving out with the mineral. |
| | 26 | There should be regular monitoring of the mining activities in the State to ensure effective compliance of stipulated EC conditions and of the provisions under the Minor Mineral Concessions Rules framed by the State Government. |
| **Noise Management** | 27 | Noise arising out of mining and processing shall be abated and controlled at source to keep within permissible limit. |
| | 28 | Restricted working hours. Sand mining operation has to be carried out between 6 am to 7 pm. |
| **Air Pollution and Dust Management** | 29 | The pollution due to transportation load on the environment will be effectively controlled and water sprinkling will also be done regularly. |
| | 30 | Air Pollution due to dust, exhaust emission or fumes during mining and processing phase should be controlled and kept in permissible limits specified under environmental laws. |
| | 31 | The mineral transportation shall be carried out through covered trucks only and the vehicles carrying the mineral shall not be overloaded. Wheel washing facility should be installed and used. |
| **Management of Visual Impact** | 32 | The mining operations are to be done in a systematic manner so that the operations shall create a major visual impact on the site. |
| **Bio-Diversity Protection** | 33 | Restoration of flora affected by mining should be done immediately. Twice the number of trees destroyed by mining to be planted preferably of indigenous species. Each EC holder should plant and maintain for lease period at least 5 trees per hectare in area near lease. |
| | 34 | No mining lease shall be granted in the forest area without forest clearance in accordance with the provisions of the Forest Conservation Act, 1980 and the rules made thereunder. |

| | | |
|---|---|---|
| | 35 | Protection of turtle and bird habitats shall be ensured. |
| | 36 | No felling of tree near quarry is allowed. For mining lease within 10km of the National Park / Sanctuary or in Eco-Sensitive Zone of the Protected Area, recommendation of Standing Committee of National Board of Wild Life (NBWL) have to be obtained as per the Hon'ble Supreme Court order in I.A. No. 460 of 2004. |
| | 37 | Spring sources should not be affected due to mining activities. Necessary Protection measures are to be incorporated. |
| **Management of Instability and Erosion** | 38 | Removal, stacking and utilization of top soil in mining are should be ensured. Where top soil cannot be used concurrently, it shall be stored separately for future use keeping in view that the bacterial organism should not die and should be spread nearby area. |
| | 39 | The EC should stipulate conditions for adequate steps to check soil erosion and control debris flow etc. by constructing engineering structures |
| | 40 | Use of oversize material to control erosion and movement of sediments |
| | 41 | No overhangs shall be allowed to be formed due to mining and mining shall not be allowed in area where subsidence of rocks is likely to occur due to steep angle of slope. |
| | 42 | No extraction of stone / boulder / sand in landslide prone areas. |
| | 43 | Controlled clearance of riparian vegetation to be undertaken |
| **Waste Management** | 44 | Site clearance and tidiness is very much needed to have less visual impact of mining. |
| | 45 | Dumping of waste shall be done in earmarked places as approved in Mining Plan. |
| | 46 | Rubbish burial shall not be done in the Rivers. |
| **Pollution Prevention** | 47 | The EC holder shall take all possible precautions for the protection of environment and control of pollution. |
| | 48 | Effluent discharge should be kept to the minimum and it should meet the standards prescribed. |
| **Protection of Infrastructure** | 49 | Mining shall not be undertaken in a mining lease located in 200-500 meter of bridge, 200 meter upstream and downstream of water supply / irrigation scheme, 100 meters from the edge of National Highway and railway line, 50 meters from a reservoir, canal or building, 25 meter from the edge of State Highway and 10 meters from the edge of other |

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| | | roads except on special exemption by the Sub-Divisional level Joint Inspection Committee. |
| | 50 | For carrying out mining in proximity to any bridge or embankment, appropriate safety zone (not less than 200 meters) should be worked out on case to case basis, taking into account the structural parameters, location aspects and flow rate, and no mining should be carried out in the safety zone so worked out. |
| | 51 | Mining activities shall not be done for mine lease where mining can cause danger to site of flood protection works, places of cultural, religious, historical, and archeological importance. |
| **Enhancement Road Safety** | 52 | Vehicles used for transportation of sand are to be permitted only with **of** fitness and PUC Certificates. |
| | 53 | Junction at takeoff point of approach road with main road be properly developed with proper width and geometry required for safe movement of traffic by concession holder at his own cost. |
| | 54 | Project Proponent shall ensure that the road may not be damaged due to transportation of the mineral; and transport of minerals will be as per IRC Guideliness with respect to complying with traffic congestion and density. |
| | 55 | No stacking allowed on road side along National Highways. |
| **Closure and Reclamation of Mined Out Area** | 56 | The Project Proponent shall undertake phased restoration, reclamation and rehabilitation of land affected by mining and completes this work before abandonment of mine. |
| | 57 | Restoration, reclamation and rehabilitation in cluster should be done systematically and jointly by each EC holder in that cluster. This should be appropriately reflected as EC condition in each EC in cluster. |
| | 58 | Site specific plan with eco-restoration should be in place and implemented. |
| **Health and Safety** | 59 | Health and safety of workers should be taken care of. |
| | 60 | Transport of mineral will not be done through villages / habitations. |
| | 61 | The Project Proponent shall make arrangement for drinking water, first aid facility (along with species specific anti-venom provisioning) in case of emergency for the workers. |

| | | |
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| | 62 | Project Proponent shall implement the Disaster Management Plan if the mine lease area is located in Seismic Zone-IV. Project Proponent shall appoint a Committee to have a check over any disaster to warn workers well before for the safety of the workers. Emergency helpline number will be displayed at all levels. |
| | 63 | Project Proponent shall appoint an Occupational Health Specialist for Regular and Periodical medical examination of the workers engaged in the Project and records maintained; also, Occupational health check-ups for workers having some ailments like BP, diabetes, habitual smokers, etc. shall be undertaken once in six months and necessary remedial/preventive measures taken accordingly. Recommendations of National Institute for Labour for ensuring good occupational environment for mine workers would also be adopted. |
| **Monitoring the Impact of Mining** | 64 | The Project Proponent shall report monitoring data on replenishment, traffic management, levels of production, River Bank erosion and maintenance of Road etc. |
| **Mineral Conservation** | 65 | Use of alternate material such as M-sand in place of natural River sand shall be encouraged in order to reduce stress on natural eco-system. |

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ANNEXURE A-5

# Enforcement & Monitoring Guidelines for Sand Mining

**Ministry of Environment, Forest and Climate change**

**January, 2020**

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## 1.0 INTRODUCTION

The Ministry of Environment Forest & Climate Change formulated the Sustainable Sand Management Guidelines 2016 which focuses on the Management of Sand Mining in the Country. But in the recent past, it has been observed that apart from management and systematic mining practices there is an urgent need to have a guideline for effective enforcement of regulatory provision and their monitoring.

Section 23 C of MMDR, Act 1957 empowered the State Government to make rules for preventing illegal mining, transportation and storage of minerals. But in the recent past, it has been observed that there was large number of illegal mining cases in the Country and in some cases, many of the officers lost their lives while executing their duties for curbing illegal mining incidence. The illegal and uncontrolled illegal mining leads to loss of revenue to the State and degradation of the environment.

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 activities particularly sand mining in the country.

Use of latest remote surveillance and IT services helps in effective monitoring of the sand mining activity in-country and also assist the government in controlling the illegal mining activity in the country. Thus, there is a need for an effective policy for monitoring of sand mining in the Country which can be enforced on the ground. These guidelines focus on the effective monitoring of the sand mining since from the identification of sand mineral sources to its dispatch and end-use by consumers and the general public. Further, the effective monitoring and enforcement require efforts from not only Government agencies but also by consumers and the general public.

It is the responsibility of every citizen of India to protect the environment and effective monitoring can only be possible when all the stakeholders viz. Central Government, State Government, Leaseholders/Mine Owners, Distributors, Dealers, Transporters and Consumers (bulk & retail) will contribute towards sustainable mining, and comply with all the statutory provisions. It is felt necessary to identify the minimum requirements across all geographical region to have a uniform protocol for monitoring and enforcement of regulatory provision prescribed for sustainable sand and gravel mining.

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 provision of both these document arises, the provision made in "Enforcement & Monitoring Guidelines for Sand Mining-2020 "shall prevail.

## 4.0 REQUIREMENTS FOR MONITORING & ENFOCEMENT

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

a) River (riverbed and flood plain),
b) Lakes and reservoirs,
c) Agricultural fields,
d) Coastal / marine sand,
e) Palaeo-channels and
f) Manufactured Sand (M-Sand).

The SSMMG-2016 highlights the identification of the sand mining sources, replenishment of the River Bed Material (Sand, Boulder, Gravel, Cobble etc.), preparation of Districts Survey Report, and Standard Environmental Conditions suitable for sand mining projects.

The necessary requirements to comply with the direction of Hon'ble NGT and to facilitate effective monitoring and enforcement of regulatory provision for sand mining in the country are as follows:

i) Identification of sand mining sources, its quantification and feasibility for mining considering various environmental (proximity of protected area, wetlands, creeks, forest etc.) and other factors such as important structures, places of archaeological importance, habitation, prohibited area etc.

ii) The mining lease auctioned by State government as per their Minor Mineral Concession Rules are granted of Letter of Intent (LoI), but it has been observed that many of the sites are not suitable w.r.t environmental aspects. In most of the cases, the unplanned grant of mining lease leads to formation of cluster and/or contiguous cluster

of small mining leases which sometimes is difficult to regulate and monitor. In order to address such issues, more emphasis is required on the preparation of District Survey Report and its format for reporting,

iii) Mining Plan is an important document to assist the mine owner to operate the mine in a scientific manner. States have their own format for preparation of mining plan and it is observed that recording of the initial level of mining lease at shorter interval say 25m X 25 m grid interval is not present.

iv) There is no practice for regular replenishment study to ascertain the rate of depositing, plan and section needs to be prepared based on the restrictions provided in letter of intent and provisions of Sustainable Sand Mining Management Guidelines 2016.

v) Environmental Clearance is a process wherein the regulatory authorities after considering the potential environment impact of mining clearance is granted with a set of specific & standard conditions to carry out mining operations, but often it is observed that letter of intent is granted for a location which has less potential for mining and not feasible for environment-friendly mining. This leads to an unnecessary financial burden on the mine owners and litigations. Thus, LoI should be preferably granted for those locations which have the least possibility of an impact on the environment and nearby habitation.

vi) It is the responsibility of the mine owner to obtain all the statutory clearance and comply with the conditions stipulated in the clearance letter. Mining should be carried out within the mining lease area as per

approved mining plan or mining plan concurred by other regulatory authorities.

vii) Mining operation also involves transportation of mineral from the mining area to end-user and its necessary that movement of the mineral needs to be monitored.

The State Government already have power under section 23c of MMDR, Act 1957 to make rules for preventing illegal mining, transportation and storage of minerals. However, there are instances of illegal mining which shows that there is a need for strengthening the system of mineral dispatch and its monitoring. This document provides good practices already under implementation by various states for regulating the mineral sale, dispatch, storage, transportation and use.

viii) The river reaches with sand provide the resource and thus it is necessary to ascertain the rate of replenishment of the mineral. Regular replenishment study needs to be carried out to keep a balance between deposition and extraction. This document provides the procedure to be followed for conducting replenishment study.

ix) Even after all the regulatory procedure and policy being in place, there are instances where illegal mining is taking place. There is a need for regular surveillance of the sand mining reaches. The monitoring agencies can monitor the sites remotely by using Unmanned Artificial Vehicles (UAVs)/Drone which is now a viable option. The drone can also be used for reserves estimation, quantity estimation, land use monitoring. This document highlights possible use of IT/Satellite/Drone technology for effective monitoring of sand mining.

## 4.1 Identification of possible sand mining sources and preparation of District Survey Report (DSR)

### 4.1.1 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/LoI. 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.

**The Hon'ble NGT in its Judgment dated 08.12.2017 in the matter of Anjani Kumar vs State of Uttar Pradesh & Ors. inter-alia mentioned the following regarding sand mining in the Uttar Pradesh.**

> *"It states that the main object of preparation of District Survey Report is to ensure 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 and calculation of annual rate of replenishment and allowing time for replenishment after mining area. Thus, the environmental protection requires a strictly regulated mining in terms of area, quantity as well as most importantly replenishment thereof."*

*"The data collection and declared for preparation of DSR shall take precedence over other data and would form the foundation for providing mining lease in terms of Appendix- x to the Notification dated 15th January 2016 must be prepared by the statutory authority stated therein i.e. DEIAA prior to awarding of permits for carrying on mining activity in any part of the State of UP."*

**The Hon'ble High Court of Jharkhand at Ranchi in its orders dated the 11th April 2018 and 19th June 2018 in W.P. (PIL) No. 1806 of 2015, in the matter of Court on its Own Motion Versus the State of Jharkhand & Others with W.P. (PIL) No. 290 of 2013, in the matter of Hemant Kumar Shilkarwar Versus the State of Jharkhand & Others, has inter-alia directed** the preparation of District Survey Report for minor minerals other than Sand and Bajri or delegation of the powers for preparation of format of District Survey Report of minor minerals other than sand and Bajri to the State Government and/or District Environment Impact Assessment Authority and District Expert Appraisal Committee. To comply with the direction of Hon'ble High Court the Ministry has issued S.O. 3611(E) dated 25.07.2018, wherein, the procedure of preparation of DSR is mentioned. But it is felt that still there is other information that needs to be reported in DSR to make it a comprehensive DSR.

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/e-auction/grant of the mining lease/Letter of Intent (LoI) 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.

The revenue department of Kerala already conducted river mapping and sand auditing of around 20 rivers of Kerala which is a good example wherein the profile of rivers was created at regular intervals and aggradation/deposition was identified along with water level. In the same study, benchmarks were also created at a prominent location at regular interval for future surveying. Such study helps the mining departments to identify the source of sand.

Thus, it is proposed that for preparation of district survey report, the auditing of rivers needs to be carried out. There is already a provision under MMDR Act 2015 for National Mineral Exploration Trust (MET) wherein a 2% of royalty amount to be deposited in the trust. This fund is used for mineral exploration in the country. The Sand Auditing is also a sort of identification of mineral and State Government may request Central Govt. for proving funds for river auditing. The Central Govt. (Ministry of Mines) may also explore the possibilities for providing the funds for river auditing. The other option is that State Govt. may conduct such studies by its own fund and the same may be recovered from the leaseholders to whom the mining lease will be allocated.

c) District Survey Report is to be prepared in such a way that it not only identifies the mineral-bearing 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 M-Sand 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 are 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 ¾$^{th}$ part of the river, width needs to be identified on a map. Out of the ¾$^{th}$ part area, where there is a deposition/aggradation of the material needs to be identified. The remaining ¼$^{th}$ 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.

**Note:** As physical survey with conventional method is time-consuming, use of unmanned aerial vehicle (UAV) may be explored to carry out the survey and finalizing the original ground level and for developing a 3D model of the area.

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-V.** The details regarding cluster and contiguous cluster needs to be provided in **Annexure-VI**. The details of the transportation need to be provided in **Annexure-VII.**

## 4.2 Grant of Letter of Intent to those mining leases which are falling in potential mining zone

The State Government shall issue letter of intent as per procedure laid down in their Minor Mineral Concession Rules with due consideration of final district survey report. The State Government shall ensure that all the letter of intent shall have complete details of the mining lease including geo-coordinate of the corner points, the involvement of forest land, distance from the forest land, distance from the protected area, distance from other sites of archaeological importance, details of the cluster situation etc. The demarcation of the boundaries of LoI/Lease area shall be placed in public domain along with LoI/lease deed details.

The LOI should not be granted for mining area falling on both riverbed and outside riverbed. Therefore, in the same lease, both types of area should not be included.

The authority responsible for grant of lease for sand mining shall ensure that annual audit of the sand mining process, production and compliance of the imposed conditions by regulatory authority (Environmental clearance or mine plan) shall be one of the essential condition of the lease agreement. The annual audit report shall be submitted to the district administration, which shall be put in public domain through the district website. Any deviation observed shall be appropriately and in-accordance with applicable law shall be dealt by the concerned authority and corrective measures shall also be taken to restoration of ecological/environmental damage, if observed.

## 4.3 Mining Plan

The preparation of Mining Plan is also very important. The mining plan should include the original ground level recorded at an interval not more than 10M x 10M along & across the length of the river. In addition to this-levels, outside the mining lease and bank of the river up to meters needs to be recorded. In the mining plan, there should be 3 plates for each year production & development planning (pre-monsoon, monsoon and post-monsoon). The time period of monsoon should be defined in the DSR. At the time of review of the mining plan, the details of the replenishment study conducted for all the years needs to be included in the mining plan. The Mining Plan should include the certificate from PCCF on forest land, distance from the protected area, past production details for mining leases seeking expansion.

**Following considerations shall be kept in mind for sand/gravel mining while approving mining plan**

a) Parts of the river reach that experience deposition or aggradation shall be identified. The Leaseholder/ Environmental Clearance holder may be allowed to extract the sand and gravel deposit in these locations to manage aggradation problem.

b) The distance between sites for sand and gravel mining shall depend on the replenishment rate of the river. Sediment rating curve for the potential sites shall be developed and checked against the extracted volumes of sand and gravel.

c) Sand and gravel may be extracted across the entire active channel during the dry season.

d) Abandoned stream channels on the terrace and inactive floodplains be preferred rather than active channels and their deltas and flood plains. The stream should not be diverted to form the inactive channel.

e) Layers of sand and gravel which could be removed from the river bed shall depend on the width of the river and replenishment rate of the river.

f) Sand and gravel shall not be allowed to be extracted where erosion may occur, such as at the concave bank.

g) Segments of the braided river system should be used preferably falling within the lateral migration area of the river regime that enhances the feasibility of sediment replenishment.

h) Sand and gravel shall not be extracted up to a distance of 1 kilometre (1 km) from major bridges and highways on both sides, or five times (5x) of the span (x) of a bridge/public civil structure (including water intake points) on up-stream side and ten times (10x) the span of such bridge on down-stream side, subjected to a minimum of 250 meters on the upstream side and 500 meters on the downstream side.

i) The sediment sampling should include the bed material and bed material load before, during and after the extraction period. Develop a sediment rating curve at the upstream end of the potential reach using the surveyed cross-section. Using the historical or gauged flow rating curve, determine the suitable period of high flow that can replenish the extracted volume. Calculate the extraction volume based on the sediment rating curve and high flow period after determining the allowable mining depth.

j) Sand and gravel could be extracted from the downstream of the sand bar at river bends. Retaining the upstream one to two-thirds of the bar and riparian vegetation is accepted as a method to promote channel stability.

k) The flood discharge capacity of the river could be maintained in areas where there is a significant flood hazard to existing structures or infrastructure. Sand and gravel mining may be allowed to maintain the natural flow capacity based on surveyed cross-section history. Alternatively, off-channel or floodplain extraction is recommended to allow rivers to replenish the quantity taken out during mining.

l) The Piedmont Zone (Bhabhar area) particularly in the Himalayan foothills, where riverbed material is mined, this sandy-gravelly track constitutes excellent conduits and holds the greater potential for groundwater recharge. Mining in such areas should be preferred in locations selected away from the channel bank stretches.

m) Mining depth should be restricted to 3 meters and distance from the bank should be ¼$^{th}$ or river width and should not be less than 7.5 meters.

n) The borrow area should preferably be located on the riverside of the proposed embankment because they get silted in the course of time. For low embankment, less than 6 m in height, borrow area should not be selected within 25 m from the toe/heel of the embankment. In the case of the higher embankment, the distance should not be less than 50 m. In order to obviate the development of flow parallels to the embankment, crossbars of width eight times the depth of borrow pits spaced 50 to 60 meter center-to-center should be left in the borrow pits.

o) Demarcation of mining area with pillars and geo-referencing should be done prior to the start of mining.

p) A buffer distance /un-mined block of 50 meters after every block of 1000 meters over which mining is undertaken or at such distance as may be the directed/prescribed by the regulatory authority shall be maintained.

q) A buffer distance /unmined block of 50 meters after every block of 1000 meters over which mining is undertaken or at such distance as may be the directed/prescribed by the regulatory authority shall be maintained.

r) River bed sand mining shall be restricted within the central 3/4th width of the river/rivulet or 7.5 meters (inward) from river banks but up to 10% of the width of the river, as the case may be and decided by regulatory authority while granting environmental clearance in consultation with irrigation department. Regulating authority while regulating the zone of river bed mining shall ensure that the objective to minimize the effects of riverbank erosion and consequential channel migration are achieved to the extent possible. In general, the area for removal of minerals shall not exceed 60% of the mine lease area, and any deviation or relaxation in this regard shall be adequately supported by the scientific report.

s) Mining Plan for the mining leases(non-government) on agricultural fields/Patta land shall only be approved if there is a possibility of replenishment of the mineral or 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.

The minerals reserve for river bed area is calculated on the basis of maximum depth of 3 meters and margins, width and other dimensions as mentioned in para (s) above. The area multiplied by depth gives the volume and volume multiplied with bulk density gives the quantity in Metric Ton. In case of river bed, mineable material per hectare area available for actual mining shall not exceed the maximum quantity of 60,000 MT per annum.

## 4.4 Obtaining Environmental & Other Statutory Clearance

The LOI Holder/Lease Holder to obtain Environmental and Other Statutory Clearances from the concerned authorities as per provision of applicable laws.

## 4.5 Baseline date before Commencement of Mining Operations

Baseline data in respect of the initial level of mining lease in the interval not more than 25 X 25 meters shall be collected for record by leaseholder. The level of river bed upstream and downstream up to 100 meters also needs to be recorded. The area outside the mining lease/river bank (if lease boundary coincides with mining lease) up to 100 meters from both the banks/mining lease needs to surveyed for initial level.

## 4.6 Additional measures where project proponent is selected by a bidding

In those states where sand plots are auctioned to the highest bidder, the following is suggested:

It has been observed that bidders try to form a cartel and bids are received for certain plots where legal mining is done, and bids for certain other plots don't elicit any response. Sand from these un-

auctioned plots is then excavated using the same machinery deployed for the excavation of adjacent plot which might have been auctioned off. It is not easily possible for the field machinery to prevent such illegal activities. This may be prevented by having plot of larger size. plots are large in size as possible are identified for auction. Care may be taken to ensure that no continuous stretch of plot in the river bed is divided for auction. A continuous stretch of plot shall be preferred for auction, and the attempt may not be made to auction it off in pieces.

## 5.0 REPLENISHMENT STUDY

The need for replenishment study for river bed sand is required in order to nullify the adverse impacts arising due to excessing sand extraction. Mining within or near riverbed has a direct impact on the stream's physical characteristics, such as channel geometry, bed elevation, substratum composition and stability, in-stream roughness of the bed, flow velocity, discharge capacity, sediment transport capacity, turbidity, temperature etc. Alteration or modification of the above attributes may cause an impact on the ecological equilibrium of the riverine regime, disturbance in channel configuration and flow-paths. This may also cause an adverse impact on in-stream biota and riparian habitats. It is assumed that the riparian habitat disturbance is minimum if the replenishment is equal to excavation for a given stretch. Therefore, to minimize the adverse impact arising out of sand mining in a given river stretch, it is imperative to have a study of replenishment of material during the defined period.

### 5.1 Generic Structure of Replenishment Study

Initially replenishment study requires four surveys. The first survey needs to be carried out in the month of April for recording the level of mining lease before the monsoon. The second survey is at the time of closing of mines for monsoon season. This survey will provide the quantity of the material excavated before the offset of monsoon. The third survey needs to be carried out after the monsoon to know the quantum of material deposited/replenished in the mining lease. The fourth survey at the end of March to know the quantity of material excavated during the financial year. For the subsequent years, there will be a requirement of only three surveys. The results of year-wise surveys help the state government to establish the replenishment rate of the river. Based on the replenishment rate future auction may be planned.

The replenishment period may vary on nature of the channel and season of deposition arising due to variation in the flow. Such period and season may vary on the geographical and precipitation characteristic of the region and requires to be defined by the local agencies preferable with the help of the Central Water Commission and Indian Meteorological Department. The excavation will, therefore, be limited to estimated replenishment estimated with consideration of other regulatory provisions.

## 5.2 Methodology for Replenishment Study

The replenishment estimation is based on a theoretical empirical formula with the estimation of bedload transport comprising of analytical models to calculate the replenishment estimation. The iso-pluvial maps of IMD can be used for estimation of rainfall. Catchment yield is computed using different standard empirical formulas relevant to the geographical and channel attributes. eg. Strange's Monsoon runoff curves for runoff coefficient). Peak flood discharge for the study area can be 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 or similar can be made. A simulation model is used with basic data generated from the field in the pre-study and post-study period (preferably pre-monsoon and post-monsoon) to estimate the volume of replenished material. The particle size distribution and bulk density of the deposited material are required to be assessed from a NABL recognized laboratory. Considering the bulk density and the volume, the estimation of replenishment in weight will be calculated after considering safeguards and stability of the slopes and riverine regime. Some of the common methods used for field data acquisition for replenishment study

### 5.2.1. Physical survey of the field by the conventional method

i. The conventional survey technical using DGPS and other survey tools are used to define the topography, contours and offsets of the lease area. The survey should clearly depict the important attributes of the stretch of the river and its nearby important civil and other feature of importance. Such information will provide the eligible spatial area for mining. The contour and the elevation benchmarks will provide the baseline data for assessing the pre and post-study period scenario.

ii. Physical benchmarks are to be fixed at appropriate intervals (preferable 1 in 30 m) and the Reduced Level (RL) shall be validated from a nearby standard RL. These RL should be engraved on a steel plate (Bench Plate) and shall be fixed and placed at locations which are free from any damages and are available in pre and post-study period. The bench plates shall be available for use during the mining period as reference for all mining activity. Reference pillar may also be used in place of Bench Plates with visible and readable demarcation on the ground as common reference points to control the topographic survey and mining activity.

iii Baseline data on elevation status for a grid of 10 m x 10 m is preferred to have accuracy in the assessment. It is expected that two consecutive cross-sections in longitudinal and lateral direction should not be more than 10-meter distance apart, however, the regulatory authority may fix these intervals depending on the geographical and site-specific conditions, only and after providing the scientific reason for such deviation.

iv The changes observed in the elevation in per and post scenario at each node should be depicted in graphical forms with an appropriate scale to estimate the area of deposition and erosion. These graphical

presentations should depict the active channel regime and the flow bed elevation with other important features required to be considered for estimation of the mining area. The area of deposition and erosion shall be calculated for each cross-section after giving due regard to the stability and safety of active channel banks, and other features of importance. The elevation level shall be in reference to the nearest bench-plates established for the purpose.

v The levels (MSL & RL) of the corner point of each grid should be identifiable and safety barriers (Non-Mining) demarcated as restricted in consensus with Mineral Concession Rules of respective State, and the provision mentioned in this Sustainable Sand Mining Management Guidelines.

vi A clear identification is required to be highlighted between grids under mineable and grids under the non-mineable area. These baseline data (pre and post) be subjected to stimulation with the help of data mine software to derive at the replenishment area and corresponding volume and estimated weight.

vii The database should be structured in a tabulated form clearly depicting the nomenclature of the section lines, latitude and longitude of the starting point, chain-age and respective levels of all the points taken on that section line.

viii Net area shall be derived after the summation of the area of deposition minus area of erosion for each cross-section. The volume will be estimated by multiplying the distance between two cross-sections with the average of net area of these two consecutive cross-sections.

ix One sample per 900 square meters (30 m x 30 m) shall be preferred sample density for assessment of bulk density for estimation of deposition rate. Care should be taken that the sample for assessment

of bulk density is taken from the deposition zone and not from erosion. However, depending on the site condition, river morphology and geographical condition, sample density may be adjusted. Reason for such deviation shall be appropriately highlighted in the report with supporting scientific data.

### 5.2.2. Use of UAV/Drone and other image data processing techniques

With the development in image data processing tools and its accuracy acceptability, Drone/UAV fitted with the advance camera are used for survey purposes. Such technology has promising potential in the survey of sand mining zones due to its fast and reliable output deliveries. The survey is conducted using a set of instruments and compatible software to utilized the properly referenced data for depicting the topography of the study area. Instrument calibration and software compatibility and its validation with the ground data are an essential requirement for using this technique.

The details of the instruments their limitation and software used shall be demonstrated in the form of the accuracy assessment report, through a chapter in the replenishment study report. Other details to be incorporated in the report with regard to the study using such imaginary techniques shall highlight the followings:

a) **Flight Planning:** - The lease co-ordinates and the flight plan devised to capture the front and side overlap percentages for in each flight in reference to global coordinates (Kml or SHP file) system. The software used for the purpose and its details along with limitations with basic analytical assumptions.

b) **Block file generation:** - This operation concerns the selection of the sensor model and the definition of block properties, the addition of

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ANNEXURE A-6

Item No. 07 (Court No.01)

**BEFORE THE NATIONAL GREEN TRIBUNAL**
**PRINCIPAL BENCH, NEW DELHI**

(By Video Conferencing)

Appeal No. 23/2021

Pramod Appellant

Versus

State of Uttar Pradesh & Ors. Respondent(s)

Date of hearing: 11.03.2022

**CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON**
**HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER**
**HON'BLE PROF. A. SENTHIL VEL, EXPERT MEMBER**

Applicant: Mr. Ajit Sharma, Advocate

Respondent: Mr. Daleep Dhyani, Advocate for UPPCB
Mr. Neeraj Jain, Advocate for M/s Shanti Enterprises

**ORDER**

1. This appeal has been preferred against order dated 17.09.2021 granting Environmental Clearance (EC) by SEIAA, U.P. for Sand/Bajri/Boulder mining from Yamuna riverbed at Gata No. 1/1/1, Laat No. 38, village Nuniyari Aehatmal, Tehsil Behat, Saharanpur, U.P. - M/s. Shanti Enterprises, Area-24.29 ha.

2. Main contention in support of the appeal is that requisite replenishment study has not been conducted before grant of EC which was required under the law, as held by this Tribunal vide order dated 06.04.2021 in OA No. 90/2020, *Pramod v. State of Uttar Pradesh & Ors.* filed by the appellant. The appellant has also relied upon Chapter 5 of the Sand Mining Guidelines, 2020 issued by MoEF&CC to the effect that

sand mining can be permitted only after conducting replenishment study. The appellant has also raised issue of validity of Cluster Certificate dated 16.09.2020, absence of permission for extracting ground water, Consent to Establish from the State PCB under the Air (Prevention & Control of Pollution) Act, 1981 and Water (Prevention & Control of Pollution) Act, 1974, mining being permitted within the river and absence of due diligence about the background of project proponent (PP).

3. Vide order dated 21.10.2021, this Tribunal sought a response on the above issue from the PP and the SEIAA, UP.

4. In pursuance of above, the response has been filed by SEIAA, UP as well as Respondent No. 11 - PP. The stand of SEIAA, UP filed on 10.03.2022 acknowledges that no replenishment study has been undertaken even though this aspect was considered while granting EC. Once there was no replenishment study there could not be EC as per Sand Mining Guidelines, 2020 issued by the MoEF&CC under the Environment (Protection) Act, 1986. Relevant extract from the response of the SEIAA is reproduced below:-

> **"***8. Subsequently, the case was considered in 482th SEIAA Meeting 12.08.2021 wherein, SEIAA agreed with the recommendation of the SEAC meeting dated 09.07.2021 to grant EC along with all the general and specific conditions to the title proposal, It become necessary to mention here that SEIAA also stipulated the following specific conditions:*
>
> 1. *DSR lacks in replenishment study thus* ***SEIAA decided to grant EC for a period of one year only. Project proponent should submit replenishment study, duly approved by the competent authority, for extension of EC beyond one year****.*
> 2. *Directions/suggestions given during public hearing and commitment made by the project proponent should be strictly complied.*
> 3. *A certificate from Forest Department shall be obtained that no forest land is involved and if forest land is involved the project proponent shall obtain the forest*

*clearance and permission of Central and State Government as per law under the provisions of Forest (conservation) Act, 1980 and submit before the start of work.*

4. *The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora fauna etc.*
5. *Three tier green shelter belt of 7.5m width should be developed on the periphery of mine lease area. Local and native species should be planted in consultation with Forest/Horticulture Department/Agriculture University.*
6. *If the proposed project is situated in notified area of ground water extraction, where creation of new wells for ground water extraction is not allowed, requirement of fresh water shall be met from alternate water sources other than ground water or legally valid source and permission from the competent authority shall be obtained to use it.*

*Concerned copy of minutes, dated: 12.08.2021 is being filed herewith and marked as Annexure no.05.*

9. *Further, SEIAA, vide letter no. 193/Parya/SEIAA/6266-5850/2021 dated: 17.09.2021 issued Environment Clearance for the proposed project. Concerned copy of Environment Clearance letter, dated: 17.09.2021 is being filed herewith and marked as Annexure No. 06."*

5. The stand of the PP in a tabular form is as follows:-

"

| ***Observations/ response sought in order dated 21.10.2021*** | ***Response of Answering Respondent as it was on the date of Hon'ble Tribunal's observations*** |
|---|---|
| ***1. Chapter 5 of the Sand Mining Guidelines, 2020 issued by MoEF&CC mandate that River bed sand mining be permitted only after conducting a replenishment study as per the procedure prescribed therein. No replenishment study has been conducted on River Yamuna in District Saharanpur till date.*** | ***1. The EC has been issued in favour of respondent only for 1 year with Specific Condition –cluster 1 thereof read as under:- "DSR lacks in replenishment study thus SEIAA decided to grant EC for a period of one year only. PP should submit replenishment study, duly approved by the competent authority, for extension of EC beyond one year".***<br><br>***2.Further, SEIAA in compliance to Chief Secretary letter dated 09.09.2021 in compliance to NGT order dated 26.02.2021 in OA*** |

| | |
|---|---|
| | ***360/2015 has already passed resolution that "due to uncertainty and to avoid any critical condition SEIAA is granting EC only for one year."***<br><br>***3. Further, State of UP in M.A. No. 36/2021 86 M.A. No. 37/2021 has already updated NGT that "study is underway and will be completed soon and mining will be allowed consistent therewith" copy annexed as Annexure G.***<br><br>***4. The project proponent has conducted replenishment study as per the T&C of EC and submitted to SEIAA, District Magistrate and DGM which is pending review.*** |
| *2. That previously also Environmental Clearance was issued in respect of the same mining site at village Nuniyari District, Saharanpur. That environmental clearance was challenged before this Hon'ble Tribunal in Appeal No. 258/2018 (Sunil Kumar v. State of UP & Ors.) where vide order dated 29.03.2019, the Tribunal recorded the submission of the State that it would recall the Environmental clearance. This aspect has been completely ignored by UP SEIAA.* | *The allegation is baseless and not-related to Respondent.*<br><br>*1. The recalled EC belonged to previous lease holder. The recalled EC has not been transferred. The lease in favour of previous lease holder was also cancelled by DM Saharanpur.*<br><br>*2. Thereafter, lease was published afresh for e-auction on by District Administration Saharanpur and Respondent was found capable fulfilling all the requirements hence, eventually granted LoI being the highest bidder.*<br><br>*3. The Respondent has secured fresh EC by SEIAA, UP as per the provisions of EIA Notification-2006 (as amended).* |
| *3. Cluster Certificate dt. 16.09.2020 is false since:*<br><br>*a. It says that no lot exists within 500 meters when in fact Lot No. 37, Village Naniyari is adjacent.*<br><br>*b. Certificate falsely states that no EC had earlier been issued for this Lot when in fact EC had earlier been issued.* | *1. The allegation is outrightly baseless made without regard to actual site position. Further, appellant herein is no expert in the field and there is plausible field and there is plausible whatsoever to prefer his imagination based on his delusional thought process.*<br><br>*2. It is innately laughable to even imagine that maps* |

| | |
|---|---|
| | *prepared by appellant (as stated in para 'E' at pg. 15) should be relied or preferred instead of official maps prepared by Government.*<br><br>*3. The cluster certificate has been issued as per the format approved by SEIAA, UP. Which clearly states that there is no lease approved in terms of Lol and neither is under operation with 500 meter periphery of lease belonging to Respondent.*<br><br>*4. The Lot No. 37 is non-operation and is under possession of State Government which has not been allocated to any lease holder.*<br><br>*5. The project has been appraised by SEIAA, UP under B1 Category.*<br><br>*6. The definition of cluster is amply clear in EIA Notification-2006 (and subsequent amendments).* |
| *4. No permission obtained for extraction of ground water. The EC itself states that 15,782 litres of water/day is required for mining operations. (refer to Sr. No. 27 of the EC)* | *The allegation is completely baseless and mis-leading.*<br><br>*1. The Respondent has not commenced mining operation as on the date of filing appeal. However, certain clarifications have been issued by the concerned authorities, thereafter and those would be adhered to fully.*<br><br>*2. The Respondent secured EC on 17.09.2021 and the lease deed has been duly executed in favour of the answering respondent.*<br><br>*3. The Respondent has already obtained all the requisite permissions (CTE & CTO) under Air & Water Acts and so also assent of Central Ground Water Authority (CGWA) and did not start mining. The necessary permission are annexed with the instant reply.*<br><br>*4. The Respondent further* |

| | |
|---|---|
| | *submits that since the project is under the notified area of ground Water extraction, it shall explore alternate valid source of water demand through hiring tankers. which would also generate employment of local villagers in consultation with concerned Gram Pradhan.* |
| *5. No consent to operate obtained from the Uttar Pradesh Pollution Control Board* | *The answering respondent has already secured all the required permissions from UPPCB and CGWA (Annexure-E,D & F) and despite that it did not commenced mining operation.* |
| *6. River Yamuna flows right through the centre of the mining area. It is submitted that while mining is permitted on the river bed but no mining area can contain a portion of the River itself.* | *1. It is submitted that the course (drainage pattern) of river Yamuna has a fluctuating tendency in Behat Tehsil of Saharanpur due to its peculiar geo-morphological conditions. the river keeps shifting season by season and is spread into small, big channels while it flows.*<br><br>*2. The dry river bed itself becomes part of entire action water channel in monsoon season when replenishment occurs.*<br><br>*3. The mining shall be done in dry river bed as per the provisions of approved Mining Plan, SSMG-2016 Guidelines, EMSM-2020 Guidelines and General Condition Clause No. 6 & Specific Condition Clause No. 55.* |
| *7. No due diligence conducted by U.P. SEIAA on the background of project proponent. Mr. Rajeev Bhatia, Partner of the Project proponent, is a habitual defaulter and his earlier sand mining operations at Village Rehna, District Saharanpur conducted through his brother were stopped pursuant to order dt. 06.04.2021 passed by this Hon'ble Tribunal in O.A. No. 09/2020* | *1. The allegation is malicious, made out of spite, fabricated and baseless and is non-environmental subject. Further, apart from the infantile nature of allegation and deduction sought by appellant, it is trite that no person can be held responsible for an action of his family member.*<br><br>*2. Moreover, the character certificates of Respondents were duly scrutinized and validated during evaluation of e-tender by district administration.* |

"

6. From the above it remains undisputed that EC has been granted without replenishment study which is sought to be defended that the

same is only for one year to be extended only if replenishment study is completed before that.

7. Learned counsel for the PP instead of focusing on the point of effect of absence of replenishment study, which is mandatory under norms, sought to argue on locus and bonafides of the appellant which are not relevant in view of patent illegality in EC granted in favour of PP.

8. Accordingly the impugned EC will stand quashed without prejudice to fresh EC being granted after following due process of law. The mining already conducted is illegal and consequences of such illegality may be appropriately determined and enforced by the SEIAA, UP and State PCB, after hearing the PP, within one month from today.

The appeal is disposed of accordingly.

A copy of this order be forwarded to the SEIAA, UP and State PCB by e-mail for compliance.

Adarsh Kumar Goel, CP

Sudhir Agarwal, JM

Prof. A. Senthil Vel, EM

March 11, 2022
Appeal No. 23/2021
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ANNEXURE A-7

Item No. 03 & 04 (Court No. 1)

**BEFORE THE NATIONAL GREEN TRIBUNAL**
**PRINCIPAL BENCH, NEW DELHI**

(By Video Conferencing)

Original Application No. 140/2021

(With report dated 31.03.2022)

Raj Kumar Applicant

Versus

State of U.P. & Ors. Respondent(s)

**WITH**

Original Application No. 141/2021

Ramkaran Karn Applicant

Versus

State of U.P. & Ors. Respondent(s)

Date of hearing: 06.05.2022

**CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON**
**HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER**
**HON'BLE PROF. A. SENTHIL VEL, EXPERT MEMBER**

Applicant: Mr. Vanshdeep Dalmia, Advocate

Respondent: Dr. Roshan Jacob, Secretary, Geology & Mining with Mr. Pradeep Misra, Advocate for the State of Uttar Pradesh & UPPCB

**ORDER**

1. Grievance in these two identical applications is against illegal mining. In O.A. No. 140/2021, mining is in the submerged water area at Gata No. 28 (Part) and 29, Khand No. 1, village Kanwara, District Banda, UP by M/s Durge Trading Company and in O.A. No. 141/2021 it is in the submerged water area at Gata No. 2/4, 2/23, 2/24 and 2/28, Khand No. -4, village-Bendakhadar, District Banda, UP by Ashish Kumar Gautam,

S/o Suresh Kumar Gautam. Common stand in both the matters is that the mining is in violation of Sustainable Sand Mining Management Guidelines (SSMMG), 2016 and Enforcement and Monitoring Guidelines for Sand Mining (EMGSM), 2020 and binding orders of this Tribunal, including order dated 30.05.2017 in *O.A. No. 78/2015 (CZ)* reported in *2017 SCC OnLine NGT 1097,* holding as follows: -

> *"In the light of the above,* ***we answer the question that has been referred to us that no river sand mining is permitted in the submerged area in accordance with the Sustainable Sand Mining Guidelines 2016 alternatively in so far as the issue whether it can be permitted in the submergence areas is concerned our answer to the same is that in submergence area which may be a wider area than the one actually submerged as a submergence area would encompass the full reservoir level of the river or the high flood level of the river recorded by in any case where the mineral is exposed and not in stream such sand mining in accordance with the Sand Mining Guidelines 2016 and the conditions imposed in the environmental clearance may be carried out****."***

2. Further order of this Tribunal relied upon by the applicants is order dated 26.02.2021 in *O.A. No. 360/2015, NGT Bar Association v. Virender Singh (State of Gujarat) and other connected matters*. Therein, on exhaustive review of the issues relating to sand mining, this Tribunal has issued directions, including the mechanism for enforcement of environmental norms, inter-alia as follows:-

> ***"****1to26..xxx……xxx……xxx*
>
> ***27. We direct all the States/UTs to strictly follow the SSMG-2016 read with EMGSM-2020 reinforced by mechanism for preparation of DSRs (in terms of directions of this Tribunal dated 14.10.2020 in Pawan Kumar, supra and 04.11.2020 in Rupesh Pethe, supra), Environment Management Plans, replenishment studies, mine closure plans, grant of EC (in terms of direction dated 13.09.2018 in Satendra Pandey, supra), assessment and recovery of compensation (as per discussion in Para 25), seizure and release of vehicles involved in illegal mining (in terms of order dated 19.02.2020 in Mushtakeem, supra), other safeguards against violations, grievance redressal, accountability of the designated officers and periodical review at higher levels. As already noted,***

***EMGSM-2020 contemplates extensive use of digital technology, including remote sensing.***

***28. We further direct that periodic inspection be conducted by a five-members Committee, headed and coordinated by the SEIAA and comprising CPCB (wherever it has regional office), State PCB and two expert members of SEAC dealing with the subject. Where CPCB regional office is not available, if MoEF&CC regional office is available, its Regional Officer will be included in the Committee. Where neither CPCB nor MoEF&CC regional office exists, Chairman, SEIAA will tie up with the nearest institution of repute such as IIT to nominate an expert for being included in the Committee. Such inspection must be conducted at least thrice for each lease i.e. after expiry of 25% the lease period, then after 50% of the period and finally six months before expiry of the lease period for midway correction and assessment of damage, if any. The reports of such inspections be acted upon and placed on website of the SEIAA. Every lessee, undertaking mining, must have an environment professional to facilitate sustainable mining in terms of the mining plan and environmental norms. This be overseen by the SEIAA. Environment Departments may also develop an appropriate mobile App for receiving and redressing the grievances against the sand mining, including connivance of the authorities and also a mechanism to fix accountability of the concerned officers. Recommendations of the Oversight Committee for the State of UP quoted earlier may be duly taken into account.***

***The mechanism must provide for review at the level of the Chief Secretary at least once in every quarter, in a meeting with all concerned Departments in the State. The Chief Secretary UP may ensure further action in the light of the report of the Oversight Committee.***

***Similarly, at National level, such review needs to be conducted atleast once in a year by the Secretary, Environment in coordination with the Secretaries Mining and Jalshakti Ministries the CPCB."***

3. It is submitted that no steps are being taken by the State of UP for compliance of directions of this Tribunal.

4. Vide order dated 02.07.2021 on consideration of the matter, the Tribunal directed Additional Chief Secretary, Mining, UP to furnish a report about the compliance status including the status of DSR and replenishment studies for Banda District and also in-stream mining in submerged water and monitoring mechanism.

5. The matter was last considered on 08.03.2022 and finding that no response was being filed by the Additional Chief Secretary, Mining, Uttar Pradesh, the Tribunal directed personal appearance of the ACS, Mining by V.C. and also directed the District Magistrate and State PCB to file a factual report. If anything, adverse was noticed, the PP was to be put to notice of these proceedings.

6. In pursuance of above, the ACS, Mining, UP is present in person by V.C. and report has been filed by the District Officer, Banda on 31.03.2022 as follows:

> *"xxx ……xxx……xxx*
>
> *10. That for Environmental impact assessment (E.I.A.) study ministry of environment and forest and climate change (MoEF&CC) has propounded Sustainable sand mining management guidelines 2016 and enforcement and monitoring guidelines for sand mining 2020. In compliance of this Guidelines Government of Uttar Pradesh has issued a Government order no 790(1)/86-2020 dated 01.06.2020. As per this Government order, Government of Uttar Pradesh has constituted a team of officials of Department of Geology and Mining, Revenue Department, Forest Department and Irrigation Department, who give recommendation for any new area to be included or any change in D.S.R.(District survey report). Till November 2022 a total of 296 areas has been added in District survey report (D.S.R.) in different districts of Uttar Pradesh.*
>
> *That in district Banda after proper study of replacement of Sand/Morrum on the areas the District Survey Report' (herein after referred as DSR) was prepared and loaded on District Administration Portal and objection of the public domain were also invited and after considering the objection the DSR finalised by the committee constituted by the Government of Uttar Pradesh on 23.11.2017.*
>
> *11. That in Compliance of Hon'ble NGT order dated 02.07.2021 OA no. 140/2021 Raj Kumar Versus State of UP and OA no. 141/2021 Ram Karan karn Versus State of UP, D.M Banda has authorised C.M.P.D.I (Central mine planing and Design Institute limited), a public sector enterprise of Government of India to do the replenishment study of rivers flowing in district Banda on dated 28.10.2021 C.M.P.D.I has started the replenishment study of rivers of banda district and the work is on progress. Its report will be soon provided to the hon'ble NGT.*

*The copy of the order of D.M Banda dated 11.10.2021 and consent letter of C.M.P.D.I dated 19.10.2021 being annexed herewith as Annexure No.1, to this compliance report.*

12. *That if the bid found to be highest and satisfactory per cubic metre then a letter of intent is issued in favour of such bidder and thereafter, the applicant should obtain approval on its mining plan and environmental clearance from the competent authority and thereafter the mining lease is executed in his favour.*

13. *That in the lease deed, the following terms are specifically mentioned:-*

    i. *The mining operations are to be carried only up to the depth of 3 metres, or up to the water level, whichever is less;*
    ii. *The safety zone should be worked out;*
    iii. *The mining operations will be done in accordance with the scheme mentioned in the Mining Plan;*
    iv. *The lessee will be bound to obey the terms and conditions of the environmental clearance;*
    v. *The mining will be done after sun-rise till sun-set;*
    vi. *In the monsoon season, no mining will be done;*
    vii. *Heavy machinery and Suction Machines will not be used for excavation of the mineral;*
    viii. *No temporary bridge or hinderance will be created in the flow of river water during the lease period;*
    ix. *That the Central Government framed Sustainable Sand Mining Management Guidelines 2016 with object of managing un-controlled sand mining in India.*

14. *That the Ministry of Environment, Forests & Climate Change, Government of India also framed Enforcement and monitoring Guidelines for Sand Mining in January 2020.*

15. *That list of mining leases, granted in District Banda for excavation of sand & morrum, at present, is being annexed herewith as Annexure No.2, to this compliance report.*

16. *That at the time, total 17 mining leases are in operation in Banda district and they have proper environmental clearances, as well as the consent issued by UPPB Lucknow under the provisions of "Water (Prevention & Control of Pollution) Act, 1974 and Air (Prevention Control of Pollution) Act, 1981."*

17 *That in compliance of the order dated 26.02.2021, passed by this Hon'ble Tribunal in 0.A. No.360 of 2015 (National Green Tribunal Bar Associations. Veerendra Singh (State of Gujarat & others), 5 members Committee has been constituted by the District Officer, Banda, vide office order No.2892/Khanij-30 Banda, dated 14.12.2021. In the said Monitoring Committee, the members as under:*

1. *Divisional Forest Officer, Banda Chairman*
2. *Mines Officer/Mines Inspector/ Surveyor, Mines Department, Banda Member*
3. *Executive Engineer, Irrigation & Water Resources department, Banda- Member*
4. *Concerned Tehsildar Member*
5. *Regional Officer, Pollution Control Board, Banda Member Secretary.*

*A copy of the said office order dated 14.12.2021 issued by the District Officer, Banda, is being annexed herewith as Annexure No.3, to this compliance report.*

18. *That the said Enforcement Committee is regularly watching the mining activities of 17 areas and if any lessee is found to violate the above mentioned terms and conditions, then after issuing the notice, necessary proceedings are initiated against him.*

19 *That in the Headquarters, Lucknow, as well as in the districts, Surveillance Systems have also been installed for prevention of over-loading of minerals, as well as without transit passes, and due to this so many electronic challans are automatically created and served on the lessees for recovery of Government dues of such mineral.*

20. *That this Hon'ble Tribunal has also directed for submission of the status report of the following sand, morrum areas*

| ***S. No.*** | ***Area*** | ***Status*** |
|---|---|---|
| *a)* | *Khand No.1 Village Kanwara, Banda M/s Durga Trading Co.* | *mining activities are not being done by the lessee due to preparation of approach road* |
| *b)* | *Khand No.4 Village Banda Khadar, District Banda Ashish Kumar Gautam, S/o Shri Suresh Kumar Gautam* | *matter is pending before the Hon'ble Supreme court. (Ravi kumar vs State of U.P. Dairy No. 3177/2022) No mining activities are being done.* |

**”**

7. A report has also been filed on 06.04.2022 by the Geology and Mining Department, UP which is by and large similar to the report of the District Officer, Banda referred to above.

8. We have heard learned Counsel for the Applicants and interacted with the ACS present in person by VC.

9. We find that replenishment study as required under the SSMG-2016 and EMGSM-2020 has not been undertaken prior to the auction in terms of para 5.1 of the EMGSM, 2020 which is reproduced below:

> ***"5.0 REPLENISHMENT STUDY***
>
> *The need for replenishment study for river bed sand is required in order to nullify the adverse impacts arising due to excessing sand extraction. Mining within or near riverbed has a direct impact on the stream's physical characteristics, such as channel geometry, bed elevation, substratum composition and stability, in-stream roughness of the bed, flow velocity, discharge capacity, sediment transport capacity, turbidity, temperature etc. Alteration or modification of the above attributes may cause an impact on the ecological equilibrium of the riverine regime, disturbance in channel configuration and flow-paths. This may also cause an adverse impact on instream biota and riparian habitats. It is assumed that the riparian habitat disturbance is minimum if the replenishment is equal to excavation for a given stretch. Therefore, to minimize the adverse impact arising out of sand mining in a given river stretch, it is imperative to have a study of replenishment of material during the defined period***.***
>
> ***5.1 Generic Structure of Replenishment Study***
>
> *Initially replenishment study requires four surveys. The first survey needs to be carried out in the month of April for recording the level of mining lease before the monsoon. The second survey is at the time of closing of mines for monsoon season. This survey will provide the quantity of the material excavated before the offset of monsoon. The third survey needs to be carried out after the monsoon to know the quantum of material deposited/replenished in the mining lease. The fourth survey at the end of March to know the quantity of material excavated during the financial year. For the subsequent years, there will be a requirement of only three surveys. The results of year-wise surveys help the state government to establish the replenishment rate of the river.* ***Based on the replenishment rate future auction may be planned.***
>
> *The replenishment period may vary on nature of the channel and season of deposition arising due to variation in the flow. Such period and season may vary on the geographical and precipitation characteristic of the region and requires to be defined by the local agencies preferable with the help of the Central Water Commission and Indian Meteorological Department. The excavation will, therefore, be limited to estimated replenishment estimated with consideration of other regulatory provisions.****"***

10. With regard to the allegation of instream mining in submerged water, it has been orally stated by the ACS that no such instream mining is permitted. However, in the reports filed before this Tribunal, no such statement has been made on behalf of the State.

11. Accordingly, the ACS, Mining, UP has fairly stated that replenishment study will be conducted prior to auctions in future and with regard to the current leases, ongoing replenishment study will be expedited. In the light thereof, the leases will be renewed, if necessary. Such studies for all Districts in UP will be completed by December 31, 2022 and for Banda by June 30, 2022. She has further stated that the allegation of instream mining will be verified and if found true, the same will be discontinued.

12. In view of above, let the Replenishment studies be completed by credible institutions, following due procedure, in accordance with para 5 of EMSG, 2020. Further, no mining be permitted till replenishment studies are completed beyond the schedule laid down above. The State may ensure that the Regulatory authorities are adequately equipped and capable to assess quantities of mined material. With regard to instream mining, it may be ensured that the machineries permitted or used otherwise comply with "Semi mechanised" mining operations in true sense. In all mining potential districts, environmental damage assessment be carried out and annual assessment reports placed in public domain on the websites of the Mining Department as well as the PCB. Compliance of SSMG, 2016 and EMGSM, 2020 and earlier directions of this Tribunal may be ensured by an effective monitoring mechanism.

The applications are disposed of accordingly.

Adarsh Kumar Goel, CP

Sudhir Agarwal, JM

Prof. A. Senthil Vel, EM

May 06, 2022
Original Application No. 140/2021
Original Application No. 141/2021
DV



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ANNEXURE A-8

**IN THE SUPREME COURT OF INDIA**
**CIVIL APPELLATE JURISDICTION**

**CIVIL APPEAL NOS. 8035-8036 OF 2022**

**STATE OF UTTAR PRADESH & ORS. ..... APPELLANTS**

**VERSUS**

**RAJ KUMAR & ANR. ETC. ..... RESPONDENTS**

# O R D E R

**While we do not find any good ground and reason to interfere with the impugned judgment, we clarify that the state authorities shall undertake the replenishment study for both years i.e., year ending 31.12.2021 as well as the current year (i.e., year ending 31.12.2022).**

**It is pointed out that the National Green Tribunal had granted time for undertaking the replenishment study for District Banda till 30.06.2022. The replenishment study for the said area is being conducted and the report would be submitted on or before 31.12.2022. We accept the said request, as it is stated that no mining/excavation is being conducted/undertaken in District Banda since 01.07.2022.**

**Recording the aforesaid, the appeals are disposed of.**

**Pending application(s), if any, shall stand disposed of.**

**.....J.**
**(SANJIV KHANNA)**

**.....J.**
**(M.M. SUNDRESH)**

**NEW DELHI;**
**NOVEMBER 29, 2022.**

**ITEM NO.23 COURT NO.8 SECTION XVII**

**S U P R E M E C O U R T O F I N D I A**
**RECORD OF PROCEEDINGS**

**Civil Appeal No(s). 8035-8036/2022**

**STATE OF UTTAR PRADESH & ORS. Appellant(s)**

**VERSUS**

**RAJ KUMAR & ANR. Respondent(s)**

**(IA No.164158/2022-EXEMPTION FROM FILING C/C OF THE IMPUGNED JUDGMENT and IA No.164161/2022-STAY APPLICATION )**

**Date : 29-11-2022 These appeals were called on for hearing today.**

**CORAM :**
**HON'BLE MR. JUSTICE SANJIV KHANNA**
**HON'BLE MR. JUSTICE M.M. SUNDRESH**

**For Appellant(s)**
**Ms. Garima Prasad Sr. Adv.**
**Mr. Pradeep Misra, AOR**
**Mr. Bhuwan Chandra, Adv.**
**Mr. Manoj Kumar Sharma, Adv.**
**Mr. Suraj Singh, Adv.**

**For Respondent(s)**
**Mr. Vanshdeep Dalmia, AOR**
**Ms. Natasha Dalmia, Adv.**
**Mr. Suchakshu Jain, Adv.**
**Mr. Amit Upadhyay, Adv.**

**UPON hearing the counsel, the Court made the following**
**O R D E R**

**The appeals are disposed of in terms of the signed order.**

**Pending application(s), if any, shall stand disposed of.**

**(BABITA PANDEY) (KAMLESH RAWAT)**
**COURT MASTER (SH) COURT MASTER (NSH)**
**(Singed order is placed on the file)**

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ANNEXURE A-9

Item No. 02 (Court No. 1)

**BEFORE THE NATIONAL GREEN TRIBUNAL**
**PRINCIPAL BENCH, NEW DELHI**

(By Video Conferencing)

Appeal No. 19/2022
(I.A. No. 111/2022)

Junaid Ayubi & Anr. Appellant(s)

Versus

State of Haryana & Ors. Respondent(s)

Date of hearing: 24.05.2022

**CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON**
**HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER**
**HON'BLE PROF. A. SENTHIL VEL, EXPERT MEMBER**

Appellant: Mr. Ajit Sharma, Advocate

Respondent(s): Mr. Rakesh Khanna, Senior Advocate with Mr. M.F. Khan, Advocate for M/s Balaji Infra (R - 5)

**ORDER**

1. This Appeal has been preferred against Environmental Clearance (EC) for proposed mining of boulder, gravel and sand (minor minerals) at Jairampur Block YNR/B-6 (ML area-33.85 Ha.), Village Jairampur Jagiri, Tehsil Jagadhari, District Yamuna Nagar, Haryana by M/s Balaji Infra, R-5. The details of the project have been noted as follows:-

"

| | | |
|---|---|---|
| 1. | Category / Item no. (in schedule): | Category-B1, I (a) |
| 2. | Area of the project | Area- 33.58 ha |
| 3. | Date of LoI granted by Mines & Geology Department, Haryana | 30.11.2015 |
| 4. | Date of approval of Mining plan Granted by Mines & Geology Department, Haryana | 10.06.2016 |
| 5. | Location of Project | Jairampur Jagir Block YNR/B-6, Village-Jairampur Jagir, Tehsil-Jagadhari, District-Yamuna Nagar, Haryana |

<table>
<tr><td>6.</td><td>Project Details Khasra No.</td><td>2//20, 21, 22,6//16min, 25,<br>7//3,8/1, 8/2, 3, 4/1, 4/2, 5/1,<br>5/2, 6/1, 6/2, 6/3,<br>7/1, 7/2, 7/3, 12/2, 12/3, 13/1,<br>13/2, 13/3, 14/1,14/2,<br>14/3, 15/1, 15/2, 15/3, 16, 17/1,<br>17/2, 18 to 23, 24, 8//1,2, 10/1,<br>10/2, 10/3,<br>11//1 to 3, 8, 9 to 12, 13, 19 to 22<br>12//4,5, 6,7, 14, 15, 16, 17, 24, 25<br>15//3, 4 to 7, 8, 13, 14, 15, 16, 17,<br>18, 23, 24/1,24/2,<br>24/3, 24/4, 24/5, 24/6, 25/1,<br>25/2, 25/3,25/4, 25/5, 25/6,<br>16//1, 2, 9, 10, 11, 12, 20, 21/1,<br>21/2, 21/3,<br>21/4,21/5,19111, 10 min, llmin,<br>19min, 20, 21, 22,<br>20//3 to 8, 13 to 16, 17, 25</td></tr>
<tr><td>7.</td><td>Project Cost</td><td>Rs. 5 Crore/Annum</td></tr>
<tr><td>8.</td><td>Water Requirement</td><td>43.00 ICLD</td></tr>
<tr><td>9.</td><td>Source of water</td><td>Hired Tankers</td></tr>
<tr><td>10.</td><td>Septic Tanks</td><td>2</td></tr>
<tr><td>11.</td><td>Environment ManagementPlan<br><br>Budget</td><td>Rs 201.0 lakh for 10 years</td></tr>
<tr><td>12.</td><td>CER Budget</td><td>1.0 Cr.</td></tr>
<tr><td>13.</td><td>Production</td><td>15,20,000 TPA</td></tr>
<tr><td>14.</td><td>Corner Coordinates of the lease area</td><td>Latitude- 30° 07' 18" N to 30° 08' 08" N Longitude- 77° 23' 47.5" E to 77° 24' 10" E</td></tr>
<tr><td>15.</td><td>Green belt/ plantation</td><td>11.08 Ha (33%)</td></tr>
<tr><td>16.</td><td>Machinery required</td><td>List of Machineries<br><br><table><tr><th>S. No.</th><th>Name of Machinery</th><th>Capacity</th><th>Nos.</th></tr><tr><td>1</td><td>Excavator</td><td>2.0 $m^3$</td><td>4</td></tr><tr><td>2</td><td>Tippers/ Trucks</td><td>25 tons</td><td>51</td></tr><tr><td>3</td><td>Water Tanker</td><td>4000 liters</td><td>2</td></tr><tr><td>4</td><td>Light vehicles /jeep</td><td>--</td><td>1</td></tr><tr><td>5</td><td>Maintenance Van</td><td>--</td><td>1</td></tr></table></td></tr>
<tr><td>17.</td><td>Incremental Load in respect of:</td><td><table><tr><th>Parameter</th><th>Predicted GLC ($pg/m^3$) - ISCST3 Model</th></tr><tr><td>PM2.5</td><td>0.03</td></tr><tr><td>PMK)</td><td>0.408</td></tr><tr><td>$SO_2$</td><td>0.0000002</td></tr><tr><td>$NO_2$</td><td>0.0093</td></tr></table></td></tr>
</table>

”

2. The conditions for grant of EC include filing of replenishment study within one year after start of the project and obtaining permission for withdrawal of ground water.

3. Learned counsel for the appellant submits that though application was only for sand mining, EC has been granted for boulder, gravel and sand. No replenishment study has been conducted as is mandatory in terms of The Enforcement & Monitoring Guidelines for Sand Mining (EMGSM-2020), under the Environment (Protection) Act, 1986 and order of this Tribunal dated 11.03.2020 in *Appeal No. 23/2021, Pramod v. State of Uttar Pradesh & Ors.,* holding as follows:-

> ***"****6. From the above it remains undisputed that EC has been granted without replenishment study which is sought to be defended that the same is only for one year to be extended only if replenishment study is completed before that.*
> *7. Learned counsel for the PP instead of focusing on the point of effect of absence of replenishment study, which is mandatory under norms, sought to argue on locus and bonafides of the appellant which are not relevant in view of patent illegality in EC granted in favour of PP.*
> *8. Accordingly the impugned EC will stand quashed without prejudice to fresh EC being granted after following due process of law. The mining already conducted is illegal and consequences of such illegality may be appropriately determined and enforced by the SEIAA, UP and State PCB, after hearing the PP, within one month from today.***"**

4. It is further stated that as shown by geo coordinates of the site, mining site involves instream mining in River Yamuna though no river bed mining is permissible within 500 mtrs. of the River as per Rule 57 (v) of the Haryana Minor Mineral Concession, Stocking, Transportation of Minerals and Prevention of Illegal Mining Rules, 2012. It is further submitted that source of water is said to be tankers without specifying the source of water for such tankers. This may encourage illegal extraction of groundwater.

5. Even before issuing notice, the Project Proponent (PP), R-5, has entered appearance through Counsel to oppose the Appeal. We have heard learned Counsel for the PP accordingly. He submitted that the PP has given an undertaking that no mining will be done for boulder and gravel and thus mining is only for sand. With regard to replenishment study, it is submitted that it is not required. Our attentions has been drawn to order of the Hon'ble Supreme Court dated 11.11.2021 in *I.A No. 29984 of 2021, Bajri Lease LoI Holders Welfare Society Through its President v. The State of Rajasthan & Ors.*, wherein referring to earlier judgement in *Deepak Kumar v. State of Haryana*[1], it was observed:-

> ***"****15. The damage caused to the environment due to rampant unscientific illegal mining needs no reiteration. Unabated illegal mining has resulted in the emergence of sand mafia who have been conducting illegal mining in the manner of organized criminal activities and have been involved in brutal attacks against members of local communities, enforcement officials, reporters and social activists for objecting to unlawful sand excavation. The statistics provided by the State Government highlights the magnitude of the problem as about 2411 FIRs have been registered in relation to illegal mining in the State of Rajasthan, between 16.11.2017 and 30.01.2020.* ***When this Court has restrained 82 mining lease / quarry holders from carrying on mining of sand and bajri unless a scientific replenishment study is completed and EC is issued by the MoEFCC, the State of Rajasthan ought not to have issued mining leases in favour of the Khatedars.*** *It is clear from the report of the CEC that the majority of the Khatedari leases are within 100 metres from the river bed. The 2020 Sand Mining Guidelines prescribe that mining plan for mining leases on Khatedari lands shall only be approved if there is a possibility of replenishment of the mineral or when there is no possibility of river bed mining within 5 km of the patta land / Khatedari land. Agreeing with the CEC's conclusions on the issue of mining leases in Khatedari lands facilitating legalisation of transportation and sale of illegally extracted sand, we approve the recommendation of the CEC that all Khatedari leases which are located within 5 km from the river bed and those leases where lease conditions have been violated have to be terminated forthwith and that Khatedari leases shall be granted only with the permission of this Court.****"***

[1] 1 (2012) 4 SCC 629

6. However, in the context of factual situation prevailing in the said matter with regard to pre existing leases, the Hon'ble Supreme Court sought a report from Central Empowered Committee (CEC) on the issue of replenishment study for the "LoI holders recommended during 2014-2016". The said recommendations is as follows:-

> ***"****8. xxx……xxx……xxx*
>
> *C.* ***The MoEF&CC will issue EC in respect of all the valid LoI holders recommended by the EAC in its meeting held during 2014-2016 without insisting on submission of scientific study report as a precondition for grant of EC within a period of three months****. MoEF&CC shall also prescribe detailed methodology in consultation with CMPDI for undertaking replenishment study during the course of mining as discussed in para 11 (iii) of this Report.****"***

7. Accordingly, the PP submitted that replenishment study is not a condition precedent for grant of EC. We are unable to accept this submission. The order of the Hon'ble Supreme Court does not hold as is assumed by learned Counsel for the PP. Replenishment study is mandatory and observations of the CEC are limited to LoI holders considered during 2014-16. The EMGSM-2020 *inter-alia* provide as follows:-

> ***"5.0 REPLENISHMENT STUDY***
>
> *The need for replenishment study for river bed sand is required in order to nullify the adverse impacts arising due to excessing sand extraction. Mining within or near riverbed has a direct impact on the stream's physical characteristics, such as channel geometry, bed elevation, substratum composition and stability, in-stream roughness of the bed, flow velocity, discharge capacity, sediment transport capacity, turbidity, temperature etc. Alteration or modification of the above attributes may cause an impact on the ecological equilibrium of the riverine regime, disturbance in channel configuration and flow-paths. This may also cause an adverse impact on instream biota and riparian habitats. It is assumed that the riparian habitat disturbance is minimum if the replenishment is equal to excavation for a given stretch. Therefore, to minimize the adverse impact arising out of sand mining in a given river stretch, it is imperative to have a study of replenishment of material during the defined period****.***
>
> ***5.1 Generic Structure of Replenishment Study***

> *Initially replenishment study requires four surveys. The first survey needs to be carried out in the month of April for recording the level of mining lease before the monsoon. The second survey is at the time of closing of mines for monsoon season. This survey will provide the quantity of the material excavated before the offset of monsoon. The third survey needs to be carried out after the monsoon to know the quantum of material deposited/ replenished in the mining lease. The fourth survey at the end of March to know the quantity of material excavated during the financial year. For the subsequent years, there will be a requirement of only three surveys. The results of year-wise surveys help the state government to establish the replenishment rate of the river.* ***Based on the replenishment rate future auction may be planned.***
>
> *The replenishment period may vary on nature of the channel and season of deposition arising due to variation in the flow. Such period and season may vary on the geographical and precipitation characteristic of the region and requires to be defined by the local agencies preferable with the help of the Central Water Commission and Indian Meteorological Department. The excavation will, therefore, be limited to estimated replenishment estimated with consideration of other regulatory provisions.****"***

8. In view of above, grant of EC without prior replenishment study is *prima facie* illegal. Instream mining is also not permissible. Source of water availability was also required to be looked into. Thus, the impugned EC may be liable to be quashed without prejudice to fresh EC being granted, after replenishment study, excluding the area falling within the river stream and taking other precautions.

9. Issue notice. The PP is already represented. Notice may be issued to the SEIAA, Haryana for its response, if any, within one month. The appellant may serve a copy of this order and set of papers on SEIAA, Haryana and PP and file an affidavit of service within one week. The respondents are free to file reply, if any, within one month from today. Having regard to the above discussion, interim direction is necessary considering prima facie case, balance of convenience and irreversible consequences of continuing illegal mining. Pending further consideration,

the PP is restrained from undertaking mining in pursuance of the impugned order

List for further consideration on 13.07.2022.

**I.A. No. 111/2022** is formal for dispensing with filing of certified copy and stands disposed of.

Adarsh Kumar Goel, CP

Sudhir Agarwal, JM

Prof. A. Senthil Vel, EM

May 24, 2022
Appeal No. 19/2022
(I.A. No. 111/2022)
AB

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ANNEXURE A-10

Item No.04 (Court No. 1)

**BEFORE THE NATIONAL GREEN TRIBUNAL**
**PRINCIPALBENCH, NEW DELHI**

(By Video Conferencing)

Original Application No. 337/2021

Shokeen Ali & Anr. Applicant(s)

Versus

State of Haryana & Ors. Respondent(s)

Date of hearing: 12.05.2022

**CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON**
**HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER**
**HON'BLE MR. JUSTICE ARUN KUMAR TYAGI, JUDICIAL MEMBER**
**HON'BLE PROF. A. SENTHIL VEL, EXPERT MEMBER**
**HON'BLE DR. AFROZ AHMAD, EXPERT MEMBER**

Applicant: Mr. Ajit Sharma, Advocate

Respondent(s): Mr. Balendu Shekhar, Advocate for CPCB
Mr. Rahul Khurana, Advocate for HSPCB

**ORDER**

1. Grievance in this application is against inaction of the State PCB in enforcing environmental norms against Respondent Nos. 4 to 9 – Kawaljeet Singh Batra, Gurpreet Singh Bagga, Smt. Gurmeet Kaur, Indrajit Singh Bagga@ Twinkle Bagga, Prabhjeet Singh Bagga and Deepak Choudhary who were engaged in illegal mining at Galauri Block/YNR B-39 of District Yamuna Nagar, Haryana.

2. It is stated that violations have been established against them as per orders of the Director General, Mines and Geology, Haryana dated 30.06.2021 and 15.07.2021 (Annexures A-5 and A-6).

3. Though penalty has been levied for loss of royalty under the Haryana Minor Mineral Concession, Stocking, Transportation of Minerals, and Prevention of Illegal Mining Rules, 2012, no action has been taken for violation of environmental norms in the course of such illegal mining, as required in terms of judgments of the Hon'ble Supreme Court in *M.C. Mehta vs UOI*, (2004) 12 SCC 118, *Goa Foundation v. Union of India & Ors.*, (2014) 6 SCC 590 and *Common Cause Vs. UoI & Ors.*, (2017) 9 SCC 499.

4. Vide order dated 22.12.2021, the Tribunal sought a factual and action taken report from a joint Committee of CPCB, State PCB, SEIAA, Haryana and District Magistrate, Yamuna Nagar.

5. In pursuance of above, joint report has been filed by the State PCB on 10.05.2022. The joint Committee scrutinized the relevant documents and found that there were no boundary pillars and weigh bridge in the mining area. Mining was undertaken beyond the lease area. The Mining Department had taken action by way of show cause notice. An enquiry report was submitted on 30.06.2021 against which appellate order was passed by the Principal Secretary Mining on 24.02.2022. Illegal mining was found to have taken place for which further enquiry in pursuance of order of the appellate authority was pending. Apart from liability for illegal mining, the lessee was also held liable to pay compensation for damage to the environment.

6. Relevant extract from the report are reproduced below:-

> **"***6. That the team has scrutinized the documents submitted alongwith original application and found that on receipt of a complaint regarding illegal mining being carried out in village Galauri of District Yamuna Nagar, the area was got inspected by the Mining Department through Sh. R.S. Thakran, Mining Engineer (Head Quarter), along with Senior Surveyor and Assistant Mining Engineer, Yamuna*

*Nagar on 09.03.2021. The team while inspection of the said mining firm found that no boundary pillars were found installed on the corner points of the contracted area and also no weigh bridge was installed. In the absence of boundary pillars (as were not found installed),the contracted area was checked with the help of Differential Global Positioning System (DGPS). The inspecting team found that though mining contract was in favour of M/s Kawaljeet Singh Batra but granted only over an area of 24.00 hectares, but they have undertaken illegal mining over an area of 28.50 hectares as per details given below:-*

a) *6.40 hectaresarea has been mined/excavated within the contracted area but up to the depth of 10 meters as against the permissible depth of 09 meters;*

b) *11.00 hectaresarea has been mined outside contracted area which is nearby to boundary of contracted mining lease area and mined up to a depth of 10 to 12 meter. Out of said area of 11.00 hectares, an area of 1.20 hectares was situated in revenue estate of village Dera District Ambala and remaining 9.80 hectares in the revenue estate of village Galauri Yamuna Nagar.*

c) *Another area of 11.10 hectaresarea was found mined illegally outside the contracted mining lease area which was adjoining to boundary of contracted mining lease area.*

*Considering the above findings,* ***the Mining Department had issued the show caused notice dated 17.05.2021 (Annexure-R3) to the mining contractor for illegal extraction (mining) of boulder/gravel/sand of 37,57000 MT. The Mining Contractor replied the show cause notice on dated 24.05.2021 and refuted the allegation of illegal mining and non-installation of weigh bridge and boundary pillars and requested for re-inspection which was considered by the mining department and a re-inspection was carried out on dated 28.05.2021 and reported there was no discrepancy in the previous inspection report carried out on dated 09.03.2021. Only additional reporting during re-inspection on dated 28.05.2021 was that weighbridge was found operational at a distance of 400 meter away from the contracted area and out of 04 boundary pillars required 03 were found installed. Thereafter, the mining contractor was also afforded an opportunity of hearing on dated 23.06.2021 by the mining department.***

*The mining department concluded the enquiry vide orders dated 30.06.2021 (Annexure-R4),wherein the conclusive remarks on illegal mining reported were as per Para 19, 20 & 21 reproduced as under:-*

*"19. In case of mining beyond contracted area, it was found that itis to an extent of 22.10 hectares out of which 11.20 hectares area (pits marked as EP 1 EP 2, EP 3 and EP 8 in the report) is just adjoining to the lease boundary. It can be decided beyond doubt that the said area has been mined by the contractor firm. In the remaining part of 11.00 hectares, it is difficult to arrive at a conclusion that the firm was mining illegally in the area but logically* ***it cannot be ruled out that any other person indulging in such huge operations will directly impact the operations/business of the contractor and they would not have allowed it to happen without a tacit understanding (pits marked as EP 4, EP 5, EP 6 in the report). In the case of mining which was done at a distance of 150-500 meters away from their boundary of contracted area it would be in interest of justice that a fresh detailed enquiry be conducted to establish whether the contractor was involved in said illegal mining****. In case it is proved that this area was also mined by the same contractor, they will be liable to pay penalty as per policy.*

*20. In the light of above said facts which have been bought out on the basis of an enquiry, field visit of the officials of Mining Department and attended formally by the representatives of the mining contractor. I am of the considered view that* ***M/s Kawaljeet Singh Batra is liable to pay penalty (price and royalty) for 18,70,000 MT of Boulder Gravel and Sand/ minor mineral excavated illegally from said area of 11.20 hectares falling tinder area adjacent to their mining area/boundary but outside contracted area and also for extraction of 1,28,000 MT from beyond permissible out of 6.40 hectares (pit/area marked as WP 1 in report) mined within contracted area. The royalty of mineral for boulder and gravel is Rs. 50 as per State Rules, 2012. As regards price to be considered as per the official records imposed in earlier cases based on average sale price of leaseholders it comes out to be Rs. 56 per MT.***

*21. Hence,* ***I hereby order that the contractor is liable to pay amount of Rs. 21,49,36,438 the amount as penalty as interim measure subject to final decision on account of following:-***

***a) Royalty and price of Rs. 19,82,20,000 taking the price @ Rs 56 pre MT and royalty @ Rs. 50 per MT for illegal excavation of 18,70,000 MT of Boulder Gravel and Sand from area of 11.20 hectares;***

***b) Royalty and price of Rs. 1,35,68,000 taking the price @ Rs. 56 per MT and royalty @ Rs. 50 per MT for 1,28,000 MT of mineral excavated from depth beyond permissible from the contracted area of 6.60 hectares.***

***c) An amount of Rs. 31,48,438 equals to 50% of the security deposit as fine for undertaking mining in violation of the terms of grant."***

7. *That the contractor firm, had filed the appeal against the orders dated30.06.2021 before the Appellate Authority-cum-Principal Secretary to Govt. Haryana, Mines & Geology Department and the Appellate Authority vide orders dated 24.02.2022 (Annexure-R5) passed the orders as per para 12.1 as under:-*

*"12 Keeping in view of detailed facts of the case and records made available it is ordered that:*

*12.1 The enquiry being conducted by the Department for part area cut of alleged area illegally mined to establish involvement of the appellant firm in illegal mining, the said enquiry shall be carried out for the entire area for which action was initiated against the appellant firm. Accordingly, the orders dated 30.06.2021 read with orders dated 15.07.2021 and 14.10.2021 are modified to the extent that the fresh enquiry be carried out for all of the mining area illegally mined in and around the contracted area of appellant firm as found mention in the inspection report.*

***a) The Enquiry shall be carried out by Sh. Ashutosh Rajan, HCS, Joint Director Mines and Geology. Sh. Deepak Hooda, State Geologist assisted by Sh. Suresh Sharma, Sr. Surveyor.***

*b) The team shall also associate a technical person from HARSAC and procure satellite images to examine as to whether mining pits (details along with GPS coordinates are available) found to be near the contracted area were existing even prior to commencement of mining or were created during which period;*

*c) The Satellite imageries in case are not available with HARSAC, the same may be procured on payment basis without any delay from department funds available under R & R Fund or any other fund;*

***d) The areas for which FIRSs have been filed as claimed by the appellant firm be also got verified by the team to ascertain as to whether for said areas appellant firm has been directed to pay penalty for illegal mining or said area are other***

***than that of the pits/areas for which notice was issued to them.***

***e)*** *The team of officers shall also make an asse****ssment as to whether the area used for mining within contracted area is commensurate with the reported production by the appellant firm and in case it is not shall give clear recommendation for enabling DGMG to take action, if any.***

***f)*** *The team enquiring the matter shall also asses as to whether mineral sold during the period of operation and quantity of mineral produced gives any idea about alleged illegal mining. The team must complete its enquiry within a period* ***of two months and submit report to the DGMG with a copy to undersigned;***

*g) The DGMG shall take fresh decision based on the same within 15 days of the receipt of the report by affording opportunity of hearing in case any decision adverse to the interest of appellant firm are to be taken.*

*h) In case the illegally mined pits are found to have been created after the mining contract was granted to the appellant firm, they shall be imposed penalty as per law.*

*i)* ***The appellant firm shall deposit a lump sum amount of Rs. 5 Croce as advance penalty which may be adjusted towards amount they may have to pay after detailed enquiry report is submitted and decided by the DGMG****."*

*8. That the representative of contracted mining lease of M/s Kanwaljeet Singh Batra, village Galauri, submitted their representation (Annexure-R2)to the inspecting team(constituted by Hon'ble NGT in present matter). In representation the contractor denied the allegations /charges of illegal mining leveled against them by the Mines and Geology Department mainly on the following grounds(stated by contractor):*

*i. Date of issuance of Letter of Intent (L01): 20.10.2016*
*Date of issuance of Environment Clearance:20.05.2017*
*Date of issuance of CTE:12.07.2017*
*Date of issuance of CTO:08.08.2017*
*Date of commencement of mining operation:08.08.2017*

*ii.* ***The illegal mining in the area was going on even prior of grant of mining contract to the contractor and also during contract period by antisocial elements in connivance with land owners in the area, adjoining to the contracted area. The contractor supported their claim with the complaints given by them to Mining Office from time***

***to time and even before commencement of mining***. *The details of such complaints submitted as under:-*

| *Sr. No.* | *Date* | *Type of Complaint* | *Summary* |
|---|---|---|---|
| *1* | *22.12.2016* | *Illegal mining* | *Regarding illegal mining nearby the contract area 2of Galauri B-39.* |
| *2* | *17.02.2017* | *Illegal mining* | *R3egarding illegal mining ne4arby the contract area of Gal5auri B-39 and no action has 6been taken of previous complaint also.* |
| *3* | *25.09.2017* | *Illegal mining* | *Regarding illegal mining near Pammuvala river and other nearby places* |
| *4* | *16.07.2018* | *Illegal mining* | *Regarding Illegal mining close to contract area against which we have complained earlier also but no action is being taken.* |
| *5* | *05.12.2019* | *Illegal mining* | *Regarding Illegal mining close to contract area. We have posted multiple complaints regarding same before as well.* |
| *6* | *13.08.2020* | *Illegal mining* | *Illegal mining adjacent to contract area. Earlier also many complaints in writing and verbally intimated to your office. We have no link with the illegal mining near to contract area.* |
| *7* | *08.08.2020* | *Illegal mining* | *Illegal mining adjacent to contract area. Earlier also many complaints in writing and verbally intimated to your office. We have no link with the illegal mining near to contract area.* |

*The contractor further submitted, no action has been taken by Mining Office on their above complaints.*

*The contractor also submitted details of FIRs of illegal mining/transportation in Village Galauri and nearby area filed by Mining Office (to prove illegal mining happening in the area with the involvement of land lords and mining mafia without their*

*involvement). The details of some of such FIRs is submitted as under:-*

| *Sr. No.* | *Date* | *Place* | *Nature of FIR* | *Description* |
|---|---|---|---|---|
| *1* | *09.05.2018* | *Village Asgarpur* | *Illegal Mining - Land* | *Illegal mining found of size 100*100*5 cubic feet.* |
| *2* | *22.05.2018* | *Village Asgarpur* | *Illegal Mining - Land* | *Illegal mining found of size 100*90*6 cubic feet.* |
| *3* | *27.12.2019* | *Village Galauri* | *Illegal Mining - Land* | *Illegal mining found of size of 3 acre and 20 feet* |
| *4* | *11.01.2020* | *Village Asgarpur* | *Illegal Mining - Land* | *Fresh marks of illegal mining was found.* |
| *5* | *02.07.2020* | *Jhanda, Bilaspur* | *Illegal Mining - Land* | *Illegal mining found of size 1.5 acre and 8 feet* |
| *6* | *25.02.2021* | *Galauri* | *Illegal Mining - Land* | *Illegal Mining found of size 100*200*9 cubic feet.* |
| *7* | *25.02.2021* | *Galauri* | *Illegal Mining - Land* | *Illegal mining found of size 120*80*12 cubic feet.* |
| *8* | *25.02.2021* | *Galauri* | *Illegal Mining - Land* | *Illegal mining found of size 250*250*18 cubic feet.* |
| *9* | *25.02.2021* | *Galauri* | *Illegal Mining - Land* | *Illegal mining found of size 400*200*18 cubic feet.* |
| *10* | *25.02.2021* | *Galauri* | *Illegal Mining - Land* | *Illegal mining found of size 200*20*18 cubic feet.* |
| *11* | *25.02.2021* | *Galauri* | *Illegal Mining - Land* | *Illegal mining found of size 500*100*18 cubic feet.* |
| *12* | *25.02.2021* | *Galauri* | *Illegal Mining - Land* | *Illegal mining found of size 70*30*25 cubic feet* |
| *13* | *25.02.2021* | *Galauri* | *Illegal Mining - Land* | *Illegal mining found of size 1 acre and 6 feet pit* |

***The contractor submitted that they have permitted quantity of 4,40,000 MT per Annum and issued e-rawana/rawana for this extent only. Further contractor hypothetically submitted even if it assumed that illegal mining to the extent as claiming by Mining Office, carried out them, even with day one of mining commencement i.e. 08.08.2017 and up to 09.03.2021 (the date of visit of Mining Team when such illegal mining reported) and 300 working days in year, on an average 3500 MT of minerals extracted and for that movements of 200 trucks (capacity 18MT) required on daily basis. He further claimed that how such a huge nos. of trucks can ply on road without e-***

***rawana and without detecting by various statutory mining teams appointed to stop such illegal mining and movement of trucks.***

9. *That the team has visited all the sites of illegal mining pits asmentioned in the orders dated 30.06.2021 ,issued by the Mines and Geology, Haryana and as desired by Hon'ble NGT, the factual and action taken report is submitted as under:-*

*a)* ***Illegal mining pits of area 22.10 Hectare exist adjacent/nearby to the contracted mining lease M/s Kawaljeet Singh Batra, Village Galauri, Sadhaura, Block 39,District Yamuna Nagar and out of this 11.20 Hectare of mining pits(illegal mineral extraction of 18,70,000 MT) found adjoining to the contracted mine lease of M/s Kawaljeet Singh Batra and rest of illegal mining pits of 11 Hectare (illegal mineral extraction of 17,59 000MT) were also in the near vicinity of contracted mining lease of M/s Kawaljeet Singh Batra.***

***b) The illegal mining in respect of beyond permissible depth found within the contracted lease of M/s Kawaljeet Singh Batra. The such area was 6.40 Hectare (illegal mineral extraction of 1,28,000 MT) wherein the mineral extraction was up to 10 mtrs. of depth than permissible ultimate depth of 9 mtrs. as per environment clearance.***

***c) The illegal mining pits as per report/orders dated 30.06.2021 of Mines and Geology were existing at site, however exact measurement of these pits could not be ascertained but the same were seems near to area estimations as calculated/measured by Mines and Geology using Differential Global Positioning System(DGPS). Photographs attached as per Annexure-R6.***

***d) The team has found the 03 boundary pillars intact at the right locations and 4th boundary pillar was not intact and was lying uprooted at site but the location of the pillar was right as per GPS location. Photographs attached as per Annexure-R7.***

***e) At site some of the mined area within the contracted mining lease area and outside contracted mining lease area of M/s Kawaljeet Singh Batra, found replenished/restored with sand /earth. Photographs attached as per Annexure-R8.***

***f) The total mining minerals illegally extracted calculated by the Mines and Geology for the 28.10 Hectare of land(detailed as above) was 37,57,000 MT. However for not having proof of direct indulgence in illegal mining in the area of 11 Hectare of land which is not adjoining to the contracted mining lease and with requirement of***

***fresh enquiry for this, the penalty (including price of mineral @ Rs50/MT and Royalty of mineral@Rs56/MT) of Rs. 21,17,88000 vide orders dated 30.06.2021 of Mines and Geology was imposed on the unit. Apart from this an amount of Rs31,48,438 equals to 50% of the security deposit as fine imposed vide said orders dated 30.06.2021 of Mines and Geology.***

***g) The mining contractor M/s Kanwaljeet Singh Batra, challenged the orders dated 30.06.2021 before the Appellate Authority to Government Haryana, Mines & Geology Department and Ld. Appellate Authority vide orders dated 24.02.2022, orders the enquiry in the matter by Sh. Ashutosh Rajan, HCS, Joint Director Mines and Geology, Sh. Deepak Hooda, State Geologist assisted by Sh. Sudesh Sharma, Sr. Surveyor. And also asked the team shall also associate a technical person from HARSAC and procure satellite images to examine as to whether mining pits were existing even prior to the commencement of the contacted mining lease or time/period of creation of mining pits.***

***h) The mining contractor M/s Kanwaljeet Singh Batra, submitted a representation before the team (constituted by Hon'ble NGT in present matter) based on complaints on various occasions even before commencement of mining and during mining operation regarding illegal mining in nearby areas of the contracted lease. The contractor also quoted the various FIRs showing the illegal mining happening in the Village Galauri and nearby areas by mining mafia in connivance with the land owners.***

***i) In various representations and even in the representation before the team, the contractor has not submitted any excuse/denial of not carrying out illegal mining in the area of 6.4 Hectare in the legitimate mining lease to the depth of 10 meters against the permissible ultimate depth of 9 meters as permissible under environment clearance granted to the mining unit. The such illegal mining have no excuse and statutory authorities need to take action as per law and apart from recovery of price/royalty/penalty , the environmental compensation need to be imposed as per the orders of Hon'ble NGT vide dated 26.02.2021 in OA No. 360/2015 titled as National Green Tribunal Bar Association vs. Virender Singh (State of Gujarat).*** *The Environmental Compensation is calculated as under:-*

| | |
|---|---|
| *Violation:-* | *Illegal Extraction of Boulder/ Gravel/Sand upto 10 meters depth beyond permissible limit of 9 meter depth with in contracted lease area* |
| *Total illegal Mineral Extraction (Z)* | *1.28 Lac MT* |
| *Market value of illegally mined material (per MT)* | *As per Mining Department Report. Rs. 106 per MT (including price @ Rs. 56 MT and royalty @ Rs. 50 per Metric Ton)* |
| *Market value of illegally mined material (D)in Rs.* | *Zx(market value/MT)*<br>*=128000x106*<br>*=13556800* |
| *Severity* | *Moderate* |
| *Risk Level* | *2* |
| *Risk Factor* | *0.50* |
| *Discount(r)* | *7%* |
| *Annual Value of Foregone Ecological Values (Rs.)* | *=DxRF*<br>*=13556800x0.50*<br>*=6784000* |
| *Present Value of Foregone Ecological Value @ 7% discount rate and over 5 years (Rs.)* | $PV=\sum_{t=1}^{5}\left(\frac{6784000}{(1+0.7)t}\right)$<br>PV=27815739<br>$PV=\sum_{t=1}^{5}\left(\frac{DxRF}{(1+r)t}\right)$ |
| *Net Present Value (after netting out market value of illegally mined material i.e. Total Compensation.* | *NPV=PV-D*<br>*=27815739-13556800*<br>*=1,42,47,739 (Rs.)* |

j) ***Besides the illegal/unauthorized mining, the contractor has almost totally ignored the conditions laid down in the Environment Clearance. Out of the stipulated plantation of 3450 trees over a 5-year span, only about 625 recently planted poplar plants were found in a nearby area. The Haryana State Pollution Control Board (HSPCB), issued the show cause notice of 15 days to the mining unit M/s Kawaljeet Singh Batra, Village Galauri (Annexure-R9) to deposit the above calculated environmental compensation. The HSPCB also issued the show cause notice for closure under Water Act and Air Act and Show Cause Notice for prosecution under Environment (Protection) Act 1986 to the mining unit for***

***violating the conditions of Environment Clearance and CTE/CTO.***

k) *The Mines and Geology Department is the statutory department responsible for regulating the mining in the area. They used to lodge FIR against the land owners and machinery owners involved in the illegal mining and also compound the machinery and transport vehicles involved in the illegal mining. They used to carry out regular and surprise inspections in the area to check illegal mining activities and legitimate mines for checking mining operation as per mining plan.* ***The mining unit M/s Kanwaljeet Singh Batra commenced the mining operation on 08.08.2017 and it's only the inspection dated 09.03.2021 when the Mines and Geology Department reported illegal mining in large area of 22.10 Hectare adjoining and in the nearby area of mining unit M/s Kanwaljeet Singh Batra and the same up to depth of 10-11 meters (extraction of minerals to the extent of 36,29,000 MT) . This situation is dubious as how for such a long period such a huge illegal mining and mineral extraction remain unnoticed and non-reported by the Mines and Geology Department when the department is doing regular inspection of the mining unit and nearby area and also filed many FIRs of illegal mining in the nearby area and also the mining contractor filed complaints of illegal mining on many occasions.***

l) *As per orders dated 24.02.2022 of Appellate Authority of the Mines and Geology Department, re-inquiry in the matter w.r.t. timings of mining pits reported for illegal mining with the technical help from HARSAC and satellite images, is being conducted, to ascertain the role of mining contractor M/s Kanwaljeet Singh Batra(B-39) in the illegal mining.*

m) ***It is re-iterated that the environmental damage has been caused to the extent of 28.5 ha area whereas above computation of the environmental compensation is only for the non-permissible excavation beyond permissible depth in the 6.4 ha lease area.***

***n) The Mines and Geology Department, Haryana, may be directed to expeditiously complete the enquiry as ordered by the Appellate Authority-cum-Principal Secretary to Govt. Haryana, vide orders dated 24.02.2022."***

**Finding and directions**

7. From the above, it is clear that large scale illegal mining took place for which action taken is inadequate and not expeditious. In spite of finding in the enquiry report dated 30.06.2021 (almost one year back) and appellate order dated 24.02.2022, even the amount of interim penalty of Rs. 5 Crores has not been recovered, though the enquiry officer had found the liability of the lessee to be more than 40 Crores towards royalty price and penalty, which may now increase, with addition of liability for the violation of environmental norms.

8. It is, thus, necessary that coercive measures are taken for recovery of the assessed amount and the pending re-enquiry is completed in shortest possible time, to be overseen by the higher-level Authorities in the Department. Apart from coercive measures for recovery, measures like black listing and expeditious conclusion of criminal proceedings need to be taken. It is also seen that seized vehicles are released on soft terms as orders of this Tribunal are not brought to the notice of the concerned Magistrates.

9. In the light of experience of the present case and the frequent violations noticed, there is need to review the existing monitoring mechanism against illegal mining.

10. Accordingly, we direct the Chief Secretary, Haryana to review the monitoring mechanism to prevent illegal mining for effective action against any violations at different levels. This aspect has also been dealt with earlier also vide order of this Tribunal dated 26.02.2021 in *O.A. No. 360/2015, NGT Bar Association v. Virender Singh (State of Gujarat) and other connected matters*, wherein the Tribunal inter alia issued the following directions:-

*"1to26..xxx……xxx……xxx*

***27. We direct all the States/UTs to strictly follow the SSMG-2016 read with EMGSM-2020 reinforced by mechanism for preparation of DSRs (in terms of directions of this Tribunal dated 14.10.2020 in Pawan Kumar, supra and 04.11.2020 in Rupesh Pethe, supra), Environment Management Plans, replenishment studies, mine closure plans, grant of EC (in terms of direction dated 13.09.2018 in Satendra Pandey, supra), assessment and recovery of compensation (as per discussion in Para 25), seizure and release of vehicles involved in illegal mining (in terms of order dated 19.02.2020 in Mushtakeem, supra), other safeguards against violations, grievance redressal, accountability of the designated officers and periodical review at higher levels. As already noted, EMGSM-2020 contemplates extensive use of digital technology, including remote sensing.***

***28. We further direct that periodic inspection be conducted by a five-members Committee, headed and coordinated by the SEIAA and comprising CPCB (wherever it has regional office), State PCB and two expert members of SEAC dealing with the subject. Where CPCB regional office is not available, if MoEF&CC regional office is available, its Regional Officer will be included in the Committee. Where neither CPCB nor MoEF&CC regional office exists, Chairman, SEIAA will tie up with the nearest institution of repute such as IIT to nominate an expert for being included in the Committee. Such inspection must be conducted at least thrice for each lease i.e. after expiry of 25% the lease period, then after 50% of the period and finally six months before expiry of the lease period for midway correction and assessment of damage, if any. The reports of such inspections be acted upon and placed on website of the SEIAA. Every lessee, undertaking mining, must have an environment professional to facilitate sustainable mining in terms of the mining plan and environmental norms. This be overseen by the SEIAA. Environment Departments may also develop an appropriate mobile App for receiving and redressing the grievances against the sand mining, including connivance of the authorities and also a mechanism to fix accountability of the concerned officers. Recommendations of the Oversight Committee for the State of UP quoted earlier may be duly taken into account.***

***The mechanism must provide for review at the level of the Chief Secretary at least once in every quarter, in a meeting with all concerned Departments in the State. The Chief Secretary UP may ensure further action in the light of the report of the Oversight Committee.***

***Similarly, at National level, such review needs to be conducted atleast once in a year by the Secretary, Environment in coordination with the Secretaries Mining and Jalshakti Ministries the CPCB."***

11. By a recent order dated 06.05.2022 in *O.A. No. 140-2021, Raj Kumar v. State of U.P. & Ors.*, the Tribunal reiterated the mandate of para 5.1 of EMGSM, 2020 which is reproduced below:-

> ***"5.0 REPLENISHMENT STUDY***
>
> *The need for replenishment study for river bed sand is required in order to nullify the adverse impacts arising due to excessing sand extraction. Mining within or near riverbed has a direct impact on the stream's physical characteristics, such as channel geometry, bed elevation, substratum composition and stability, in-stream roughness of the bed, flow velocity, discharge capacity, sediment transport capacity, turbidity, temperature etc. Alteration or modification of the above attributes may cause an impact on the ecological equilibrium of the riverine regime, disturbance in channel configuration and flow-paths. This may also cause an adverse impact on instream biota and riparian habitats. It is assumed that the riparian habitat disturbance is minimum if the replenishment is equal to excavation for a given stretch. Therefore, to minimize the adverse impact arising out of sand mining in a given river stretch, it is imperative to have a study of replenishment of material during the defined period***.***
>
> ***5.1 Generic Structure of Replenishment Study***
>
> *Initially replenishment study requires four surveys. The first survey needs to be carried out in the month of April for recording the level of mining lease before the monsoon. The second survey is at the time of closing of mines for monsoon season. This survey will provide the quantity of the material excavated before the offset of monsoon. The third survey needs to be carried out after the monsoon to know the quantum of material deposited/replenished in the mining lease. The fourth survey at the end of March to know the quantity of material excavated during the financial year. For the subsequent years, there will be a requirement of only three surveys. The results of year-wise surveys help the state government to establish the replenishment rate of the river.*
>
> ***Based on the replenishment rate future auction may be planned.***
>
> *The replenishment period may vary on nature of the channel and season of deposition arising due to variation in the flow. Such period and season may vary on the geographical and precipitation characteristic of the region and requires to be defined by the local agencies preferable with the help of the Central Water Commission and Indian Meteorological Department. The excavation will, therefore, be limited to estimated replenishment estimated with consideration of other regulatory provisions.****"***

12. Pending directions of the Chief Secretary, in the light of above observations and review of existing mechanism, the Principal Secretary, Mining may personally monitor further action in the present case, including coordination with the investigation of the criminal case. Pending proceedings may be concluded within three months. The State PCB may also conclude its pending action expeditiously. Compensation for damage to environment be used for restoration of environment, particularly rehabilitation of damaged area.

The application is disposed of.

A copy of this order be forwarded to the Chief Secretary, Haryana and the State PCB by email for compliance.

Adarsh Kumar Goel, CP

Sudhir Agarwal, JM

Arun Kumar Tyagi, JM

Prof. A. Senthil Vel, EM

Dr. Afroz Ahmad, EM

May 12, 2022
Original Application No. 337/2021
A

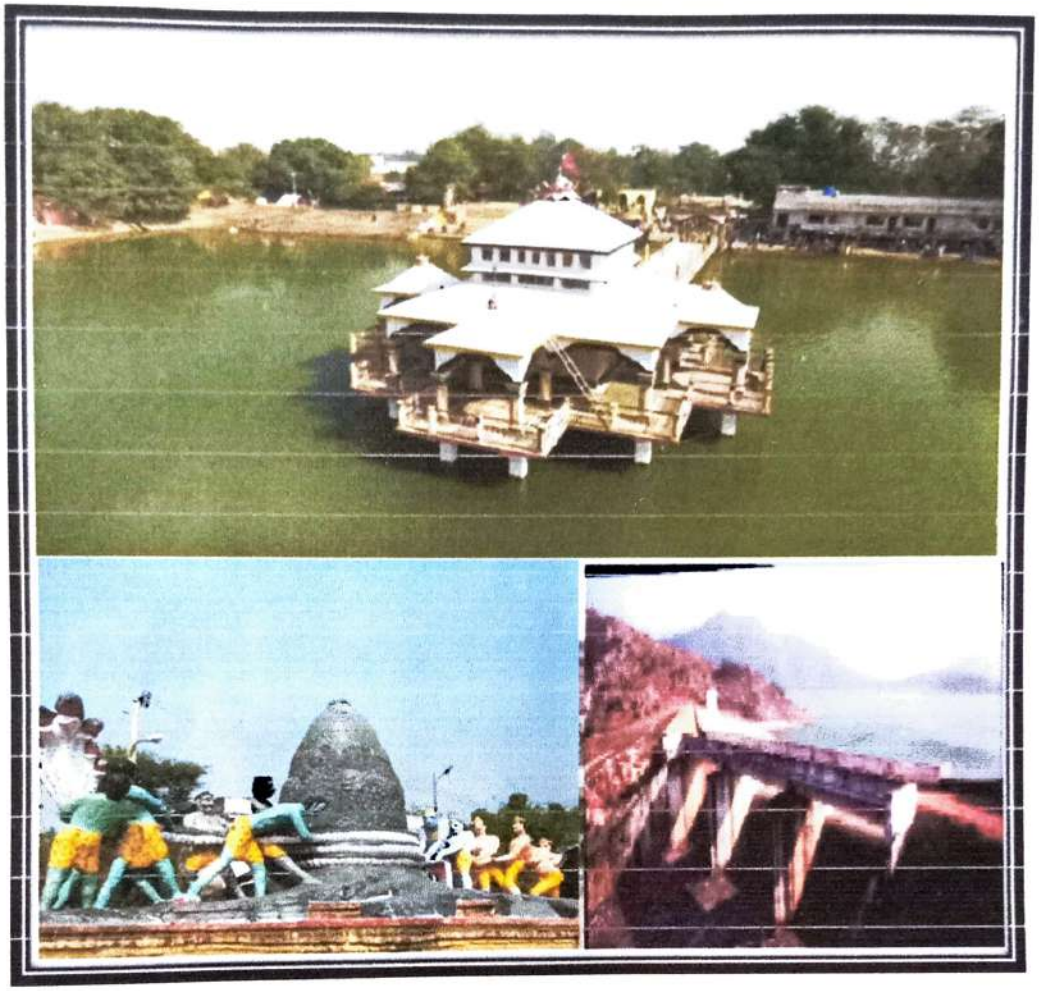


\\TRUE COPY//

# District Survey Report for Sand Mining of Banka District Accordance with MOEF&CC Gazette Notification S.O.3611 (E), dated 25th July 2018, "Sustainable Sand Mining guidelines 2016"And EMGSM – January 2020



ANNEXURE A-11



**SUBMITTED TO,**

**DISTRICT MAGISTRATE BANKA, BIHAR**

**PREPARED BY,**

**SUB – DIVISIONAL COMMITTEES**

**SUB- DIVISIONAL MAGISTRATE**

**OFFICER FROM IRRIGATION DEPARTMENT**

**STATE POLLUTION CONTROL BOARD**

**FOREST DEPARTMENT**

**MINING OFFICER**

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# PREFACE

The District Survey Report (DSR), Banka for sand mineral has been preprared in accordance with the guide line issued by the mininstry of Environment, Forest and Climate change (MOEF & CC), Gov. of Indida vide the notification S.O. 141(E) dated 15th January 2016 and the amended notification S.O. 3611(E) dated 25th July,2018. It also comply SSMG 2016 & EMGSM 2020. In the matter of Pawan Kumar and other etc. Vs. State of Bihar and Others as per Hon'ble Supreme Court order dated 10th November, 2021 in Civil Appeal nos. 3661- 3662 of 2020 for exercise of preparation of DSR for the purpose of mining in state of Bihar in all districts shall be undertaken afresh. The draft DSRs shall be prepared by the Sub divisional committees consisting of the Sub divisional Magistrate, officers from irrigation Department, state pollution control board or committee, Forest department, Geological or Mining Officer prepared by undertaking site visit and also by using modern technology. The said draft DSRs shall be prepared within a period of six weeks from the date of the order. A survey is carried out by the members of Sub divisional committee in the district.

The DSR for sand mineral which is a compendium of available mineral resources, replenishment of minerals geographical set up, environmental and ecological condition of the district and is based on survey made in the district and data of various department like geology & mining, Forets, irrigation, Agriculture, Horticulture Health department; published report & websites. Main purpose of preparation of District Survey Report is to identify the mineral resources and mining activities along with other relevant data of district. This report contains details of Lease, Sand mining and Revenue which comes from minerals in the district.

District Survey Report (DSR) is required to identify the areas of aggradations or depositions where mining can be allowed and identification of areas of erosion and proximity to infrastructural structures and installations where mining should be prohibited and calculation of annual rate of replenishment and allowing time for replenishment after mining in that area. Every efforts have been made to cover sand mining locations, areas and overview of Mining activity in the district with all it's relevant features pertaining to geology and mineral wealth in replenishable and nonreplenishable areas of rivers, stream and other sand sources. This report will be a model and guiding document which is a compendium of available mineral resources, geographical set up, environmental and ecological set up of the District and is based on data of various departments, published reports, and websites. The data may vary due to flood, heavy rains and other natural calamities. Therefore, it is recommended that Sub Divisional Level Committee may take into consideration all its relevant aspects / data while scrutinizing and recommending the application for EC to the concerned Authority.

It will no doubt, form the basis of application for environmental clearance, prepration of reports and appraisal of projects. As per guide line the report will be updated in every five years.

In the matter of Pawan Kumar and other etc. Vs. State of Bihar and Others as per Hon'ble Supreme Court order dated 10th November, 2021 in Civil Appeal nos. 3661- 3662 of 2020 for exercise of preparation of DSR , Survey has been carried out by Sub divisional committees consisting of the Sub divisional Magistrate, officers from irrigation Department, state pollution control board or committee, Forest department, Geological or Mining Officer.

DSR has been preared based on the amendments made by the Ministry of Environment, Forests and Climate Change, Government of India, in the Environment impact Assessment Notification, 2006 notified an amendment on 15 January 2016, to which the Central Government makes the amendments by Notification dated 25th July 2018. The district survey document has been prepared in accordance with the Appendix-X of the said notifications. The Minerals/rivers/streams were studied based on the following parameters excluding the hill slope mining.

**OBJECTIVES**

The main objective of the preparation of District Survey Report (as per the Sustainable Sand Mining Guideline) is to ensure the following -

- Identification of areas of aggradations or deposition where mining can be allowed;
- Identification of areas of erosion and proximity to infrastructural structures and installations where mining should be prohibited and calculation of annual rate of replenishment and allowing time for replenishment after mining in that area;
- Identification of mineral wealth in the district.

**Date:**

**Place:** Banka

**********

# GUIDELINES FOR MINING OF MINERALS

The Erstwhile Ministry of Environmental and Forests (MOEF), The government of India, made Environmental Clerance (EC) mandatory through it's Notification of 27th January 1994 under the provisions of Environmental Protection Act, 1986. Keeping in view the expeince gained in environmental clearance process over a period of one decade, The Minsitry came out with Environmental Imapct Notification, S.O. 1533(E) dated 14th sepetember 2006. The Ministry of Environment, Forest and Climate Change (MoEF&CC), Government of India had amended the said vide notification S.O. 141(E) dated 15th January 2016, vide S.O. 3611(E) dated 25th July 2018. Ith has been made mandatory to obtain environmental clearance of different kind of development projects listed in Appendix-X of the notification.

Further in pursuance to the order of Hon'ble Supreme court dated 27th Febuary,2012 in I.A. No. 12-13 of 2011 in Special Leave Petition © No. 19628-19629 of 2009, in the matter of Deepak Kumar etc vs State of Harayana and others etc; prior environmental clearance has now become mandatory for mining of minor mineral irrespective of the area of mining lease.

The mining operations for minor minerals were carried out in unscientific manner in Bihar since there were no guidelines for extraction of minor mineral.

Indentifying this fact In exercise of powers conferred by Section 15 of Mines & Minerals (Development & Regulation) Act, 1957 (67 of 1957) and of all other powers enabling it in that behalf, the Revenue & Forest Department, Government of Bihar framed the Bihar Minor Mineral Bihar Minerals (Concession, Prevention of Illegal Mining, Transportation & Storage) Rules, 2019.

Since prior Environmental Clearance has now become mandatory for mining of minor minerals irrespective of the area of mining lease after the matter of Deepak Kumar etc. Vs. State of Haryana and Others as per Hon'ble Supreme Court dated 27th February, 2012 in I.A No. 12-13 of 2011 in Special Leave Petition (C) No. 19628- 19629 of 2009, Ministry of Environment, Forest & Climate Change (MoEF& CC) had issued Office Memorandum No. L-IIOII/47/2011-IA.II (M) dated 18th May 2012; henceforth as per this O.M. all mining projects of minor minerals would require prior environmental clearance irrespective of the lease area.

(E) & S.O. 190 (E) dated 15th January, 2016 & 20th January , 2016 in exercise of the powers conferred by sub-section (3) of Section 3 of the Environment (Protection) Act, 1986 (29 of 1986) and in pursuance of the notification of the Government of India in the erstwhile Ministry of Environment and Forest number S.O. 1533 (E), dated the 14th September 2006.

Direction for preparation of District Survey Report for Sand Mining of River Bed Mining of other Minor Minerals was made in the Notification dated 15th January, 2016 and its amendments dated 25th July, 2018 by MoEF&CC along with detailed procedure & format for preparation of District Survey Report.

To make certain identification of areas of aggradations or depositions where mining can be allowed and identifying areas of erosion rate of replenishment and allowing time for replenishment after mining in that area is the foremost objective of the preparation of District Survey Report.

**District Survey Report of Banka district for Sand Mining or River Bed Mining Prepared under**

- MoEF&CC, Gol notification S.O 141 (E) dated 15.01.2016
- Sustainable Sand Mining Guidelines
- MoEF&CC, Gol notification S.O 3611 (E) dated 25.07.2018
- Enforcement and Monitoring Guidelines for Sand Mining 2020

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## PART I: DISTRICT SURVEY REPORT FOR SAND MINING OR RIVER BED MINING

### 1. INTRODUCTION

Hon'ble Supreme Court of India dated 27th February, 2012 in I.A. No. 12-13 of 2011 in Special Leave Petition (C) No. 19628-19629 of 2009, in the matter of Deepak Kumar etc. Vs. State of Haryana and Other etc., prior environmental clearance has made mandatory for mining of minor minerals irrespective of the area of mining lease. Accordingly, Ministry of Environment, Forest & Climate Change (MoEF&CC) had issued Office Memorandum No. L-IIOII/47/2011-IA.II (M) dated 18th May 2013; As per this O.M. all mining projects of minor minerals would henceforth require prior Environmental Clearance irrespective of the lease area.

As per the latest amendment S.O. 141 (E) & S.O. 190 (E) dated 15th January 2016 & 20th January in exercise of the powers conferred by sub-section (3) of Section 3 of the Environment (Protection) Act, 1986 (29 of 1986) and in pursuance of notification of Ministry of Environment and Forest number S.O. 1533 (E), dated the 14th September, 2016 the Central Government had constituted the District Level Environment Impact Assessment Authority (DEIAA), for all the districts in the country. But later on Hon. NGT, vide its order dated 13th September, 2018, stated that for 0-5 Ha areas also recommendation of grant EC by SEIAA instead of DEAC/DEIAA.

The MoEF&CC in its Notification dated 15th January 2016 has prescribed Preparation of District Survey Report for Sand Mining or River Bed Mining and Mining of other Minor Minerals. A detailed procedure and format for preparation of District Survey Report is provided in the said Notification.

Further the procedure for preparation of DSR and format is amended vide MoEF&CC Notification S.O. 3611 (E) dated 25.07.2018. The DSR is defined at "Appendix-X (See Paragraph 7 (iii) (a)" of the notification S.O. 141 (E) dated 15.01.2016 and S.O. 3611 (E) dated 25.07.2018.

### 2. OVERVIEW OF MINING ACTIVITY IN THE DISTRICT

Mainly two types of minor minerals constituents such as sand and stone 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.

## 2.1 Main Objectives of Sustainable Sand Mining:

- To ensure that sand and gravel mining is done in environmentally sustainable and socially responsible manner.
- To ensure availability of adequate quantity of aggregate in sustainable manner.
- To improve the effectiveness of monitoring of mining and transportation of mined out material.
- Ensure conservation of the river equilibrium and its natural environment by protection and restoration of the ecological system.
- Avoid aggradations at the downstream reach especially those with hydraulic structures such as jetties, water intakes etc.
- Ensure that the rivers are protected from bank and bed erosion beyond its stable profile.
- No obstruction to the river flow, water transport and restoring the riparian rights and in streamhabitats.
- Avoid pollution of river water leading to water quality deterioration. To prevent depletion of ground water reserves due to excessive draining out of ground water.
- To prevent ground water pollution by prohibiting sand mining on fissures where it works as filter prior to ground water recharge.
- To maintain the river equilibrium with the application of sediment transport principles in determining the location, period and quantity to be extracted.
- Streamlining and simplifying the process for grant of environmental clearance (EC) for sustainable mining.

(Source info :-District Mining Office, Banka).

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# 1. INTRODUCTION

## BANKA AT A GLANCE: -

### 1.1 Location and Geographical Area

The district of Banka is situated in far south - east of the State Bihar. The eastern and southern border of the district coincide with district Godda of the state - Jharkhand. In west and north east it touches Jamui and Munger district respectively. The old district Bhagalpur is situated in the north side of Banka. The district is situated between 240 32' to 250 0'North and between 860 30' to 870 10'East.

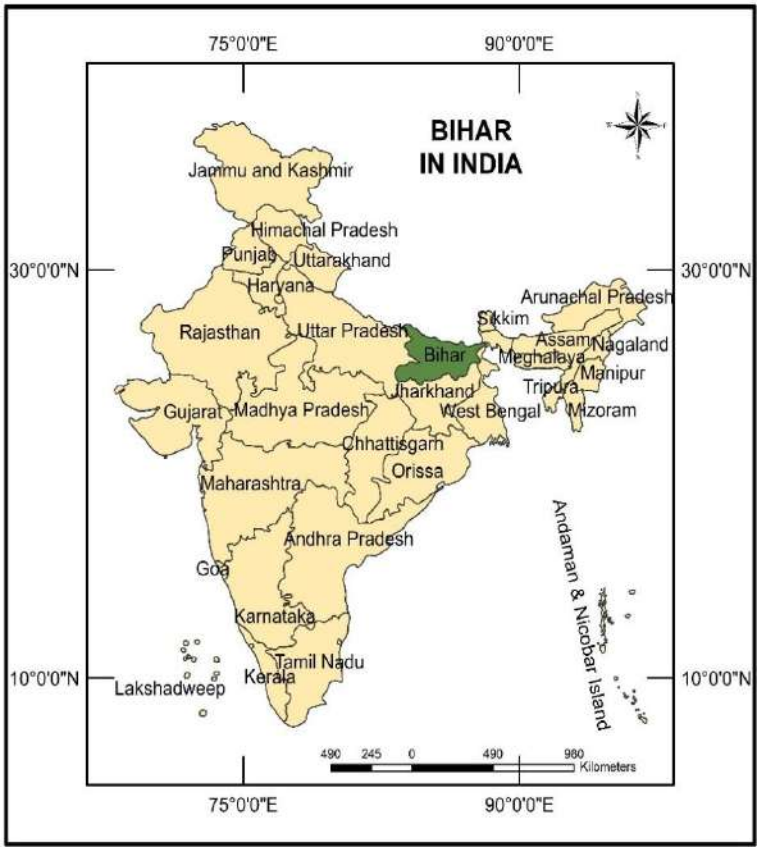
The geographical area of the district is 305621 hectare i.e. 320 Sqkm. The recognition of the district is Mandar Hill ( Mandar Parwat ) situated at Bounsi Block at about 18 Km from the District Head quarter raising its head since the epic period. The district is industrially not sound. However the availability of food based products and raw materials, there is good future for food processing industries in the district. The main crop of the district is rice. There are mainly sand and stone minerals are available in the district. Other mineral sources are not available.
(Source : - District Portal, Banka)

### 1.2 Administrative Units: -

The district head quater of Banka is situated in Banka town. The district has been established on 21st, February, 1991. Earlier it was a Sub-Division of the district Bhagalpur. The district consists 11 blocks and two towns Banka and Amarpur.
Amarpur, Banka, Barahat, Belhar, Bounsi, Chandan, Dhoraiya, Fullidumar, Katoriya, Rajoun, Shambhuganj. There are 11 subdivisions and 2111 villages in the district.

### 1.3 Connectivity facilities in Banka District:-

A railway line connecting the existing Bhagalpur-Bounsi line to Rampurhat, which is well-connected to Bhagalpur, is being developed, and further it is connecting Sultanganj to Jasidih through Banka. Banka is also connected to Capital of Bihar through the railway line. Bus facilities are also available in Banka District.
Nearest airport is Lok Nayak Jayprakash Airport, Patna, which is 190 Km away from Banka in North-West direction.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Meghalaya
Manipur
Tripura
Mizoram
Jharkhand
West Bengal
Gujarat
Madhya Pradesh
Chhattisgarh
Orissa
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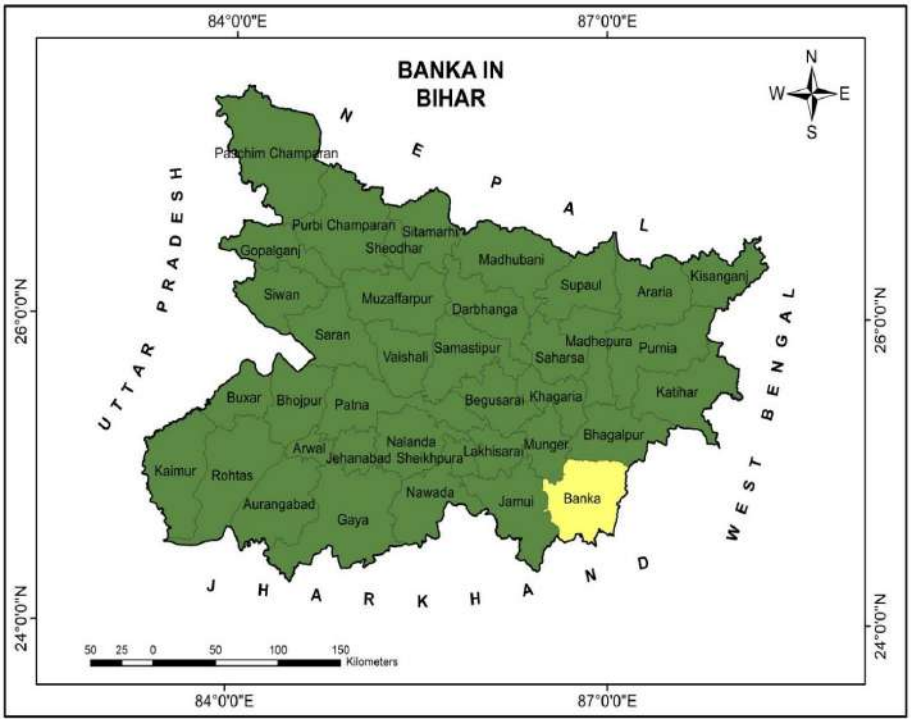
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Madhubani
Supaul
Araria
Kisanganj
Siwan
Muzaffarpur
Darbhanga
Saran
Vaishali
Samastipur
Madhepura
Saharsa
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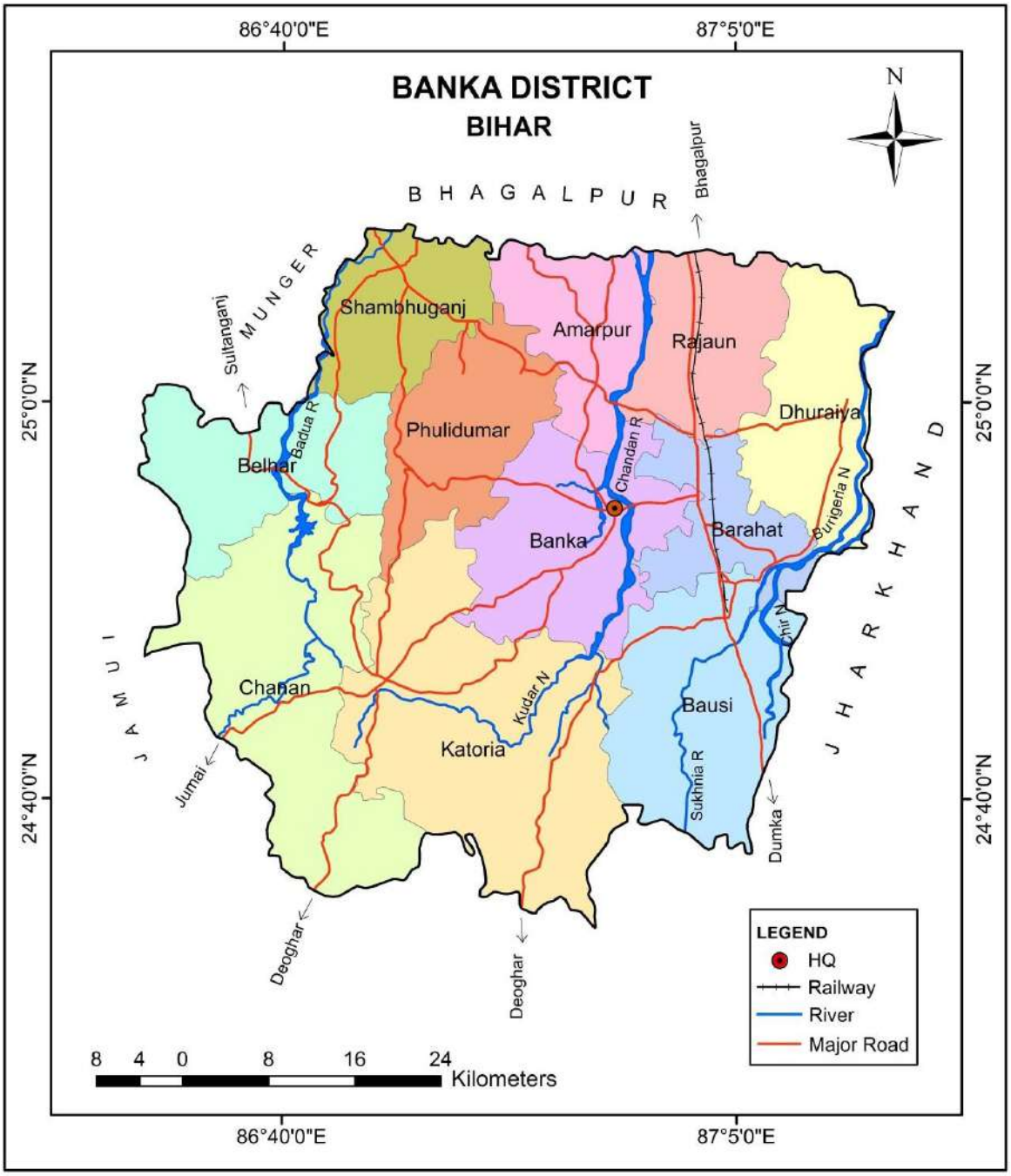
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Major Road
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## 2. Overview of Mining Activity in the District

Banka district has a rich source of minor mineral mainly river bed material, Stone mining and soil mining etc. This has increased the demand in construction industry and various facilities are developed. All developmental activities need different construction material of which sand is basic material used for development of roads, bridges, buildings etc. River bed sand quarries are the only source of supply of sand. The River sand quarries are located at approachable distance from where sand is transported with lease and at low costs.

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 Banka district, the demand of sand (river borne collection) is mainly met by the supply from Chandan river and its tributeries.

# 3. List of Mining Lease in the District

## 3.1 LIST OF EXISTING SAND GHATS AS PER DEPARTMENT RECORD:-

### CHANDAN RIVER (DISTT-BANKA)

**Table 1**

| S.No | Area in (ha) | Coordinates | | Ghat/Village | River | Plot No. | EC REF. No./ Date | EC Validity |
|---|---|---|---|---|---|---|---|---|
| 1 | 23 | A | N 24$^0$ 58' 9.35" E 86$^0$ 55' 25.42" | GHAT-MAJHONI VILL- MAJHONI POST-CHILKABAR ANCHAL-RAJON | CHANDAN | PLOT NO. 1 | 587/16.03.2017 | 5 Years or till Expiry of Lease Period |
| | | B | N 24$^0$ 58' 12.13" E 86$^0$ 55' 37.87" | | | | | |
| | | C | N 24$^0$ 57' 52.55" E 86$^0$ 55' 44.77" | | | | | |
| | | D | N 24$^0$ 57' 52.46" E 86$^0$ 55' 31.99" | | | | | |
| 2 | 20 | A | N 24$^0$ 57' 50.63" E 86$^0$ 55' 30.53" | GHAT-PATWE BHORWA VILL-PATWE BHORWA POST-JAITHOR JAMUA ANCHAL-AMARPUR | CHANDAN | 326 | | |
| | | B | N 24$^0$ 57' 48.75" E 86$^0$ 55' 44.03" | | | | | |
| | | C | N 24$^0$ 57' 31.29" E 86$^0$ 55' 42.82" | | | | | |
| | | D | N 24$^0$ 57' 32.93" E 86$^0$ 55' 29.44" | | | | | |
| 3 | 2.50 | A | N 24$^0$ 57' 19.08" E 86$^0$ 55' 27.10" | GHAT-PATWE BHORWA & MAJHAYARA ARAZI VILL-PATWE BHORWA POST-JAITHOR JAMUA ANCHAL-AMARPUR | CHANDAN | PLOT NO. 326/21 | 328/04.03.2016 | 5 Years or till Expiry of Lease Period |
| | | B | N 24$^0$ 57' 18.86" E 86$^0$ 55' 30.47" | | | | | |
| | | C | N 24$^0$ 57'06.10" E 86$^0$ 55' 31.89" | | | | | |
| | | D | N 24$^0$ 57' 8.2" E 86$^0$ 55' 29.15" | | | | | |
| 4 | 4.0 | A | N 24$^0$ 56' 19.86" E 86$^0$ 55' 14.10" | **GHAT-MAJHAYARA ARAZI** VILL-AJHAYARA POST-BANKA ANCHAL-BANKA | CHANDAN | 21 | 324/04.03.2016 | 5 Years or till Expiry of Lease Period |
| | | B | N 24$^0$ 56' 18.07" E 86$^0$ 55' 21.39" | | | | | |
| | | C | N 24$^0$ 56'12.78" E 86$^0$ 55' 17.02" | | | | | |
| | | D | N 24$^0$ 56' 14.07" E 86$^0$ 55' 10.79" | | | | | |
| 5 | 29 | A | N 24$^0$ 56' 1.42" E 86$^0$ 55' 2.50" | **GHAT-RAJPUR/KAKNA** VILL-KAKNA POST-RAJPUR ANCHAL-BANKA | CHANDAN | 1439/521 | SEIAA/1/(A)348/16 by Feb 2019 | 5 Years or till Expiry of Lease Period |
| | | B | N 24$^0$ 56' 0.82" E 86$^0$ 55' 14.92" | | | | | |
| | | C | N 24$^0$ 55' 33.90" E 86$^0$ 55' 10.34" | | | | | |
| | | D | N 24$^0$ 55' 34.12" E 86$^0$ 54' 58.16" | | | | | |
| 6 | 24 | A | N 24$^0$ 55' 8.32" E 86$^0$ 54' 57.94" | **GHAT-BAISA** VILL-BAISA POST-BANKA ANCHAL- BANKA | CHANDAN | 01 | | 5 Years or till Expiry of Lease Period |
| | | B | N 24$^0$ 55' 7.84" E 86$^0$ 55' 18.29" | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | C | N 24$^0$ 54' 43.47" E 86$^0$ 54' 58.75" | | | | 588/16.03.2017 | |
| | | D | N 24$^0$ 54'42.03" E 86$^0$ 54'48.35" | | | | | |
| 7 | 1.4 | A | N 24$^0$ 54'39.50" E 86$^0$ 54'52.29" | **GHAT-MANJHIRA** VILL-MANJHIRA POST-MANJHIRA ANCHAL- BANKA | CHANDAN | 01 | 324/04.03.2016 | 5 Years or till Expiry of Lease Period |
| | | B | N 24$^0$ 54'39.25" E 86$^0$ 54'55.53" | | | | | |
| | | C | N 24$^0$ 54'34.19" E 86$^0$ 54'57.29" | | | | | |
| | | D | N 24$^0$ 54'32.37" E 86$^0$ 54'55.83" | | | | | |
| 8 | 12 | A | N 24$^0$ 54' 12.63" E 86$^0$ 55' 5.17" | **GHAT-MALDAUN** VILL-MALDAUN POST-BANKA ANCHAL-BANKA | CHANDAN | 01/02 | 323/04.03.2016 | 5 Years or till Expiry of Lease Period |
| | | B | N 24$^0$ 54'19.36" E 86$^0$ 55'12.83" | | | | | |
| | | C | N 24$^0$ 54'13.96" E 86$^0$ 55'21.79" | | | | | |
| | | D | N 24$^0$ 54'7.62" E 86$^0$ 55'14.14" | | | | | |
| 9 | 20 | A | N 24$^0$ 53' 24.73" E 86$^0$ 56' 3.65" | **GHAT-BISUNPUR** VILL-BISUNPUR POST-BANKA ANCHAL-BANKA | CHANDAN | 616 | 330/04.03.2016 | 5 Years or till Expiry of Lease Period |
| | | B | N 24$^0$ 53'25.18" E 86$^0$ 56'17.76" | | | | | |
| | | C | N 24$^0$ 53'9.23" E 86$^0$ 56'14.62" | | | | | |
| | | D | N 24$^0$ 53' 10.35" E 86$^0$ 56' 0.21" | | | | | |
| 10 | 16 | A | N 24$^0$ 52'51.72" E 86$^0$ 55'49.38" | **GHAT-GOVINDPUR** VILL-GOVINDPUR POST-BANKA ANCHAL-BANKA | CHANDAN | 92 | 332/04.03.2016 | 5 Years or till Expiry of Lease Period |
| | | B | N 24$^0$ 52' 48.22" E 86$^0$ 56' 3.22" | | | | | |
| | | C | N 24$^0$ 52' 35.58" E 86$^0$ 56' 1.15" | | | | | |
| | | D | N 24$^0$ 52'38.68" E 86$^0$ 55'47.55" | | | | | |
| 11 | 2.9 | A | N 24$^0$ 51'46.50" E 86$^0$ 55'51.51" | **GHAT-JITARPUR** VILL-JITARPUR POST-BANKA ANCHAL-BANKA | CHANDAN | 606 | 329/04.03.2016 | 5 Years or till Expiry of Lease Period |
| | | B | N 24$^0$ 51'47.51" E 86$^0$ 55'53.47" | | | | | |
| | | C | N 24$^0$ 51' 36.57" E 86$^0$ 56' 1.18" | | | | | |
| | | D | N 24$^0$ 51'35.28" E 86$^0$ 56'59.16" | | | | | |
| 12 | 2.8 | A | N 24$^0$ 50' 47.51" E 86$^0$ 56' 1.03" | **GHAT-SARAN/GODIYA** VILL-SARAN,GODIYA POST-ANCHAL-BANKA | CHANDAN | 606/172 | 355/04.03.2016 | 5 Years or till Expiry of Lease Period |
| | | B | N 24$^0$ 50' 47.00" E 86$^0$ 56' 3.82" | | | | | |
| | | C | N 24$^0$ 50' 35.98" E 86$^0$ 56' 7.02" | | | | | |
| | | D | N 24$^0$ 50' 36.31" E 86$^0$ 56' 4.18" | | | | | |
| 13 | 4.5 | A | N 24$^0$ 50'6.50" E 86$^0$ 56'9.76" | **GHAT-GODIYA** VILL-GODIYA POST-ANCHAL- BANKA | CHANDAN | 172/173 | 327/04.03.2016 | 5 Years or till Expiry of Lease Period |
| | | B | N 24$^0$ 50' 5.94" E 86$^0$ 56' 13.43" | | | | | |
| | | C | N 24$^0$ 49' 47.76" E 86$^0$ 56' 7.32" | | | | | |
| | | D | N 24$^0$ 49' 50.11" E 86$^0$ 56' 4.65" | | | | | |
| 14 | 18 | A | N 24$^0$ 49'9.08" E 86$^0$ 55'35.51" | **GHAT-LAKHNOURI** | CHANDAN | 01 & 1083 & 1086 | | 5 Years or till Expiry of Lease |
| | | B | N 24$^0$ 49'8.16" | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | E 86$^0$ 55’46.10” | VILL-LAKHNOURI POST-BANKA ANCHAL-BANKA | | | 336/04.03.2016 | Period |
| | | C | N 24$^0$ 48’48.76” E 86$^0$ 55’48.44” | | | | | |
| | | D | N 24$^0$ 48’49.42” E 86$^0$ 55’37.79” | | | | | |
| 15 | 20 | A | N 24$^0$ 48’21.09” E 86$^0$ 55’34.79” | **GHAT-LAKHNOURI** VILL-LAKHNOURI POST-BANKA ANCHAL-BANKA | CHANDAN | 1084& 1095& 1096 | 331/04.03.2016 | 5 Years or till Expiry of Lease Period |
| | | B | N 24$^0$ 48’15.88” E 86$^0$ 55’38.98” | | | | | |
| | | C | N 24$^0$ 47’ 58.99” E 86$^0$ 55’ 8.42” | | | | | |
| | | D | N 24$^0$ 48’4.34” E 86$^0$ 55’4.66” | | | | | |
| 16 | 30 | A | N 24$^0$ 47’6.63” E 86$^0$ 54’36.31” | **GHAT- KUNANI** VILL-KUNANI POST-MANJHIRA ANCHAL-BANKA | CHANDAN | 172/172/01 | SEIAA/1/(A)/347/ 16 by 22 Feb. 2019 | 5 Years or till Expiry of Lease Period |
| | | B | N 24$^0$ 47’3.85” E 86$^0$ 54’42.57” | | | | | |
| | | C | N 24$^0$ 46’35.49” E 86$^0$ 54’21.90” | | | | | |
| | | D | N 24$^0$ 46’39.45” E 86$^0$ 54’16.85” | | | | | |
| 17 | 2.6 | A | N 24$^0$ 46’47.65” E 86$^0$ 54’17.94” | **GHAT-JOGIPAHADI** VILL-JOGIPAHADI POST-MANJHIRA ANCHAL-BANKA | CHANDAN | 129 | | |
| | | B | N 24$^0$ 46’43.42” E 86$^0$ 54’20.79” | | | | | |
| | | C | N 24$^0$ 46’39.47” E 86$^0$ 54’16.07” | | | | | |
| | | D | N 24$^0$ 46’42.72” E 86$^0$ 54’13.80” | | | | | |
| 18 | 2.8 | A | N 24$^0$ 46’20.37” E 86$^0$ 54’12.19” | **GHAT-DOMUHAN** VILL-KHUDBADI POST-MANJHIRA ANCHAL-BANKA | CHANDAN | 1185 | 337/04.03.2016 | 5 Years or till Expiry of Lease Period |
| | | B | N 24$^0$ 46’16.49” E 86$^0$ 54’16.20” | | | | | |
| | | C | N 24$^0$ 46’13.29” E 86$^0$ 54’14.20” | | | | | |
| | | D | N 24$^0$ 46’14.02” E 86$^0$ 54’10.01” | | | | | |
| 19 | 3.6 | A | N 24$^0$ 46’7.24” E 86$^0$ 53’47.29” | **GHAT-DOMUHAN** VILL-DOMUHAN POST-MANJHIRA ANCHAL-BANKA | CHANDAN | 1185 | 326/04.03.2016 | 5 Years or till Expiry of Lease Period |
| | | B | N 24$^0$ 46’5.57” E 86$^0$ 53’46.84” | | | | | |
| | | C | N 24$^0$ 46’6.85” E 86$^0$ 53’32.37” | | | | | |
| | | D | N 24$^0$ 46’9.88” E 86$^0$ 53’32.63” | | | | | |
| 20 | 3.9 | A | N 24$^0$ 45’ 57.03” E 86$^0$ 53’ 15.85” | **GHAT- DOMUHAN** VILL-DOMUHAN POST-MANJHIRA ANCHAL-BANKA | CHANDAN | 129 &1185 | 550/16.02.2017 | 5 Years or till Expiry of Lease Period |
| | | B | N 24$^0$ 45’53.55” E 86$^0$ 53’16.15” | | | | | |
| | | C | N 24$^0$ 45’ 50.68” E 86$^0$ 53’ 2.56” | | | | | |
| | | D | N 24$^0$ 45’ 52.27” E 86$^0$ 53’ 2.33” | | | | | |

## ***BADUA RIVER (DISTT-BANKA)***

| S.No | Area in (ha) | Coordinates | | Ghat/Village | River | Plot No. | EC REF. No./ Date | EC Validity |
|---|---|---|---|---|---|---|---|---|
| 1 | 4.1 | A | N 24$^0$ 54'5.25" E 86$^0$ 38'19.51" | **GHAT-MAJHLI DEOGARH ROAD**. VILL-MATIHANI POST-MAJHLI MATIHANI ANCHAL-BELHAR | BADUA | 659 | 333/04.03.2016 | 5 Years or till Expiry of Lease Period |
| | | B | N 24$^0$ 54'00.31" E 86$^0$ 38'24.41" | | | | | |
| | | C | N 24$^0$ 53'56.60" E 86$^0$ 38'22.00" | | | | | |
| | | D | N 24$^0$ 54'1.25" E 86$^0$ 38'14.96" | | | | | |
| 2 | 3.5 | A | N 24$^0$ 57'59.02" E 86$^0$ 37'24.10" | **GHAT-MAJHLI DEOGARH ROAD**. VILL-GHODA BHAHIYAR POST-MAJHLI MATIHANI ANCHAL-BELHAR | BADUA | 659 | 220/10.05.2016 | 5 Years or till Expiry of Lease Period |
| | | B | N 24$^0$ 57'5.12" E 86$^0$ 37'31.04" | | | | | |
| | | C | N 24$^0$ 57'2.87" E 86$^0$ 37'31.73" | | | | | |
| | | D | N 24$^0$ 56'57.00" E 86$^0$ 37'31.73" | | | | | |
| 3 | 3.1 | A | N 24$^0$ 57'54.69" E 86$^0$ 37'37.56" | **GHAT-BAGHAUNIA** VILL-BAGHAUNIA POST-BAGHAUNIA ANCHAL-BELHAR | BADUA | 609 | 223/10.05.2016 | 5 Years or till Expiry of Lease Period |
| | | B | N 24$^0$ 57'54.55" E 86$^0$ 37'41.92" | | | | | |
| | | C | N 24$^0$ 57'46.86" E 86$^0$ 37'42.28" | | | | | |
| | | D | N 24$^0$ 57'46.57" E 86$^0$ 37'38.60" | | | | | |
| 4 | 4.6 | A | N 24$^0$ 58'48.65" E 86$^0$ 38'29.12" | **GHAT-KUMARSAR** VILL-CHORA POST-SAHODA ANCHAL-BELHAR | BADUA | 818 | 222/10.05.2016 | 5 Years or till Expiry of Lease Period |
| | | B | N 24$^0$ 58'43.32" E 86$^0$ 38'30.59" | | | | | |
| | | C | N 24$^0$ 58'40.36" E 86$^0$ 38'21.15" | | | | | |
| | | D | N 24$^0$ 58'43.82" E 86$^0$ 38'19.27" | | | | | |
| 5 | 2.5 | A | N 24$^0$ 59'2.02" E 86$^0$ 38'58.70" | **GHAT-SAHODA** VILL-SAHODA POST-SAHODA ANCHAL-SAMBHU GANJ | BADUA | 301 | 221/10.05.2016 | 5 Years or till Expiry of Lease Period |
| | | B | N 24$^0$ 58'57.61" E 86$^0$ 38'59.67" | | | | | |
| | | C | N 24$^0$ 58'54.62" E 86$^0$ 38'53.72" | | | | | |
| | | D | N 24$^0$ 58'57.57" E 86$^0$ 38'52.28" | | | | | |
| 6 | 1.1 | A | N 25$^0$ 0'53.90" E 86$^0$ 39'29.96" | **GHAT-RANADIH** VILL-RANADIH POST-RANADIH ANCHAL-SAMBHU GANJ | BADUA | 66 | Reject | 5 Years or till Expiry of Lease Period |
| | | B | N 25$^0$ 00'52.67" E 86$^0$ 39' 27.28" | | | | | |
| | | C | N 25$^0$ 0'49.14" E 86$^0$ 39'22.37" | | | | | |
| | | D | N 25$^0$ 0'50.69" E 86$^0$ 39'21.22" | | | | | |

## *ODHNI RIVER (DISTT-BANKA)*

| S. No | Area in (ha) | Coordinates | | Ghat/Village | River | Plot No. | EC Granted Date | EC Validity |
|---|---|---|---|---|---|---|---|---|
| 1 | 2.5 | A | N 24$^0$ 53'49.42" E 86$^0$ 54'25.36" | GHAT-SAIJPUR ROAD NEAR OMAN COLLEGE VILL-BARODHA POST-BANKA ANCHAL-BANKA | ODHNI | 2 & 288 | 379/31.03.2016 | 5 Years or till Expiry of Lease Period |
| | | B | N 24$^0$ 53'42.32" E 86$^0$ 54'26.88" | | | | | |
| | | C | N 24$^0$ 53'41.74" E 86$^0$ 54'23.41" | | | | | |
| | | D | N 24$^0$ 53' 48.56" E 86$^0$ 54'21.45" | | | | | |

## *SUKHNIYA/CHEER RIVER (DISTT-BANKA)*

| S. No | Area in (ha) | Coordinates | | Ghat/Village | River | Plot No. | EC REF. No./ Date | EC validity |
|---|---|---|---|---|---|---|---|---|
| 1 | 2.3 | A | N 24$^0$ 46'41.59" E 87$^0$ 01'23.15" | **GHAT-SABALPUR** VILL-SABALPUR POST-SABALPUR ANCHAL-BARAHAT | SUKHNIYA | 77 | 354/04.03.2016 | 5 Years or till Expiry of Lease Period |
| | | B | N 24$^0$ 46'42.20" E 87$^0$ 01'19.47" | | | | | |
| | | C | N 24$^0$ 46'36.64" E 87$^0$ 01'15.12" | | | | | |
| | | D | N 24$^0$ 46'35.72" E 87$^0$ 01'17.81" | | | | | |

## *CHEER RIVER (DISTT-BANKA)*

| S. No | Area in (ha) | Coordinates | | Ghat/Village | River | Plot No. | EC Granted Date | EC Validity |
|---|---|---|---|---|---|---|---|---|
| 1 | 4.5 | A | N 24$^0$ 53' 42.33" E 87$^0$ 08' 51.24" | **GHAT-PAIR** VILL-PAIR POST-DHORAIYA ANCHAL-DHORAIYA | CHEER | 182 & 158 | 335/04.03.2016 | 5 Years or till Expiry of Lease Period |
| | | B | N 24$^0$ 53' 41.67" E 87$^0$ 08' 46.42" | | | | | |
| | | C | N 24$^0$ 53'32.95" E 87$^0$ 08'51.53" | | | | | |
| | | D | N 24$^0$ 53' 33.10" E 87$^0$ 08' 47.50" | | | | | |
| 2 | 3.9 | A | N 24$^0$ 52' 0.75" E 87$^0$ 07' 35.54" | **GHAT- SARBA** VILL-RAN GAON POST-DHORAIYA ANCHAL- DHORAIYA | CHEER | 353 | 410/31.03.2016 | 5 Years or till Expiry of Lease Period |
| | | B | N 24$^0$ 51'57.05" E 87$^0$ 07'37.62" | | | | | |
| | | C | N 24$^0$ 51' 55.86" E 87$^0$ 07' 27.06" | | | | | |
| | | D | N 24$^0$ 51'59.03" E 87$^0$ 07'27.32" | | | | | |
| 3 | 4.1 | A | N 24$^0$ 51'3.35" E 87$^0$ 5'43.84" | GHAT-PANJWARA RD. NEAR | CHEER | 387 | | 5 Years or till Expiry of Lease Period |
| | | B | N 24$^0$ 51' 00.88" E 87$^0$ 5' 47.43" | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | C | N 24$^0$ 50' 54.62" E 87$^0$ 5' 39.85" | KACHMACHIYA VILL-KACHMACHIYA POST-LAKHPURA ANCHAL-BARAHAT | | | 334/04.03.2016 | |
| | | D | N 24$^0$ 50' 57.81" E 87$^0$ 5' 37.06" | | | | | |
| 4 | 4.89 | A | N 24$^0$ 50' 40.09" E 87$^0$ 4' 3.27" | GHAT-SABALPUR VILL-DOUKI, SABALPUR POST-SABALPUR ANCHAL-BARAHAT | CHEER | 1& 105 | 325/04.03.2016 | 5 Years or till Expiry of Lease Period |
| | | B | N 24$^0$ 50' 42.08" E 87$^0$ 4' 1.75" | | | | | |
| | | C | N 24$^0$ 50' 29.13" E 87$^0$ 3' 47.98" | | | | | |
| | | D | N 24$^0$ 50' 30.95" E 87$^0$ 3' 46.07" | | | | | |

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## 3.2 LIST OF NEWLY PROPOSED SAND GHAT(POTENTIAL GHAT) IN THE DISTRICT WITH LOCATION, AREA AND RESERVE

### Table 2
### STRETCH – 01 (CHANAN RIVER)

| SR. NO. | BLOCKS | AREA IN HECT. | GEOLOGICAL RESERVE | MINEABLE RESERVE | COORDINATES | | RIVER | APPROX LENGTH IN METER | AVG. WIDTH IN METER |
|---|---|---|---|---|---|---|---|---|---|
| | BANKA CHANAN 01 | 75.50 | 2265000 | 1812000 | A | 24°58'3.91"N 86°55'27.14"E | CHANDAN | 1865 | 405 |
| | | | | | B | 24°58'11.49"N 86°55'39.44"E | | | |
| | | | | | C | 24°57'7.43"N 86°55'29.26"E | | | |
| | | | | | D | 24°57'7.89"N 86°55'43.23"E | | | |
| | BANKA CHANAN 02 | 83 | 2490000 | 1992000 | A | 24°57'7.43"N 86°55'29.26"E | CHANDAN | 2580 | 332 |
| | | | | | B | 24°57'7.89"N 86°55'43.23"E | | | |
| | | | | | C | 24°55'47.64"N 86°55'13.55"E | | | |
| | | | | | D | 24°55'48.70"N 86°55'0.53"E | | | |
| | BANKA CHANAN 03 | 82.2 | 2466000 | 1972800 | A | 24°55'48.70"N 86°55'0.53"E | CHANDAN | 2280 | 360 |
| | | | | | B | 24°55'47.64"N 86°55'13.55"E | | | |
| | | | | | C | 24°54'39.36"N 86°55'1.80"E | | | |
| | | | | | D | 24°54'31.41"N 86°54'51.86"E | | | |
| | BANKA CHANAN 04 | 40.7 | 1221000 | 976800 | A | 24°54'7.40"N 86°55'11.72"E | CHANDAN | 1584 | 257 |
| | | | | | B | 24°54'16.45"N 86°55'17.23"E | | | |
| | | | | | C | 24°53'43.46"N 86°55'57.55"E | | | |
| | | | | | D | 24°50'24.91"N 86°56'2.97"E | | | |
| | BANKA CHANAN | 89 | 2670000 | 2136000 | A | 24°53'20.36"N 86°56'3.07"E | CHANDAN | 2622 | 339 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 05 | | | | B | 24°53'18.31"N 86°56'15.95"E | | | |
| | | | | | C | 24°51'58.95"N 86°55'55.65"E | | | |
| | | | | | D | 24°51'58.49"N 86°55'43.67"E | | | |
| | BANKA CHANAN 06 | 91 | 2730000 | 2184000 | A | 24°51'58.49"N 86°55'43.67"E | CHANDAN | 2975 | 305 |
| | | | | | B | 24°51'58.95"N 86°55'55.65"E | | | |
| | | | | | C | 24°50'26.15"N 86°56'16.13"E | | | |
| | | | | | D | 24°50'24.91"N 86°56'2.97"E | | | |
| | BANKA CHANAN 07 | 95.1 | 2853000 | 2282400 | A | 24°50'24.91"N 86°56'2.97"E | CHANDAN | 2132 | 446 |
| | | | | | B | 24°50'26.15"N 86°56'16.13"E | | | |
| | | | | | C | 24°49'21.71"N 86°55'48.34"E | | | |
| | | | | | D | 24°49'30.05"N 86°55'38.58"E | | | |
| | BANKA CHANAN 08 | 92 | 2760000 | 2208000 | A | 24°48'50.27"N 86°55'39.33"E | CHANDAN | 3807 | 241 |
| | | | | | B | 24°48'50.42"N 86°55'47.90"E | | | |
| | | | | | C | 24°47'33.53"N 86°54'21.79"E | | | |
| | | | | | D | 24°47'33.36"N 86°54'14.91"E | | | |
| | BANKA CHANAN 09 | 95 | 2850000 | 2280000 | A | 24°47'33.36"N 86°54'14.91"E | CHANDAN | 2509 | 378 |
| | | | | | B | 24°48'50.42"N 86°55'47.90"E | | | |
| | | | | | C | 24°46'14.31"N 86°54'19.97"E | | | |
| | | | | | D | 24°46'24.76"N 86°54'6.43"E | | | |
| | BANKA CHANAN 10 | 97 | 2910000 | 2328000 | A | 24°36'13.81"N 86°38'39.31"E | CHANDAN | 13440 | 72 |
| | | | | | B | 24°36'15.90"N 86°38'37.89"E | | | |
| | | | | | C | 24°36'32.06"N 86°44'30.49"E | | | |
| | | | | | D | 24°36'29.51"N 86°44'27.63"E | | | 20 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | BANKA CHANAN 11 | 75 | 2250000 | 1800000 | A | 25° 5'10.82"N 86°56'35.83"E | CHANDAN | 1862 | 403 |
| | | | | | B | 25° 5'14.62"N 86°57'6.09"E | | | |
| | | | | | C | 25° 4'40.03"N 86°57'4.64"E | | | |
| | | | | | D | 25° 4'35.44"N 86°56'46.34"E | | | |

## BADUA -01 (STRETCH - 2)

| SR. NO. | BLOCKS | AREA IN HECT. | GEOLOGICAL RESERVE | MINEABLE RESERVE | COORDINATES | | RIVER | APPROX LENGTH IN METER | AVG. WIDTH IN METER |
|---|---|---|---|---|---|---|---|---|---|
| 1 | BLOCK-01 | 46.5 | 139500 | 111600 | A | 25° 1'45.29"N 86°39'23.51"E | BADUA | 2551 | 182 |
| | | | | | B | 25° 1'42.34"N 86°39'25.90"E | | | |
| | | | | | C | 25° 0'39.48"N 86°39'9.72"E | | | |
| | | | | | D | 25° 0'41.45"N 86°39'4.75"E | | | |
| 2 | BLOCK-02 | 77.3 | 231900 | 185520 | A | 25° 0'14.06"N 86°39'7.96"E | BADUA | 3987 | 193 |
| | | | | | B | 25° 0'12.57"N 86°39'12.01"E | | | |
| | | | | | C | 24°58'25.78"N 86°38'11.64"E | | | |
| | | | | | D | 24°58'32.14"N 86°38'4.16"E | | | |
| 3 | BLOCK-03 | 62 | 186000 | 148800 | A | 24°57'51.36"N 86°37'35.43"E | BADUA | 2809 | 220 |
| | | | | | B | 24°57'49.20"N 86°37'43.35"E | | | |
| | | | | | C | 24°56'22.61"N 86°37'22.35"E | | | |
| | | | | | D | 24°56'23.52"N 86°37'15.10"E | | | |
| 4 | BLOCK-04 | 66 | 198000 | 158400 | A | 24°56'23.52"N 86°37'15.10"E | BADUA | 1968 | 335 |
| | | | | | B | 24°56'22.61"N 86°37'22.35"E | | | |
| | | | | | C | 24°55'22.57"N 86°37'10.11"E | | | |
| | | | | | D | 24°55'27.58"N 86°37'2.03"E | | | 21 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5 | BLOCK-05 | 30.3 | 90900 | 72720 | A | 24°53'54.73"N 86°38'7.32"E | BADUA | 1116 | 271 |
| | | | | | B | 24°53'56.48"N 86°38'5.39"E | | | |
| | | | | | C | 24°53'45.75"N 86°38'27.94"E | | | |
| | | | | | D | 24°53'45.49"N 86°38'35.73"E | | | |

**BADUA -02 (STRETCH -2)**

| SR.NO. | BLOCKS | AREA IN HA. | GEOLOGICAL RESERVE | MINEABLE RESERVE | COORDINATES | | RIVER | APPROX LENGTH IN METER | AVG. WIDTH IN METER |
|---|---|---|---|---|---|---|---|---|---|
| 1 | BLOCK-01 | 16.6 | 498000 | 398400 | A | 24°50'10.14"N 86°37'37.55"E | BADUA | 2503 | 66 |
| | | | | | B | 24°50'10.73"N 86°37'39.36"E | | | |
| | | | | | C | 24°49'39.63"N 86°38'44.42"E | | | |
| | | | | | D | 24°49'39.07"N 86°38'43.24"E | | | |
| 2 | BLOCK-02 | 38 | 1140000 | 912000 | A | 24°49'14.97"N 86°38'52.93"E | BADUA | 5578 | 68 |
| | | | | | B | 24°49'16.01"N 86°38'54.32"E | | | |
| | | | | | C | 24°47'8.43"N 86°39'5.83"E | | | |
| | | | | | D | 24°47'5.72"N 86°39'2.38"E | | | |
| 3 | BLOCK-03 | 50.2 | 1506000 | 1204800 | A | 24°46'45.91"N 86°39'4.27"E | BADUA | 7088 | 70 |
| | | | | | B | 24°46'43.93"N 86°39'6.43"E | | | |
| | | | | | C | 24°44'43.07"N 86°37'46.96"E | | | |
| | | | | | D | 24°44'44.79"N 86°37'47.88"E | | | |
| 4 | BLOCK-04 | 5.36 | 160800 | 128640 | A | 24°44'18.61"N 86°37'16.87"E | BADUA | 1102 | 48 |
| | | | | | B | 24°44'21.84"N 86°37'18.56"E | | | |
| | | | | | C | 24°44'0.55"N 86°37'27.69"E | | | |
| | | | | | D | 24°44'1.26"N 86°37'26.75"E | | | |
| 5 | BLOCK-05 | 27 | 810000 | 648000 | A | 24°43'35.71"N 86°37'12.24"E | BADUA | 3931 | 68 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | B | 24°43'32.91"N 86°37'12.12"E | | | |
| | | | | | C | 24°43'12.88"N 86°35'31.39"E | | | |
| | | | | | D | 24°43'15.44"N 86°35'30.41"E | | | |
| 6 | BLOCK-06 | 15.7 | 471000 | 376800 | A | 24°43'12.85"N 86°35'24.19"E | BADUA | 1772 | 88 |
| | | | | | B | 24°43'9.37"N 86°35'25.97"E | | | |
| | | | | | C | 24°42'47.45"N 86°34'49.03"E | | | |
| | | | | | D | 24°42'49.83"N 86°34'48.28"E | | | |
| 7 | BLOCK-07 | 24 | 720000 | 576000 | A | 24°42'54.61"N 86°34'41.68"E | BADUA | 2125 | 112 |
| | | | | | B | 24°42'51.03"N 86°34'40.85"E | | | |
| | | | | | C | 24°42'1.65"N 86°34'9.30"E | | | |
| | | | | | D | 24°42'3.45"N 86°34'2.07"E | | | |

**DARBHASHAN RIVER (STRETCH 3)**

| SR. NO. | BLOCKS | AREA IN HA. | GEOLOGICAL RESERVE | MINEABLE RESERVE | COORDINATES | | RIVER | APPROX LENGTH IN METER | AVG. WIDTH IN METER |
|---|---|---|---|---|---|---|---|---|---|
| 1 | BLOCK-01 | 12 | 360000 | 288000 | A | 24°43'47.79"N 86°45'22.94"E | DARBHANSHAN | 2045 | 58 |
| | | | | | B | 24°43'50.85"N 86°45'23.71"E | | | |
| | | | | | C | 24°43'33.65"N 86°46'29.99"E | | | |
| | | | | | D | 24°43'31.90"N 86°46'29.53"E | | | |
| 2 | BLOCK-02 | 5.76 | 172800 | 138240 | A | 24°43'22.47"N 86°46'53.36"E | DARBHANSHAN | 1352 | 42 |
| | | | | | B | 24°43'22.05"N 86°46'51.62"E | | | |
| | | | | | C | 24°43'29.79"N 86°47'29.64"E | | | |
| | | | | | D | 24°43'30.83"N 86°47'29.48"E | | | |
| 3 | BLOCK-03 | 5.91 | 177300 | 141840 | A | 24°43'33.02"N 86°47'37.95"E | DARBHANSHAN | 1667 | 35 |
| | | | | | B | 24°43'34.23"N 86°47'37.83"E | | | 23 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | C | 24°42'52.19"N 86°48'6.04"E | | | |
| | | | | | D | 24°42'53.24"N 86°48'4.16"E | | | |
| 4 | BLOCK-04 | 12.5 | 375000 | 300000 | A | 24°42'46.63"N 86°48'8.21"E | DARBHANSHAN | 3525 | 35 |
| | | | | | B | 24°42'45.46"N 86°48'9.26"E | | | |
| | | | | | C | 24°41'50.68"N 86°49'21.26"E | | | |
| | | | | | D | 24°41'52.15"N 86°49'20.48"E | | | |
| 5 | BLOCK-05 | 6 | 180000 | 144000 | A | 24°41'50.94"N 86°49'31.40"E | DARBHANSHAN | 1807 | 33 |
| | | | | | B | 24°41'52.10"N 86°49'30.86"E | | | |
| | | | | | C | 24°41'44.36"N 86°50'13.94"E | | | |
| | | | | | D | 24°41'43.27"N 86°50'13.93"E | | | |

**ODHNI RIVER (STRETCH - 4)**

| SR.NO. | BLOCKS | AREA IN HA. | GEOLOGICAL RESERVE | MINEABLE RESERVE | COORDINATES | | RIVER | APPROX LENGTH IN METER | AVG. WIDTH IN METER |
|---|---|---|---|---|---|---|---|---|---|
| 1 | BLOCK-01 | 15 | 450000 | 360000 | A | 24°54'16.61"N 86°54'21.27"E | ODHNI | 1042 | 143 |
| | | | | | B | 24°54'15.31"N 86°54'23.09"E | | | |
| | | | | | C | 24°53'42.93"N 86°54'27.04"E | | | |
| | | | | | D | 24°53'41.65"N 86°54'20.27"E | | | |
| 2 | BLOCK-02 | 25.5 | 765000 | 612000 | A | 24°52'30.96"N 86°54'34.62"E | ODHNI | 2822 | 90 |
| | | | | | B | 24°52'31.58"N 86°54'37.67"E | | | |
| | | | | | C | 24°51'42.65"N 86°53'24.84"E | | | |
| | | | | | D | 24°51'45.78"N 86°53'22.54"E | | | |
| 3 | BLOCK-03 | 28.8 | 864000 | 691200 | A | 24°51'31.72"N 86°52'49.67"E | ODHNI | 2240 | 128 |
| | | | | | B | 24°51'29.26"N 86°52'51.03"E | | | |
| | | | | | C | 24°50'34.34"N 86°52'2.31"E | | | 24 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | D | 24°50'35.84"N 86°51'59.67"E | | | |
| 4 | BLOCK-04 | 7.1 | 213000 | 170400 | A | 24°50'14.70"N 86°52'2.08"E | ODHNI | 1264 | 56 |
| | | | | | B | 24°50'15.00"N 86°52'4.32"E | | | |
| | | | | | C | 24°49'55.67"N 86°51'29.70"E | | | |
| | | | | | D | 24°49'56.84"N 86°51'27.75"E | | | |

**KURAR RIVER (STRETCH -5)**

| SR.NO. | BLOCKS | AREA IN HA. | GEOLOGICAL RESERVE | MINEABLE RESERVE | COORDINATES | | RIVER | APPROX LENGTH IN METER | AVG. WIDTH IN METER |
|---|---|---|---|---|---|---|---|---|---|
| 1 | BLOCK-01 | 13.7 | 411000 | 328800 | A | 24°46'12.71"N 86°53'40.09"E | KURAR | 820 | 167 |
| | | | | | B | 24°46'3.49"N 86°53'42.67"E | | | |
| | | | | | C | 24°45'55.29"N 86°53'17.88"E | | | |
| | | | | | D | 24°45'57.97"N 86°53'15.64"E | | | |
| 2 | BLOCK-02 | 18.5 | 555000 | 444000 | A | 24°45'54.66"N 86°53'6.36"E | KURAR | 2617 | 70 |
| | | | | | B | 24°45'50.53"N 86°53'8.04"E | | | |
| | | | | | C | 24°44'54.80"N 86°52'16.14"E | | | |
| | | | | | D | 24°44'55.08"N 86°52'13.68"E | | | |
| 3 | BLOCK-03 | 9.16 | 274800 | 219840 | A | 24°44'47.60"N 86°52'11.71"E | KURAR | 1062 | 86 |
| | | | | | B | 24°44'44.54"N 86°52'14.85"E | | | |
| | | | | | C | 24°44'30.77"N 86°51'44.76"E | | | |
| | | | | | D | 24°44'34.49"N 86°51'43.83"E | | | |

**CHIR RIVER (STRETCH -6)**

| SR.NO. | BLOCKS | AREA IN HA. | GEOLOGICAL RESERVE | MINEABLE RESERVE | COORDINATES | | RIVER | APPROX LENGTH IN METER | AVG. WIDTH IN METER |
|---|---|---|---|---|---|---|---|---|---|
| 1 | BLOCK-01 | 26 | 780000 | 624000 | A | 24°54'15.29"N 87° 8'41.33"E | CHIR | 2385 | 109 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | B | 24°54'15.70"N 87° 8'43.58"E | | | |
| | | | | | C | 24°53'5.89"N 87° 8'27.80"E | | | |
| | | | | | D | 24°53'7.13"N 87° 8'25.05"E | | | |
| 2 | BLOCK-02 | 11.7 | 351000 | 280800 | A | 24°52'48.09"N 87° 8'6.82"E | CHIR | 1195 | 97 |
| | | | | | B | 24°52'46.92"N 87° 8'8.78"E | | | |
| | | | | | C | 24°52'22.46"N 87° 7'38.03"E | | | |
| | | | | | D | 24°52'23.22"N 87° 7'32.94"E | | | |
| 3 | BLOCK-03 | 48.2 | 1446000 | 1156800 | A | 24°52'2.14"N 87° 7'39.44"E | CHIR | 3259 | 147 |
| | | | | | B | 24°52'1.97"N 87° 7'45.74"E | | | |
| | | | | | C | 24°51'16.24"N 87° 6'6.38"E | | | |
| | | | | | D | 24°51'21.28"N 87° 6'3.04"E | | | |
| 4 | BLOCK-04 | 67.8 | 2034000 | 1627200 | A | 24°51'4.33"N 87° 5'42.54"E | CHIR | 1780 | 380 |
| | | | | | B | 24°50'58.14"N 87° 5'47.52"E | | | |
| | | | | | C | 24°50'42.44"N 87° 4'50.32"E | | | |
| | | | | | D | 24°50'55.14"N 87° 4'40.08"E | | | |
| 5 | BLOCK-05 | 34 | 1020000 | 816000 | A | 24°50'31.29"N 87° 4'17.64"E | CHIR | 2301 | 147 |
| | | | | | B | 24°50'30.58"N 87° 4'23.12"E | | | |
| | | | | | C | 24°49'18.63"N 87° 4'11.23"E | | | |
| | | | | | D | 24°49'19.00"N 87° 4'8.33"E | | | |
| 6 | BLOCK-06 | 35.7 | 1071000 | 856800 | A | 24°49'12.88"N 87° 3'49.69"E | CHIR | 2165 | 164 |
| | | | | | B | 24°49'12.28"N 87° 3'52.72"E | | | |
| | | | | | C | 24°48'26.74"N 87° 3'34.33"E | | | |
| | | | | | D | 24°48'27.75"N 87° 3'28.27"E | | | 26 |
| | | | | | E | 24°48'58.16"N 87° 3'58.18"E | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | F | 24°49'2.61"N 87° 4'3.22"E | | | |
| | | | | | G | 24°49'1.39"N 87° 4'5.01"E | | | |
| 7 | BLOCK-07 | 34 | 1020000 | 816000 | A | 24°48'2.88"N 87° 3'26.23"E | CHIR | 1657 | 205 |
| | | | | | B | 24°48'2.32"N 87° 3'30.93"E | | | |
| | | | | | C | 24°47'21.99"N 87° 4'4.82"E | | | |
| | | | | | D | 24°47'16.73"N 87° 3'54.59"E | | | |

## SUKHANIYA RIVER (STRETCH 7)

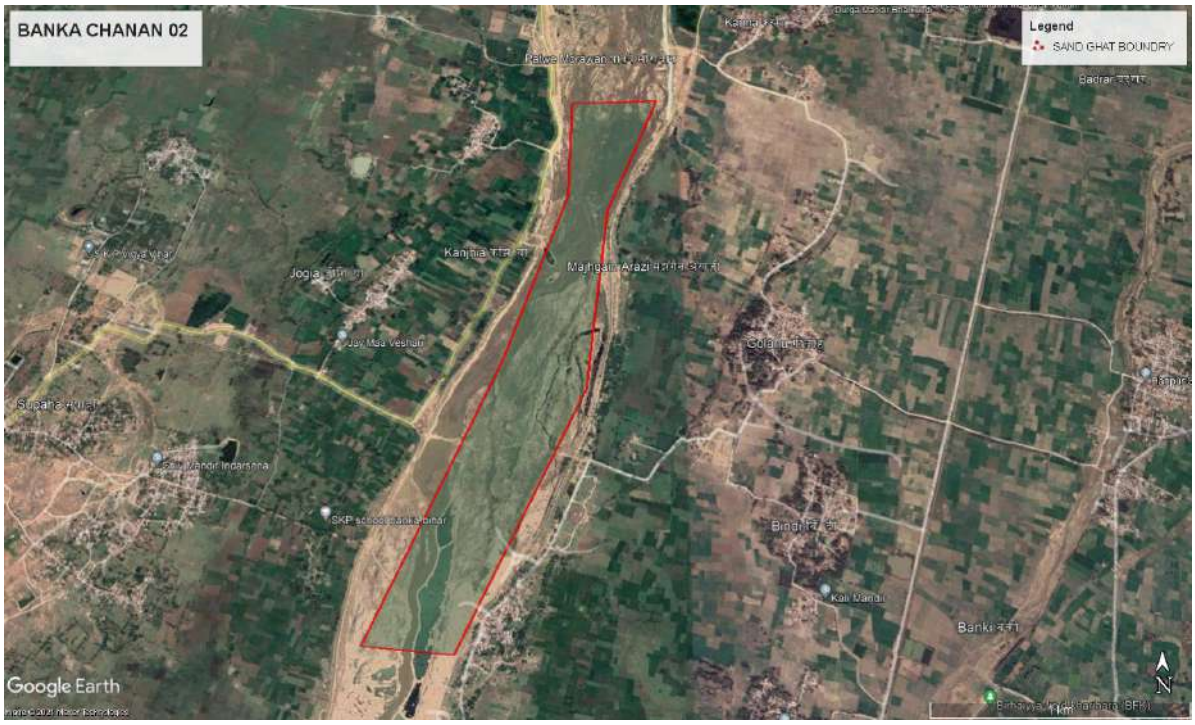
| SR.NO. | BLOCKS | AREA IN HA. | GEOLOGICAL RESERVE | MINEABLE RESERVE | COORDINATES | | RIVER | APPROX LENGTH IN METER | AVG. WIDTH IN METER |
|---|---|---|---|---|---|---|---|---|---|
| 1 | BLOCK-01 | 11.9 | 357000 | 285600 | A | 24°49'22.56"N 87° 3'10.97"E | SUKHANIYA | 1538 | 77 |
| | | | | | B | 24°49'21.41"N 87° 3'13.40"E | | | |
| | | | | | C | 24°48'36.60"N 87° 3'8.22"E | | | |
| | | | | | D | 24°48'37.41"N 87° 3'7.08"E | | | |
| 2 | BLOCK-02 | 13.7 | 411000 | 328800 | A | 24°48'17.81"N 87° 2'46.58"E | SUKHANIYA | 2109 | 64 |
| | | | | | B | 24°48'16.72"N 87° 2'47.64"E | | | |
| | | | | | C | 24°47'12.60"N 87° 2'20.46"E | | | |
| | | | | | D | 24°47'15.20"N 87° 2'18.11"E | | | |
| 3 | BLOCK-03 | 11.8 | 354000 | 283200 | A | 24°46'54.50"N 87° 1'51.61"E | SUKHANIYA | 1748 | 67 |
| | | | | | B | 24°46'53.07"N 87° 1'51.97"E | | | |
| | | | | | C | 24°46'19.67"N 87° 1'3.51"E | | | |
| | | | | | D | 24°46'22.15"N 87° 1'2.29"E | | | |
| 4 | BLOCK-04 | 13.9 | 417000 | 333600 | A | 24°46'0.21"N 87° 0'18.82"E | SUKHANIYA | 1285 | 108 |
| | | | | | B | 24°45'57.26"N 87° 0'19.65"E | | | |
| | | | | | C | 24°45'48.44"N 86°59'45.76"E | | | 27 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | D | 24°45'49.35"N 86°59'41.63"E | | | |
| 5 | BLOCK-05 | 20 | 600000 | 480000 | A | 24°45'21.71"N 86°59'37.99"E | SUKHANIYA | 2842 | 70 |
| | | | | | B | 24°45'21.22"N 86°59'40.15"E | | | |
| | | | | | C | 24°44'2.90"N 86°59'20.11"E | | | |
| | | | | | D | 24°44'2.88"N 86°59'18.61"E | | | |

## Conclusion Table

| Name of River | Total length of River in District (in m) | Avg Width of River(in m) | Total Area of River in District (in Hect.) | Total Area of Sand Blocks (In Hect.) | % of Area Mineral Extraction |
|---|---|---|---|---|---|
| CHANDAN | 60000 | 275 | 1650 | 915.5 | 55.48 |
| BADUA | 50000 | 155 | 775 | 458.96 | 59.22 |
| DARBHASHAN | 19000 | 50 | 95 | 42.17 | 44.39 |
| ODHNI | 30000 | 100 | 300 | 76.4 | 25.47 |
| **KURAR** | **24000** | **90** | 216 | **41.36** | 19.15 |
| **CHIR** | **30000** | **145** | 435 | **257.4** | 59.17 |
| **SUKHANIYA** | **18000** | **125** | 225 | **71.3** | **31.69** |

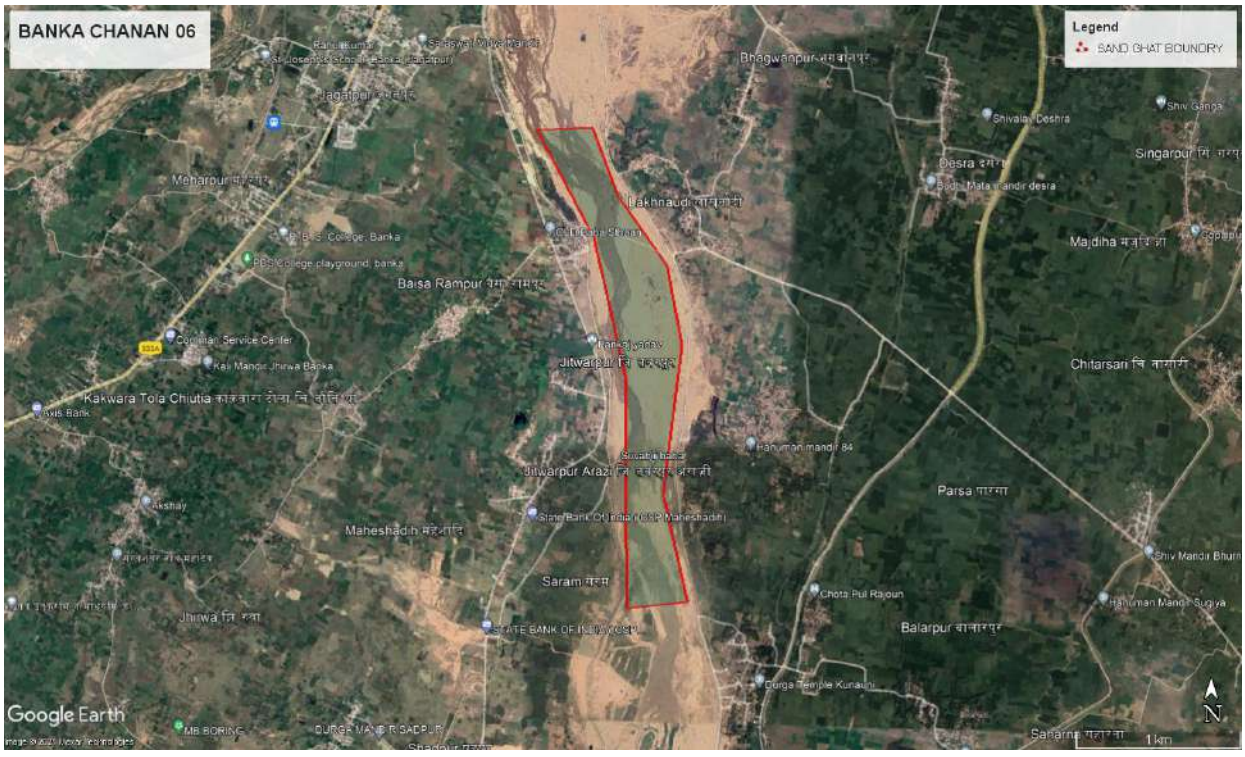
## *3.3 GOOGLE KML SNAPSHOT OF NEWLY PROPOSED SAND GHAT(POTENTIAL GHAT)*


BANKA CHANAN 02
Legend
SAND GHAT BOUNDRY
Kanjria
Majhgama Avazi
Joy Maa Veshuli
Sulpana
Kali Mandir
Banka
Google Earth

BANKA CHANAN 03
Legend
SAND GHAT BOUNDRY
Rakha
Majhiara
Pathra
Baisadih
Murhara
Kewaldih
Google Earth
1 km
N

BANKA CHANAN 04
Legend
SAND GHAT BOUNDRY
Maa Kali Temple
Baabu Kunar
Maidaun मैदान
Shiv Mandir Baba Asthan Bishanpur
Shitamata Temple
Bajarwali Temple
Bishunpur नि॰ बिशनपुर
Ashi अशनी
Canal
Kali Temple
MALIK TOLA
Chamrell Shivalay Mandir
Google Earth
800 m
N

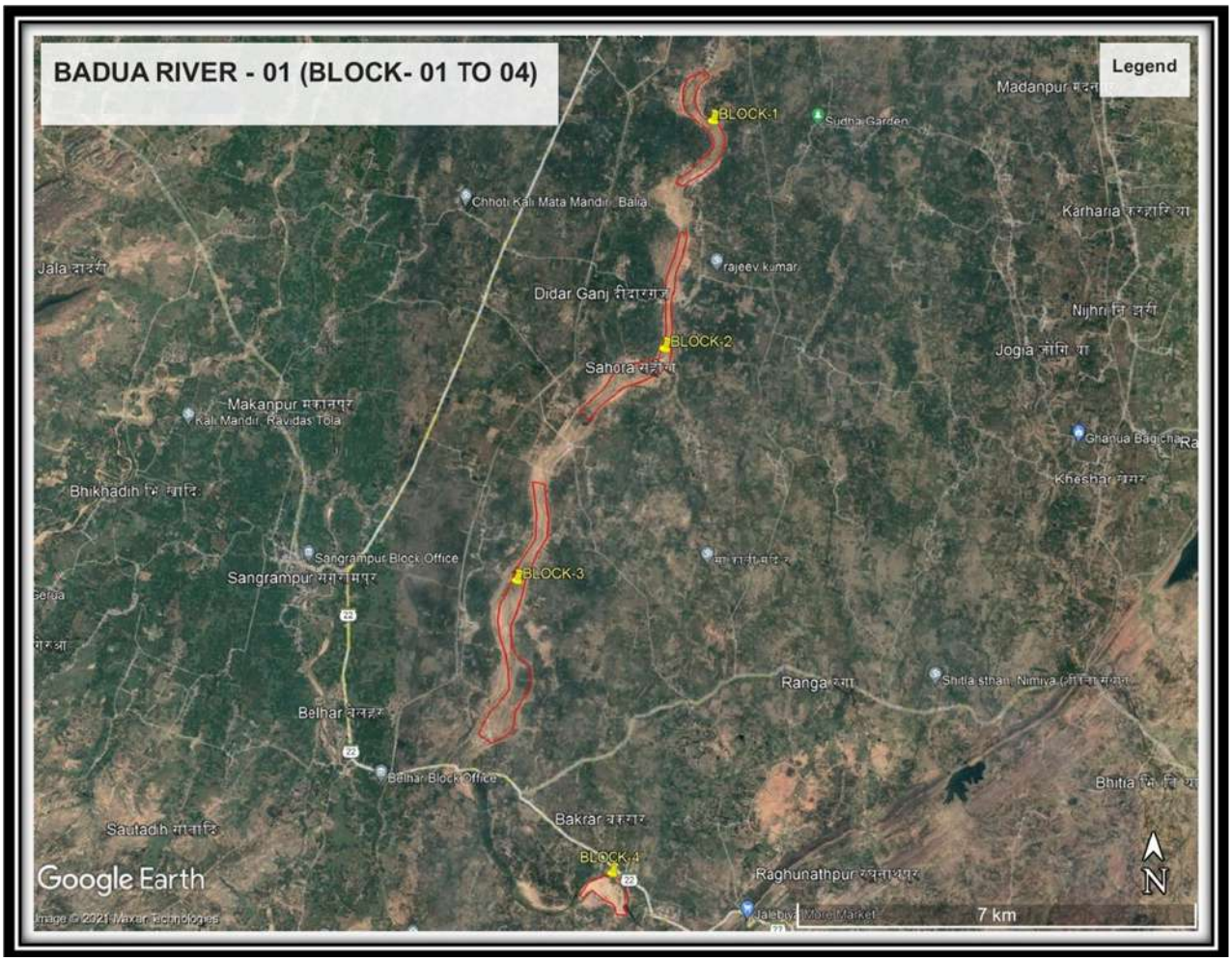
BANKA CHANAN 05
Legend
SAND GHAT BOUNDRY
MALIK TOLA
Chamraili
Laskari
Bardiha
Majhi Spur
Kurava
Barda Chak
Dalawar
Bhagwanpur
Kajhiya
Shivala Deshra
Singarpur
Desra
Lakhnaudi
Majdiha
Meharpur
JAGAI
Google Earth
1 km

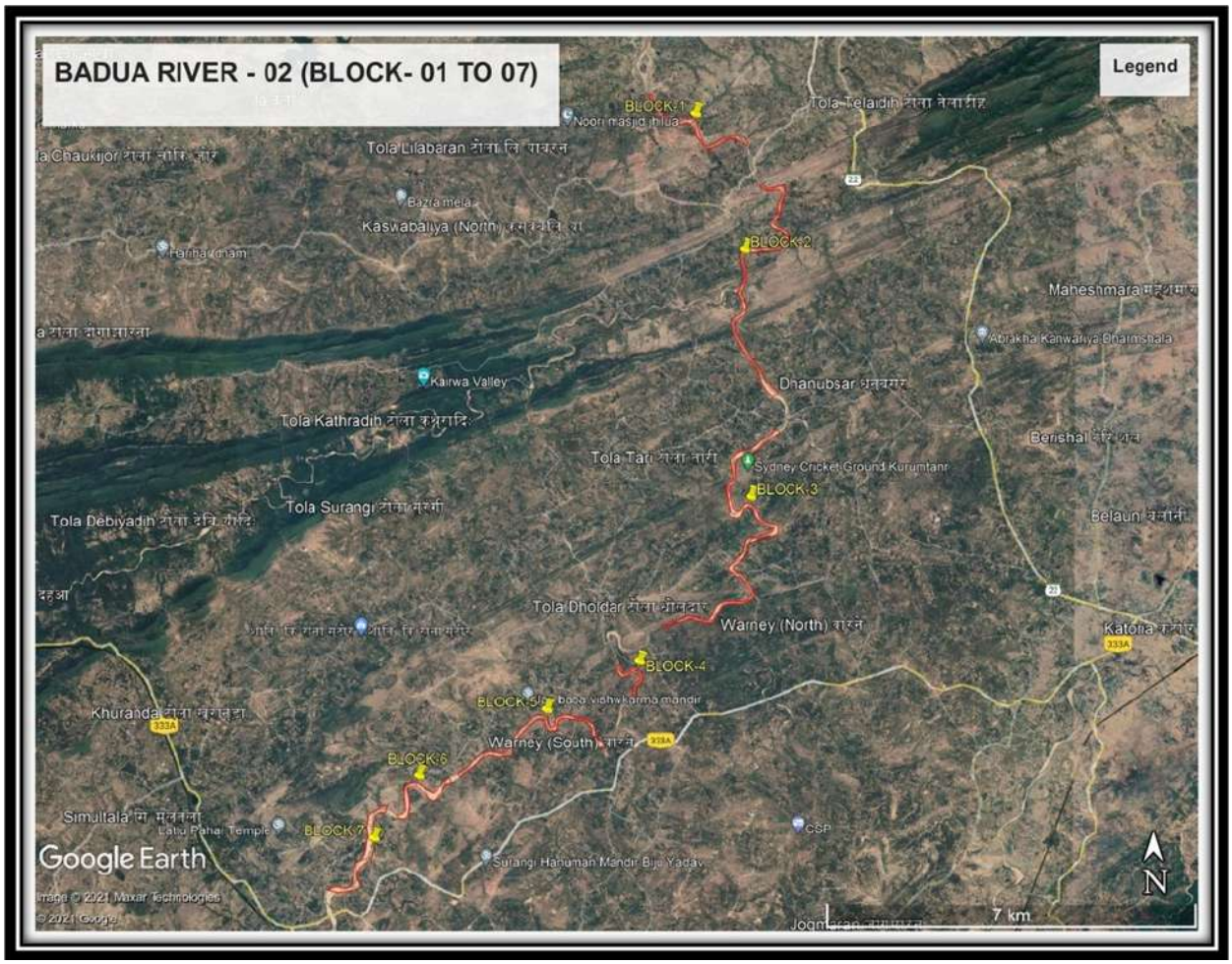

BANKA CHANAN 06
Legend
SAND GHAT BOUNDRY
Bhagwanpur
Shivala Deshra
Singarpur
Desra
Lakhnaudi
Majdiha
Baisa Rampur
Jitwarpur
Chitarsari
Kakwara Tola Chiutia
Parsa
Maheshadih
Saram
Balarpur
Google Earth
1 km
N

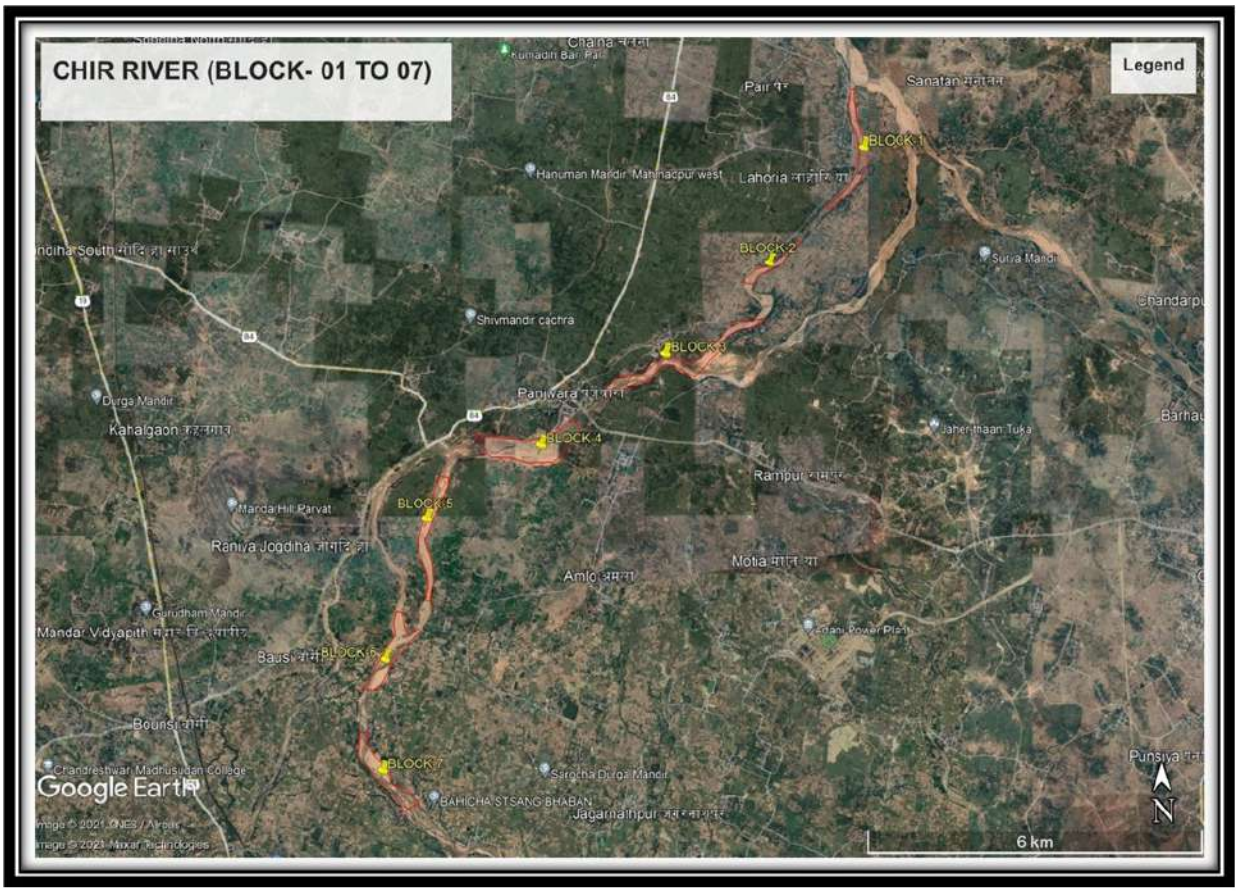
BANKA CHANAN 07
Legend
SAND GHAT BOUNDRY
Saram
Balarpur
Kunauni
Amba
Lakhikola
Google Earth
N
1 km

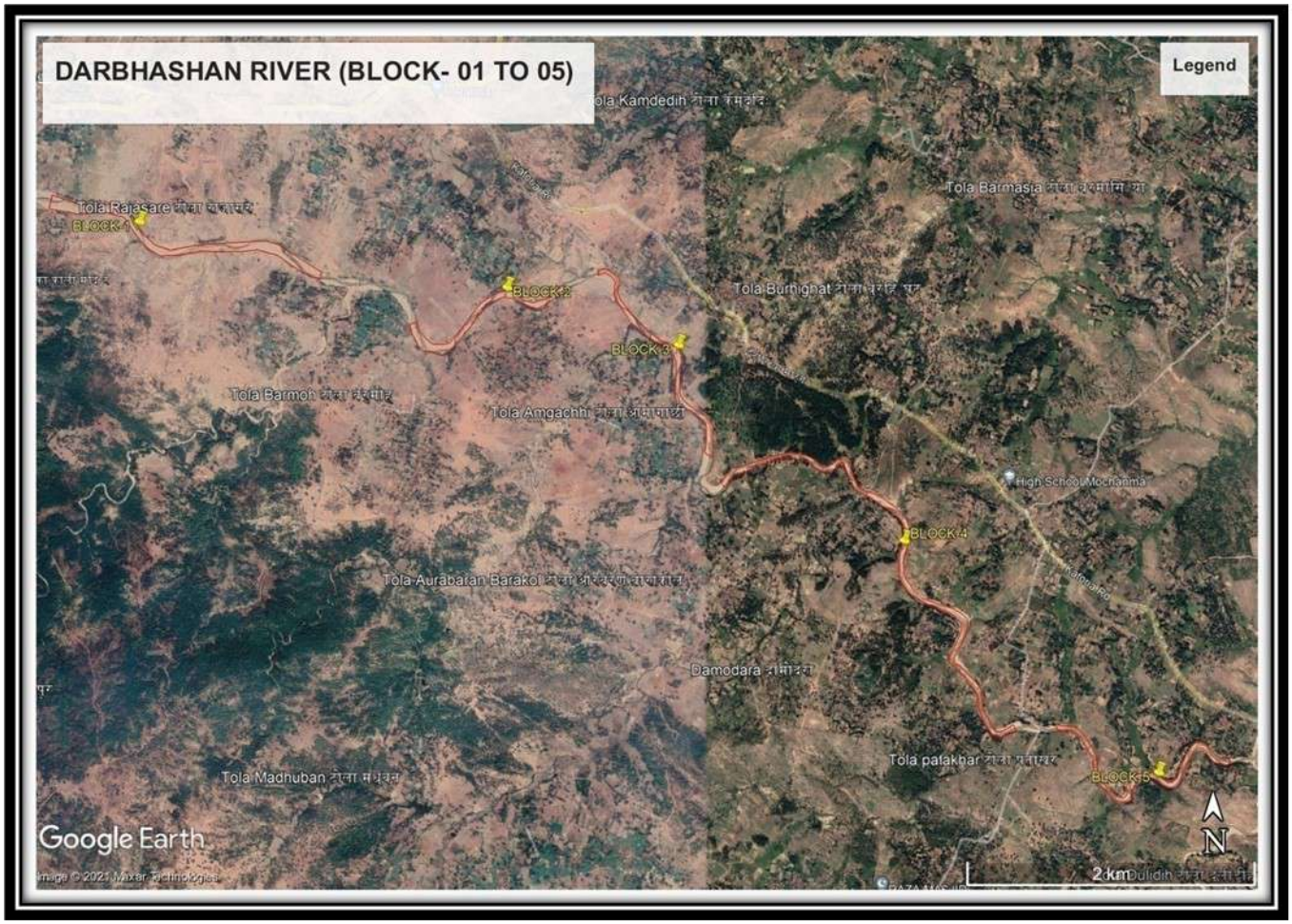
BANKA CHANAN 08
Legend
SAND GHAT BOUNDRY
Korara
Madodina
Maira
Deaka
Kushmaha
Bursani
Desana
Khawaspur
Gaur pur
Gowabakhar
Barmahua
Google Earth

BANKA CHANAN 09
Legend
SAND GHAT BOUNDRY
Fino Payments Bank
Gauripur
Khawaspur
Gowabakhar
Mamta Post Office
Gadal
Barmahuda
Khudbani
Deopur
Domuhan
Google Earth
1 km
N

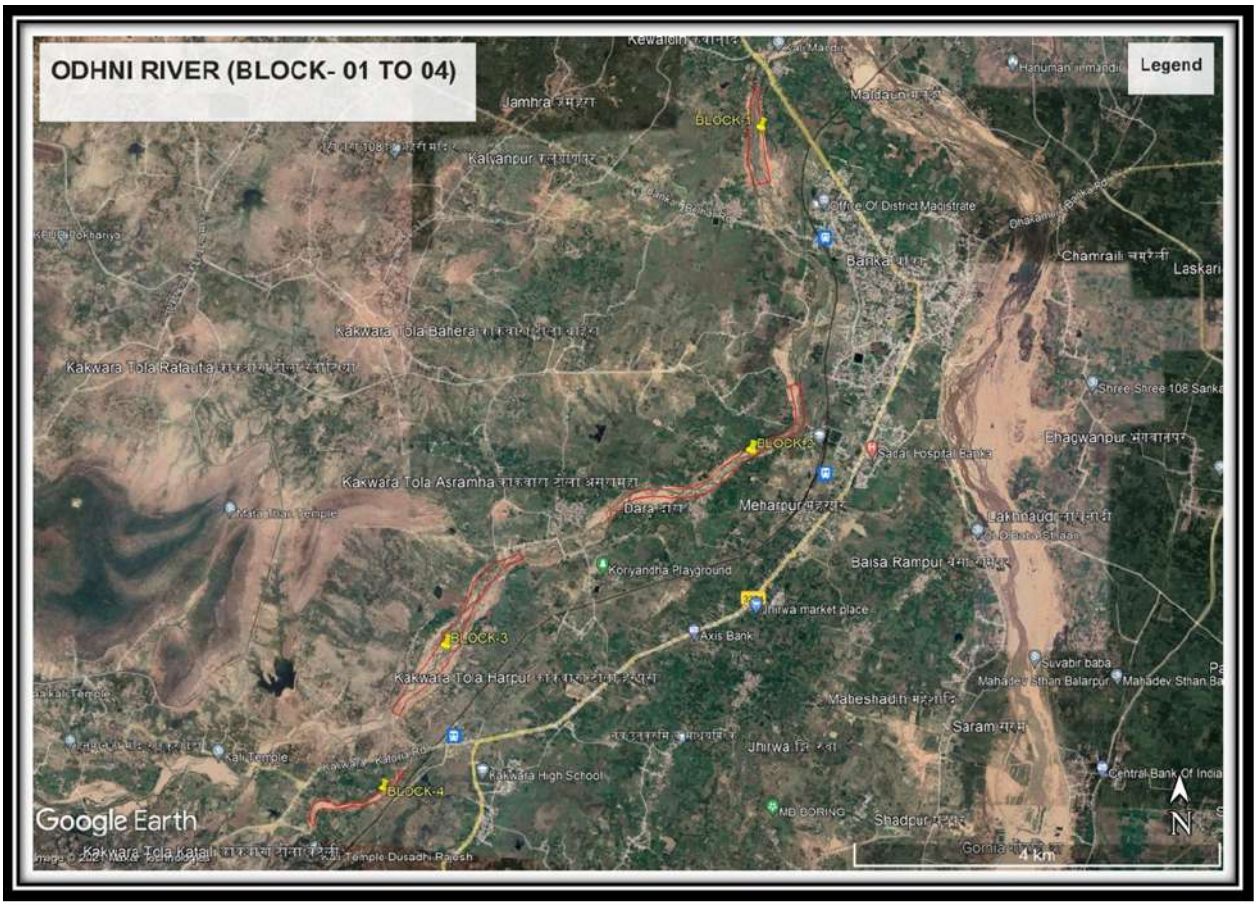

BADUA RIVER - 01 (BLOCK- 01 TO 04)
Legend
BLOCK-1
BLOCK-2
BLOCK-3
BLOCK-4
Sudha Garden
Chhoti Kali Mata Mandir, Balia
rajeev kumar
Didar Ganj दीदारगंज
Sahota सहोता
Makanpur मकानपुर
Kali Mandir, Ravidas Tola
Bhikhadih भिखादिह
Sangrampur Block Office
Sangrampur संग्रामपुर
Belhar बेलहर
Belhar Block Office
Sautadih सौताडिह
Bakrar बकरार
Raghunathpur रघुनाथपुर
Ranga रंगा
Shitla sthan, Nimiya शीतला स्थान, निमिया
Ghanua Bagicha
Kesharia केसरिया
Karharia करहारिया
Nijhri निझरी
Jogia जोगिया
Jala जाला
Madanpur मदनपुर
Google Earth
7 km
N

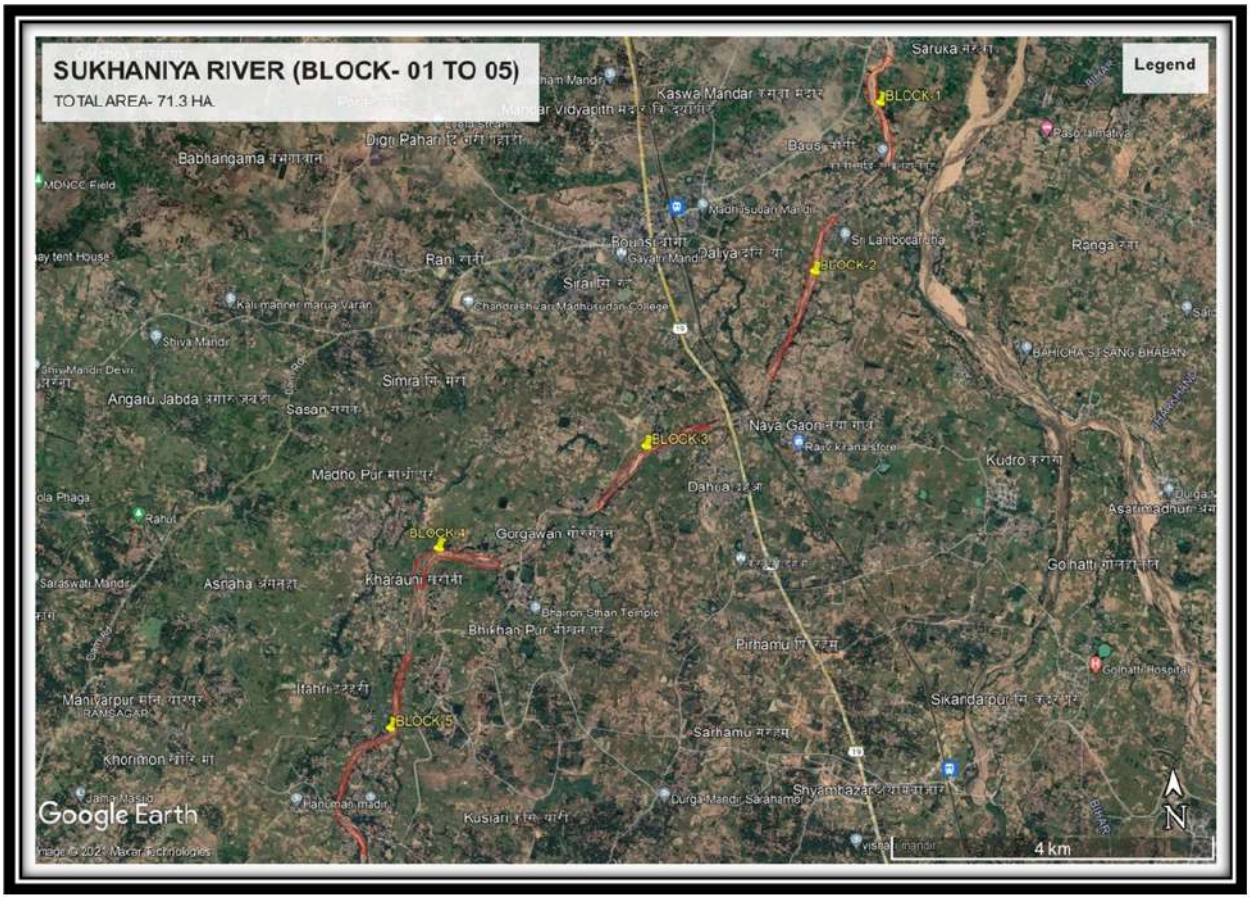

BADUA RIVER - 02 (BLOCK- 01 TO 07)
Legend
BLOCK-1
BLOCK-2
BLOCK-3
BLOCK-4
BLOCK-5
BLOCK-6
BLOCK-7
Tola Lilaberan टोला लि यारन
Kaswabaliya (North) कसवबलि या
Kairwa Valley
Tola Kathradih टोला कठगदि
Tola Tari टोला तारी
Tola Surangi टोला सरंगी
Tola Debiyadih टोला देवि यादि
Tola Dholdar टोला ढोलदार
Warney (North) वारने
Warney (South) वारने
Khuranda टोला खुरलडा
Simultala सि मुलतला
Dhanubsar धनबसर
Maheshmara महशमार
Berishal बेरि शल
Belauni बेलौनी
Katoria कटोरि
Sydney Cricket Ground Kurumtanr
Sutangi Hanuman Mandir Biju Yadav
CSP
Google Earth
7 km
N


CHIR RIVER (BLOCK- 01 TO 07)
Legend
BLOCK 1
BLOCK 2
BLOCK 3
BLOCK 4
BLOCK 5
BLOCK 6
BLOCK 7
Hanuman Mandir Mahnacpur west
Lahoria
Sanatan
Pair
Shivmandir cachra
Durga Mandir
Kahalgaon
Panjwara
Rampur
Manda Hill Parvat
Ranjva Jogdiha
Amlo
Motia
Gurudham Mandir
Mandar Vidyapith
Baus
Bounsi
Chandreshwar Madhusudan College
Sarocha Durga Mandir
BAHICHA STSANG BHABAN
Jagarnathpur
Punsiya
Google Earth
6 km
N


DARBHASHAN RIVER (BLOCK- 01 TO 05)
Legend
Tola Kamdedih
Tola Rajasare
BLOCK 1
BLOCK 2
BLOCK 3
Tola Barmoh
Tola Amgachhi
Tola Aurabaran Barakol
Tola Madhuban
Tola Barmasia
Tola Burhighat
High School Mochiamma
BLOCK 4
Damodara
Tola palakhar
BLOCK 5
N
2km
Google Earth

KURAR RIVER (BLOCK- 01 TO 03)
Legend
BLOCK-1
BLOCK-2
BLOCK-3
Tola Biradih
Tola Bitwaria
Tola Tiwari
BarangBali mandir maniya
Tola Medha
Tola Paprewa
Maniya
Tola Gobardaha
Google Earth
N
1 km


ODHNI RIVER (BLOCK- 01 TO 04)
Legend
BLOCK-1
BLOCK-2
BLOCK-3
BLOCK-4
Jamhra
Kalyanpur
Office Of District Magistrate
Banka
Chamraili
Laskari
Kakwara Tola Bahera
Kakwara Tola Ralauta
Shree Shree 108 Sanka
Sadar Hospital Banka
Bhagwanpur
Kakwara Tola Asramha
Dara
Meharpur
Lakhnauda
Koriyandha Playground
Baisa Rampur
Jhirwa market place
Axis Bank
Kakwara Tola Harpur
Suvabir baba
Mahadev Sthan Balarpur
Maheshadih
Saram
Jhirwa
Kali Temple
Kakwara High School
Central Bank Of India
MB BORING
Shadpur
Google Earth
4 km
N


SUKHANIYA RIVER (BLOCK- 01 TO 05)
TOTAL AREA- 71.3 HA.
Legend
BLOCK-1
BLOCK-2
BLOCK-3
BLOCK-4
BLOCK-5
Saruka
Kaswa Mandar
Babhangama
Digri Pahari
Rani
Daliya
Ranga
Angaru Jabda
Simra
Naya Gaon
Madho Pur
Dahiya
Kudro
Gorgawan
Asnaha
Kharauni
Gohatti
Bhikhan Pur
Pirhamu
Maniyarpur
Sikandarpur
Sarhamu
Khormon
Kusiari
Google Earth
4 km
N

**********

## 4. Detail of Royalty or Revenue Received in last three years

*Table 3*

| Year wise Total Revenue Collection (in Rupees Lakhs) | | | | |
|---|---|---|---|---|
| **S. No.** | **District** | **2018-19** | **2019-20** | **2020-21** |
| **1** | **Banka** | **6967.87** | **7515.83** | **7519.28** |

***Source:-*** *Mines & Geology Department, Patna, GoB*

## 5. Details of Production of Sand or Minor Mineral In Last Three Years

*Table 4*

| SAND | | | | |
|---|---|---|---|---|
| **Sl. No.** | **Year** | **Permitted quantity in MT (AS per EC & Approved Mine Plan)** | **Actual Production in MT** | **Actual Production in cft** |
| 1 | 2018-19 | 6986026 | 3536132.14 | 88403303.50 |
| 2 | 2019-20 | 9253119 | 3723483.94 | 93087098.50 |
| 3 | 2020-21 | 9253119 | 1784979.66 | 44624491.50 |

**Source :** Mines & Geology Department, Patna, GoB



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## 6. Process of Deposition of Sediments inthe Rivers of the District

### Replenishment of Sand :

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 ofminerals.

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 vary from 10 to 20% in different streams has also been included in the total production. Further the Survey of India Topo- Sheets are used as base map to know the extent of river course. The mineral reserves have been calculated only upto 3.00 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 addingannually.

### Surface runoff

Also known as overland flow is the flow of water that occurs when excess storm water, meltwater, or other sources flows over the Earth's surface. This might occur because soil is saturated to full capacity, because rain arrives more quickly than soil canabsorb it, or because impervious areas (roofs and pavement) send their runoff to surrounding soil that cannot absorb all of it. Surface runoff is a major component of the water cycle. It is the primary agent in soil erosion by water.

Runoff that occurs on the ground surface before reaching a channel is also called a nonpointsource. If a nonpoint source contains man-made contaminants, or natural forms of pollution (such as rotting leaves) the runoff is called nonpoint source pollution. A land area which produces runoff that drains to a common point is called a drainage basin. When runoff flows along the ground, it can pick up soil contaminants including petroleum, pesticides, or fertilizers that become discharge or nonpoint sourcepollution.

In addition to causing water erosion and pollution, surface runoff in urban areas is a primary cause of urban flooding which can result in property damage, damp and mold in basements, and street flooding.

# Effects of surface runoff

## Erosion and deposition

Surface runoff can cause erosion of the Earth's surface; eroded material may be deposited a considerable distance away.

There are four main types of soil erosion by water:

- Splash erosion,
- Sheeterosion,
- Rill erosion,
- Gullyerosion.

**Splash erosion** is the result of mechanical collision of raindrops with the soil surface: soil particles which are dislodged by the impact then move with the surface runoff.

**Sheet erosion** is the overland transport of sediment by runoff without a well-defined channel.

Soil surface roughness causes may cause runoff to become concentrated into narrower flow paths: as these incise, the small but well-defined channels which are formed are known as rills. These channels can be as small as one centimeter wide or as large as several meters.

If runoff continue to incise and enlarge rills, they may eventually grow to become **gullies**.

**Gully erosion** can transport large amounts of eroded material in a small time period.

Soil erosion by water on intensively-tilled farmland.

Reduced crop productivity usually results from erosion, and these effects are studied in the field of soil conservation. The soil particles carried in runoff vary in size from about .001 millimeter to 1.0 millimeter in diameter. Larger particles settle over short transport distances, whereas small particles can be carried over long distances suspended in the watercolumn.

There are many sediment transport equations which are suitable for use in the prediction of the replenishment rate of rivers/ watershed. Some of the Famous sediment transport equations are:

1. Dandy – Bolton Equation
2. Yang Equations
3. Engelund-HansenEquation
4. M odified Universal Soil Loss Equation(MUSLE)

## REPLENISHMENT SCENARIO OF THE *RIVER/STRETCHES* :-

Replenishment study have been done by the team of experts in year 2018 & 2019 for sand ghats and stretcheson the basis of survey done with DGPS duringperiods (Pre-mansoon & Post Mansoon) of sediments transported by the river.Samereports are also submitted to the mining department.

DGPS survey have been done for both Pre & Post mansoon seasons which includes collection of samples for determination of specific gravity, preparation of plan and section at every 100m level

determination of original ground level, reserve estimation based on data collection & quantificationof sand transported during the mansoon season.

The Findings of replenishment study of different ghats /stretches of Banka district are as:-

| NAME OF RIVER | ANNUAL PRODUCTION IN MT | REPLENISHED QUANTITY IN 2018 (IN MT) | REPLENISHED QUANTITY IN 2019 (IN MT) |
|---|---|---|---|
| CHANDAN | 8065069 | 8465333 | 8887323 |
| BADUA | 527549 | 694822 | 1246693 |
| SUKHANIYA | 63239 | 81965 | 74733 |
| CHEER | 526895 | 620478 | 565781 |
| ODHNI | 70367 | 78504 | 74116 |
| Total | 9253119 | 9941102 | 10848646 |

**Source:-** Report of M/s Overseas Min-Tech Consultants, Jaipur

## *Conclusion*

From the above replenishment study data, it has been observed that the replenished quantity of sand is found more than the actual production. In 2018 the replenished quantity is found Approx. 107% of the actual production and in 2019 it was found approx. 117%. Excavation plan have been prepared for above ghats sand based on this report only.

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# 7. GENERAL PROFILE OF THE DISTRICT

## River System

Banka is surrounded by three main rivers namely Chanan, Chir and Badua. Chanan river flows in the middle part while Chir flows in the East part and Badua flow in the West part of the district All the rivers are tributaries of river Ganga and are seasonal in nature.

**Chanan/ Chandan River :**

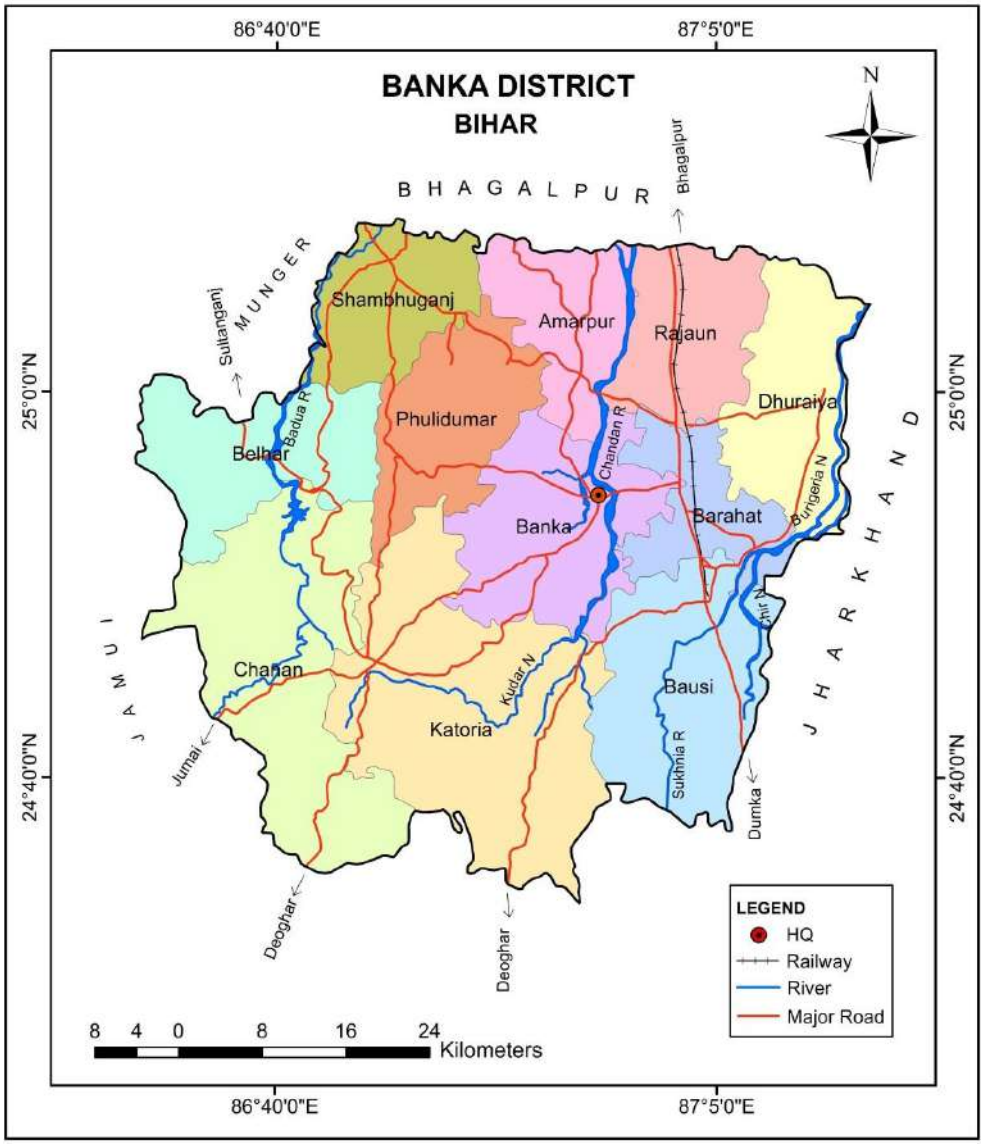
Chandan/Chanan(also known as Chanan) river originates from the northern part of Deoghar hills (Jharkhand) at an elevation of 274 metre and after traversing 110 km length bifurcates from South to North direction into number of small chanells with deltaic river characteristics before meeting the river Ganga through Yamuinia nala near Nathnagar, Bhagalpur. Before meeting with Ganga river, it passes through Banka and Bhagalpur District of Bihar. Chandan/Chanan river is seasonal river, but in monsoon season due to high flow of water it causes flood situations. Along with water flow, this carries huge amount of sand. Chanan river is non-perennial river. After monsoon season, river becomes dry for rest of the year.

**Chir River :**

Chir river originates from Dumka hilly area at an elevation of 165 m. Chir river flows in the Eastern part of the district. Its tributaries are Sukhania, Kajhia, Harna, Sundar and Gahra rivers. After monsoon season, river becomes dry for rest of the year. The river is non perennial river.

**Badua River :**

Badua originates from. It flow western part of districts. Badua river originates from chakai at an elevation of 265 m. The river is non Perennial River.




## Climate

The climate of the district is characterized by hot summer and a pleasant winter. April to June comprises summer month while November to March makes cold season. The southwest monsoon breaks in the month of June and continues upto the end of September. The average annual rainfall in the district is 1168 mm. The district receives major amount (86%) of precipitation during the monsoon period.

## Geomorphology

The district can be broadly divided into two broad physiographic division viz. alluvial plain in the north and the hilly track in the south. The regional slope from south to north is prominent. The west of the alluvial plain of the river Ganga is bordered by the Munger- Kharagpur hills. The hills of the district are generally moderate in height, denuded and irregularly scattered.

Geomorphologically the area is being divided into five distinct units.These units given below are in chronological order from youngest to oldest.

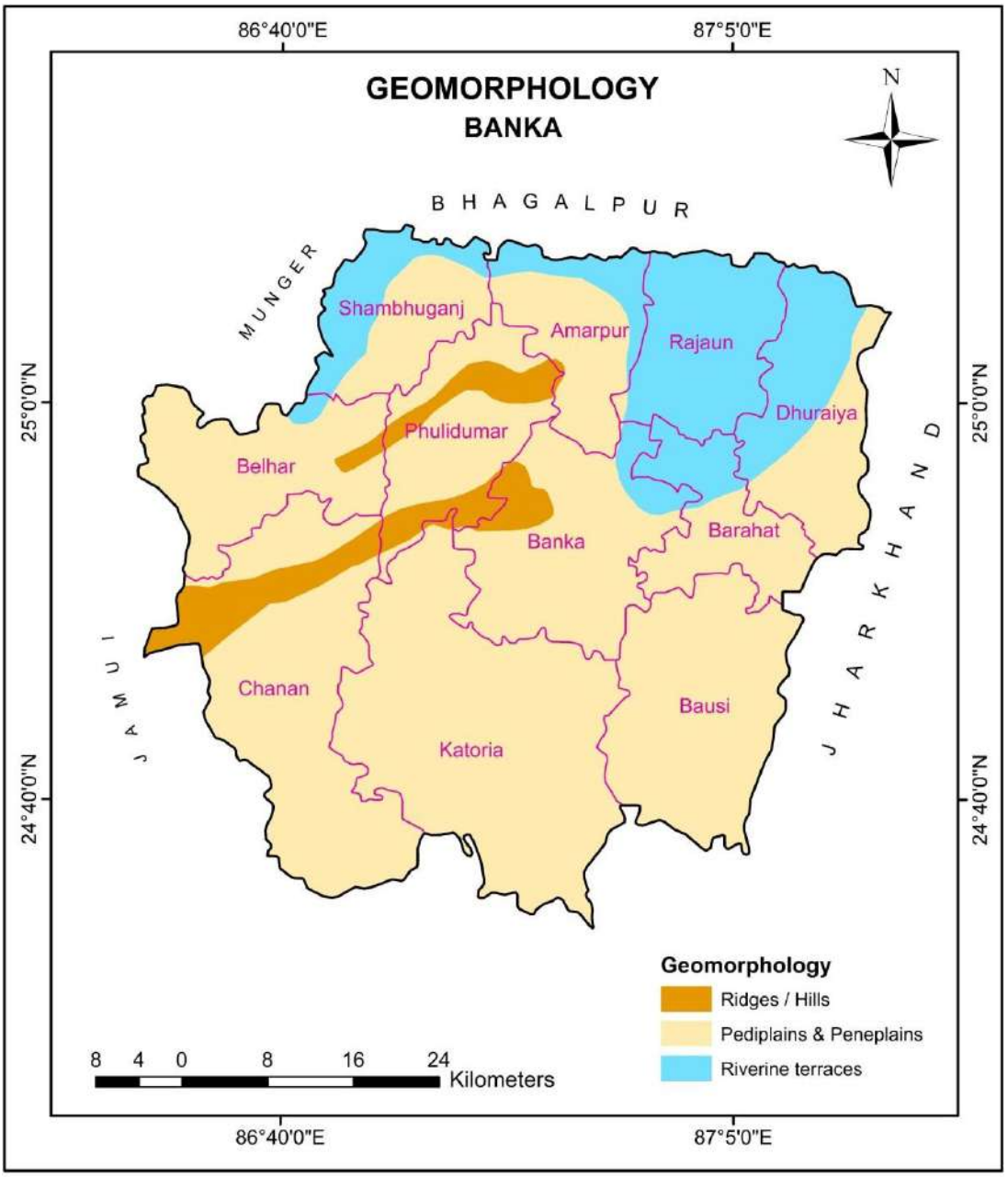
1) Diara Surface: It is the youngest morpho-unit of the area comprising of yellow-brown to brownish-grey compact clay. It is the recent flood plain of the major rivers passing through thedistrict.

2) Belhar Surface: It is a flat alluvial low land usually free from regular annual flooding but is prone to water logging in the patches. The surface overlies the recent flood plain surface. The soil is buff to brown colour and rich in silt, sand or siltyclay.

3) Sautadih Surface: The surface belongs to the older alluvial upland bordering the pediplains and the hilly area. The soil profile is well developed and characterised by deeply oxidesed yellow to brownish red clay with ferruginousconcretions.

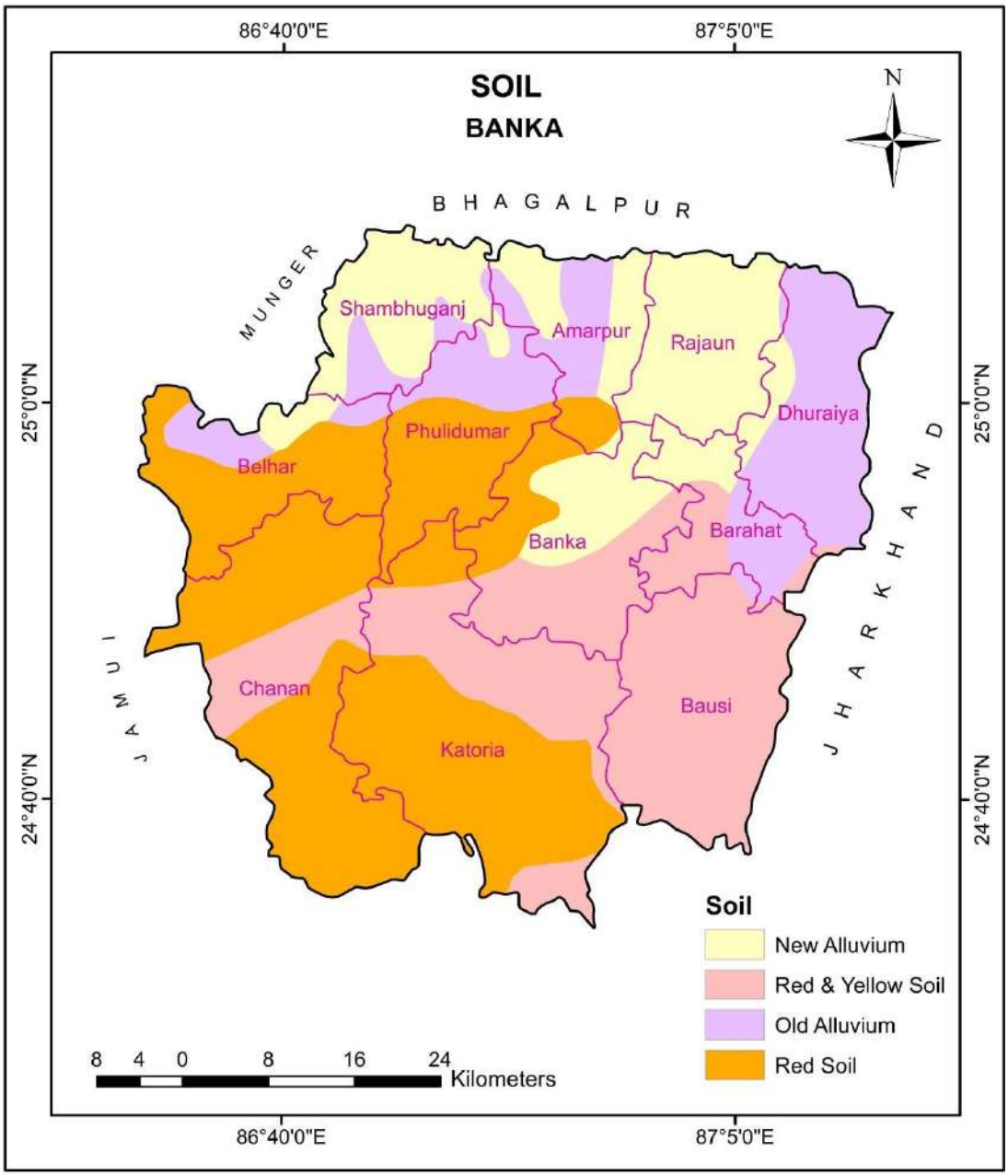
4) Pediplain Surface: The surface borders the northen margin of the distrct. These rocky units are essentially produced by the erosional process. The surface has developed primarily on the granite gneisses and is characterized by lack of good soil profile and colluvial deposits of weatheredmaterial.

5) Hilly /Rocky upland: This includes the hilly area of the Chotanagpur plateau, consisting of granite gneiss, quartzites, phyllites and micaschist.




## Soil

Banka district is characterized by a wide variety of soils, which can be broadly grouped into two categories, the alluvial soil and hilly soil. The alluvial soil derived partly from the older alluvium deposit and partly form the newer flood plain deposit is characterized by light grey to dark grey colour and fine texture. The hilly soil derived from the weathered product of rocks is coarse grained, ferruginous, low in nitrogen, medium to high potash and acidic in nature.




## *Irrigation*

The various major surface water irrigation schemes present in the district are as follows:

1. Chandan Reservoir Irrigation Scheme
2. Kajia Danr Irrigation Scheme
3. Badua Reservoir Project-shambhuganj and Belhar blocks
4. Chandan, Bilasi Irrigation Scheme -Banka
5. Orhni Reservoir Irrigation Project – Banka, Pullidumer
6. Laxmipur Reservoir Irrigation Project-Bounsi Block

The Chandan reservoir is major irrigation project in the Banka district. Its command area falls in the Banka, Barahat, Rajaun and Dhuraiya block of Banka district. The gross command area is 1.40 m ha. and the surface water irrigation facility is available only to 0.64 m ha in kharif and 7690 ha during rabi (this is inclusive of water directed from small structures like ahar etc.

As per the available statistics of 1994-1995, area irrigated by different sources e.g canals,tubewells,dugwells,other sources etc. constitute 66% of the total cultivated area in the district.canal is the most important source of irrigation in the district. The area irrigated by ground water constitutes 9.44 %( private shallow tubewells 7.9%, other wells 1.5%) of the gross irrigated.

## Demography

According to the Population Census in the year 2011, Banka District had population of 2,029,339 of which male and female were 1,064,307 and 965,032 respectively. The population of the Banka District constituted 1.95 percent of total population of Bihar. The average literacy rate of Banka District in 2011 was 60.12 percent compared to 42.73 percent of 2001. If things are looked out at gender wise, male and female literacy were 69.76 and 49.40 respectively. The total literates in Banka District were 1,002,069 of which male and female were 612,053 and 390,016 respectively. In 2001, Banka District had 547,326 in its district.

The main occupation of the people of Banka District is agriculture. Paddy is the most important food crop in the district while sugarcane is the most important non-food crop of the district. The farmers of Amarpur, Rajoun, Dhoraiya, circle grows sugarcane in abundance. Pisciculture also has grown as an important occupation of people of Banka District. As far as industrialisation of the district is concerned it can be said that the district Banka is totally backward in industrialization. One or two industries which are present in the district of Banka are stone crusher industry based at Bonsai and the Shivshankar Chemicals works at the Rajouncircle.

Banka District of Bihar though not much developed economically but the communication system of the district is developed to a large extent. It has several state highways and railways to a considerable extent. The various blocks of Banka district are connected by rail routes. And presently more land is being given by the District for further expansion of the rail network.

**Rural/ Urban Household Ratio of Banka**: Banka District has total household 381,601 from which 96% is in rural area and 4% is urban area.

**Male/Female Literacy Ratio of Banka:** Banka District has total 965,321 Literacy out of which 61% are male and 39% are female.

**Sex Ratio – Banka District:** The Sex Ratio of Banka district is 907. Thus for every 1000 men there were 907 females in Banka district. Also as per Census 2011, the child sex ratio was 943 which is greater than Average Sex Ratio 907 of Banka district.

**Population Density – Banka district:** The total area of Banka district is 3020 $Km^2$.

Thus the density of Banka district is 674 people per square kilometre. As per the initial provisional data of Census 2011. Around 30 sq. Km area is under urban region while 2,990 sq. Km is under rural region.

# 8. LAND UTILIZATION PATTERN IN THE DISTRICT

## Forest

The district of Banka is situated in far south - east of the State Bihar. The eastern and southern border of the district conisides with district Godda of the state - Jharkhand. In west and north east it touches Jamui and Munger district respectively. The old district Bhagalpur is situated in the north side of Banka.
The geographical area of the district is 305621 hectare ie 3019.3465 Sq. km.
The district head quarter of Banka is situated in Banka town. The district has been established on 21st, February, 1991. Earlier it was a Sub-Division of the district Bhagalpur.

The district consists 11 blocks and two towns Banka and Amarpur.

Amarpur, Banka, Barahat, Belhar, Bounsi, Chandan, Dhoraiya, Fullidumar, Katoriya, Rajoun,Shambhuganj.

## Flora and Fauna

The district has some forested area under Banka, Bounsi Katoriya forest ranges. The wood of Banka range lie on the Hill slopes, those in the other two ranges lie in undulating land. Among the prominent variety of trees in forested areas are the Sal which is usually found associated with Abuns, Asan, Kendu and Mahua. Tasar worms are reared on Asan trees. Some other trees are Bahera, Kadam, Amaltas. Among the specials of the Acacia are Babul, Sirish, and Sain Babul. Among the fruits trees those of Mango and Jack fruits are common. Plantains, Date plants, Plums, Jamun are some of the other important fruitstrees.

Monkeys are common in the district, particularly the Hanuman. So are Jackal, Dear, lion, Bear, Leopards, Elephants are some times met with. Among the latter are Barsingha and Sambhar. Wild geese, Duck, Leel, and Quail are some of the game birds inhabiting the district. Peacocks, Parrots, Hawks, and Doves are other birds found in Katoriya forest/ Chandan forest. Sparrows, Crows and Vultures are of course common.

Several kinds of fishes are found eg. Rohu, Katla, Boari, and Tengra. Bachwa, Jhinga and Pothi are other Varieties.

## Table 5. District-wise Forest Cover Area in Bihar (Area in $Km^2$)

| 2011 Assessment | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **District** | **Geograph ical Area $Km^2$** | **Very Dense Forest** | **Moder-ate. Dense Forest** | **Open Forest** | **Total** | **Percent of GA** | **Change** | **Scrub** |
| **Araria** | 2,830 | 0 | 12 | 76 | 88 | 3.11 | 2 | 0 |
| **Aurangabad** | 3,305 | 0 | 54 | 97 | 151 | 4.57 | 0 | 13 |
| **Banka** | 3,022 | 0 | 111 | 110 | 221 | 7.31 | 0 | 12 |
| **Begusaral** | 1,918 | 0 | 20 | 23 | 43 | 2.24 | 0 | 0 |
| **Bhabhua** | 3,381 | 0 | 555 | 507 | 1,062 | 31.41 | 0 | 20 |
| **Bhagalpur** | 2,567 | 0 | 29 | 13 | 42 | 1.64 | 0 | 0 |
| **Bhojpur** | 2,390 | 0 | 16 | 3 | 19 | 0.79 | 0 | 0 |
| **Buxar** | **1,708** | **0** | **2** | **1** | **3** | **0.18** | **0** | **0** |
| **Darbhanga** | 2,279 | 0 | 41 | 144 | 185 | 8.12 | 0 | 0 |
| **Gaya** | 4,976 | 0 | 124 | 506 | 630 | 12.66 | 0 | 46 |
| **Gopalganj** | 2,033 | 0 | 2 | 2 | 4 | 0.20 | 0 | 0 |
| **Jamui** | 3,107 | 0 | 383 | 249 | 632 | 20.34 | 0 | 2 |
| **Jehanabad** | 1,569 | 0 | 2 | 1 | 3 | 0.19 | 0 | 5 |
| **Katihar** | 3,057 | 0 | 18 | 44 | 62 | 2.03 | 0 | 0 |
| **Khagaria** | 1,486 | 0 | 2 | 6 | 8 | 0.54 | 0 | 0 |
| **Kishanganj** | 1,884 | 0 | 26 | 49 | 75 | 3.98 | 0 | 0 |
| **Lakhisarai** | 1,356 | 0 | 180 | 14 | 194 | 14.31 | 0 | 2 |
| **Madhepura** | 1,788 | 0 | 6 | 20 | 26 | 1.45 | 0 | 0 |
| **Madhubani** | 3,501 | 0 | 18 | 118 | 136 | 3.88 | 0 | 0 |
| **Munger** | 1,347 | 0 | 251 | 14 | 265 | 19.67 | 0 | 7 |
| **Muzaffarpur** | 3,172 | 0 | 102 | 75 | 177 | 5.58 | 21 | 0 |
| **Nalanda** | 2,367 | 0 | 5 | 23 | 28 | 1.18 | 0 | 6 |
| **Nawada** | 2,494 | 0 | 187 | 323 | 510 | 20.45 | 0 | 10 |
| **Pashchimi Champ1uan** | 5,228 | 231 | 524 | 166 | 921 | 17.62 | 8 | 0 |

(Source: India state of forest report 2011-Bihar)

## Agriculture:

Banka district is primarily an agricultural region where more than 80 percent population is rural. Agriculture forms the mainstay of the economy in the region. The proportion of agricultural land to the total land is very high except in Katoria and Chanan anchals where the land is hilly and have extensive forest zone. Rice, Wheat, maize, gram and Khesari are popularly grown here. River Chandan, Badua and Chir provide water for irrigation and other purposes. Barahat, Rajoun and Amarpur blocks are famous for cultivation of good quality of rice viz. Katarni, Malbhogh, Kesour and Sonam rice. More than 80 percent of the working force is engaged in agricultural sector.

Agriculture is predominant occupation in the region, but industrialisation and modernisation is the call of the day. Many agro and cottage industries have developed and are taking place. The whole area is on the path of transformation. Rurban centres are growing fast. Means of irrigation, pattern of agriculture, modes of transportation, and industrial development are developing at speedy rate. Due to fast development in every field of life, environment is also changing.

| No. | Blocks | *Area under different Harvest* | | | | |
|---|---|---|---|---|---|---|
| | | **Aghan/ *Kharif*** | **Bhadai** | **Rabi** | **Garma** | **Total** |
| 1 | Banka | 7652.6 | 589.33 | 2857.2 | 1819.46 | 12918.59 |
| 2 | Amarpur | 7362.69 | 3650.8 | 8769.76 | 2347.66 | 22130.94 |
| 3 | Barahat | 2576.2 | 130.96 | 2690.19 | 805.06 | 6202.41 |
| 4 | Baunsi | 6076.58 | 528.18 | 1753.2 | 409.36 | 8767.2 |
| 5 | Rajoun | 10818 | 211.48 | 6308.81 | 994.41 | 18332.71 |
| 6 | Katoria | 3787.88 | 1718.5 | 2843.13 | 1217.38 | 9566.91 |
| 7 | chanan | 8808.95 | 1157.7 | 729.95 | 1140.79 | 11837.42 |
| 8 | Belhar | 8298.14 | -- | 3510.37 | 888.07 | 12696.58 |
| 9 | Dhoraiya | 14073 | -- | 2219.12 | 1236.96 | 17529.03 |
| 10 | Shambhuganj | 7185.13 | -- | 1646.26 | 642.22 | 9473.61 |
| 11 | Phullidumar | 15857.6 | -- | 1653.96 | 396.89 | 17908.41 |
| BANKA DISTRICT | | 92496.7 | 7987 | 34982 | 11898.3 | 147363 |

Source : Agricultural deptt., Banka District (2011 – 12).

**Area under major field crops & horticulture**

| **Major field crops cultivated** | Area ('000 ha) |
|---|---|
| Paddy | 99.42 |
| Maize | 12.59 |
| Pigeonpea | 5.13 |
| Blackgram | 1.86 |

| Horticulture Crops -Fruits | Area ('000 ha) |
|---|---|
| Total | 99.42 |

| Horticulture Crops - Vegetables | Area ('000 ha) |
|---|---|
| Cauliflower | 1103 |
| Cabbage | 990 |
| Tomato | 1334 |
| Onion | 725 |
| Brinjal | 448 |

**Source :** https://agricoop.nic.in/sites/default/files/BR11_Banka_28.12.203.pdf

## Mining

Banka District does not have any major mineral sources like Iron, Aluminum, Coal, etc. but district has a rich source of minor mineral mainly river bed material, Stone mining and soil mining etc. This has increased the demand in construction industry and various facilities are developed. All developmental activities need different construction material of which sand is basic material used for development of roads, bridges, buildings etc. River bed sand quarries are the only source of supply of sand. The River sand quarries are located at approachable distance from where sand is transported with ease and at low costs.

## Hydrogeology

The Banka district can be sub-divided broadly into two hydrogeological units:

1) **Alluvial Formation:** It occupies the northern part of the district. The Quaternary alluvial deposits consisting of sand, silt and clay forms a good repository of the ground water.The ground water occurs in the porous material under both unconfined and semi-confined to confined conditions depending on the disposition ofaquifers.

2) **Fissured Formation:** The fissured formation constitutes the Chotanagpur Granite Gneissic Complex and meta-sedimentaries. Ground water occurs in these rocks under confined to semi-confined conditions. The secondary porosity e.g. fractures, joints and fault planes acts as aquifer and controls the storage and movement of groundwater.

**Ground water in the alluvial track of the district:**



The thickness of Quaternary Alluvial deposit generally ranges from 15m to 100m in the northern part

of the district. The maximum depth to bedrock is at Raipura which is 99m.The sandy layers in the alluvial terrain form the main repository of ground water in the northern part of the district. The thickness of alluvial deposit increases from south to north. Ground water usually occurs under both unconfined conditions in aquifer disposed at shallower depth and under semi-confined to confined condition at deeper depths. The thickness of granular zone ranges between 18-25 m at a depth ranging between 50 and 99 m below ground level. The yield ranges between 60$m^3$ /hr to 124 $m^3$ /hr for a drawdown of 21 mand8.00 m respectively. The available data indicate that in Shambhuganj block there exist a number of granular zones in shallow and deeper levels. In this block there is a wide scope of ground water development through shallow tubewells upto 50m depth. The deep tube wells up to 100m depth may give a discharge of 75-100 $m^3$ /hr. The exploratory data indicate that there is a wide variation of the transmissivity value which varies from 63.7$m^2$/day at Khirri to 1265 $m^2$ /day at Rudpai.The transmissivity is found to be increasing towards northwestern part of the district, where the thickness of the aquifer is also more. The storage co-efficient value as estimated has been 2.75 x $10^{-3}$ at Warshabad, which shows that aquifer are under semi-confined condition. Ground water in the hard rock formation As the southern part of the district is underlain by Precambrian formations, the movement, occurrence and distribution of the ground water is primarily controlled by nature and distribution of joints, fissures and other structural zones of weakness. At places the granites and meta-sedimataries are weathered and extensively jointed. Ground water occurs in this weathered formation in unconfined condition, whereas the deeper fracture within the hard rocks also form a very good repository of ground water.

## ***Depth to Water Level***

Depth to ground water level maps for pre-monsoon and postmonsoons 2011 have been prepared. A perusal of the depth to water level map of pre-monsoon period indicates that water level is shallowest (0-4m bgl) in the northwestern part of the district covering Shambhuganj, western parts of Amarpur and northern part of Belhar blocks, The depth to water level in the range of 4-5 m covers the rest of Amarpur block, southern part of the Belhar and Shambhuganj and northern part of Pullidumar blocks and the subsequent range of 5-7 m water level occupies the major part of the distrct covering Belhar, north Chandan, north Katoria almost entirely Banka, Rajaun ,Dhuraiya and northern part of Bausi blocks. The deepest water level range of 7-9m occupies the southern hard rock area of the district, covering rest of Chandan, Katoria and Bausi blocks. During the post-monsoon period the depth to ground water level in the north western and north eastern parts of the district rests in the range of 0-3m bgl, followed by 3-5m range of water level covering the central part of the district. The southern part of Chandan and western part of the Katoria blocks show the deepest water level of5-7m.

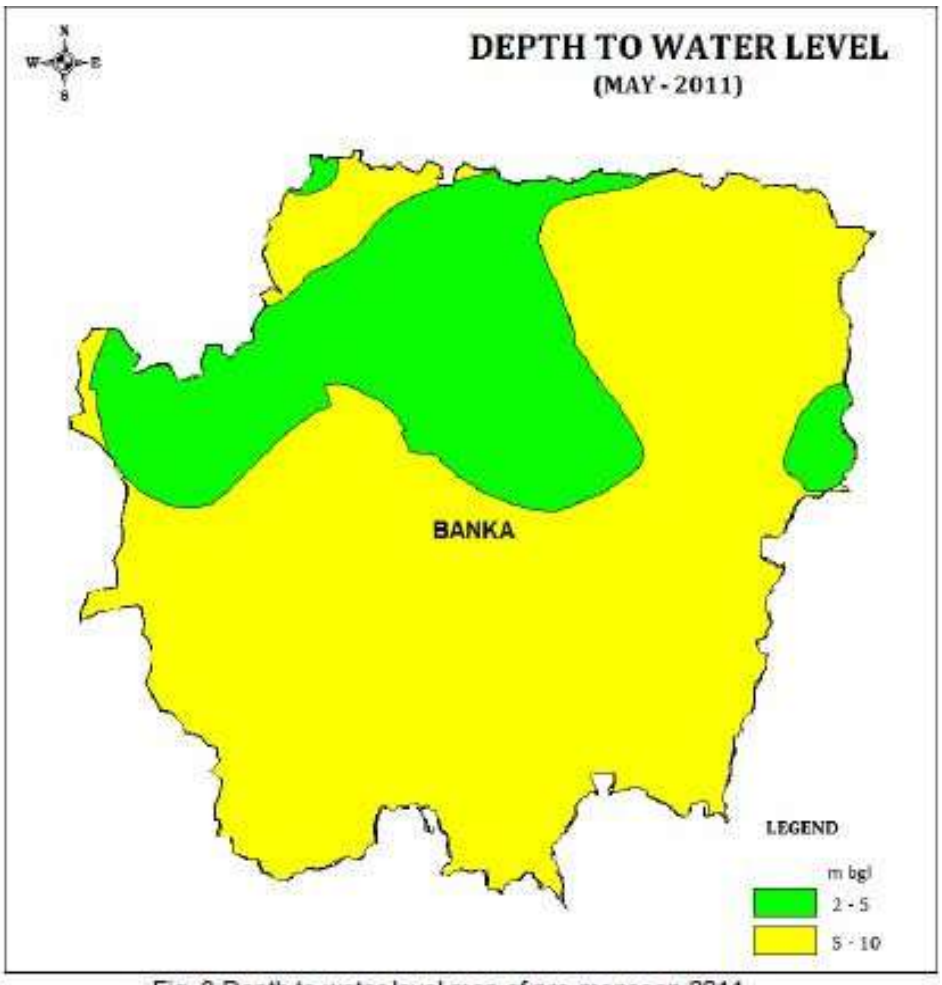



Fig. 3 Depth to water level map of pre-monsoon 2011.

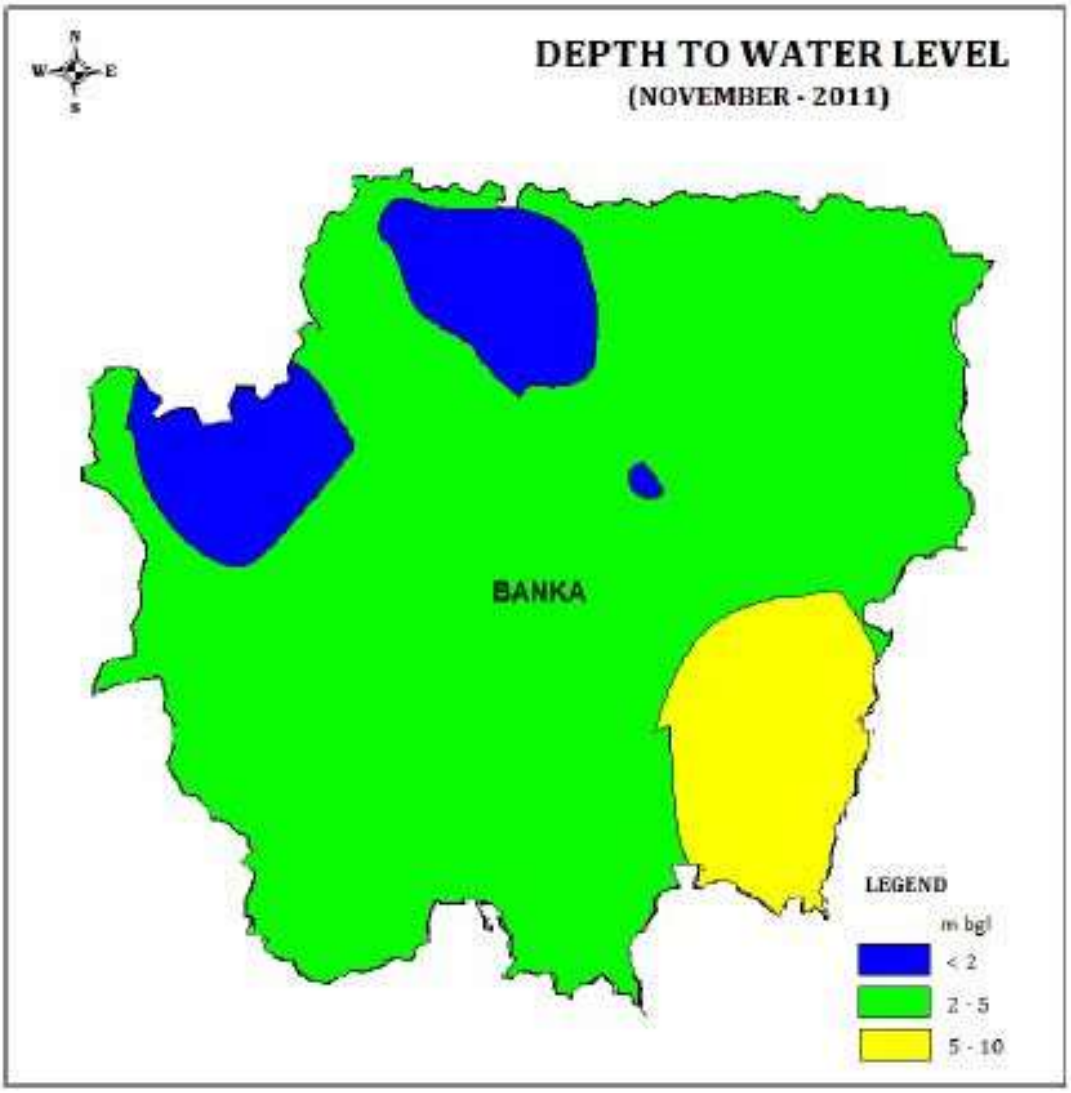



Fig. 4 Depth to water level map of post-monsoon 2011

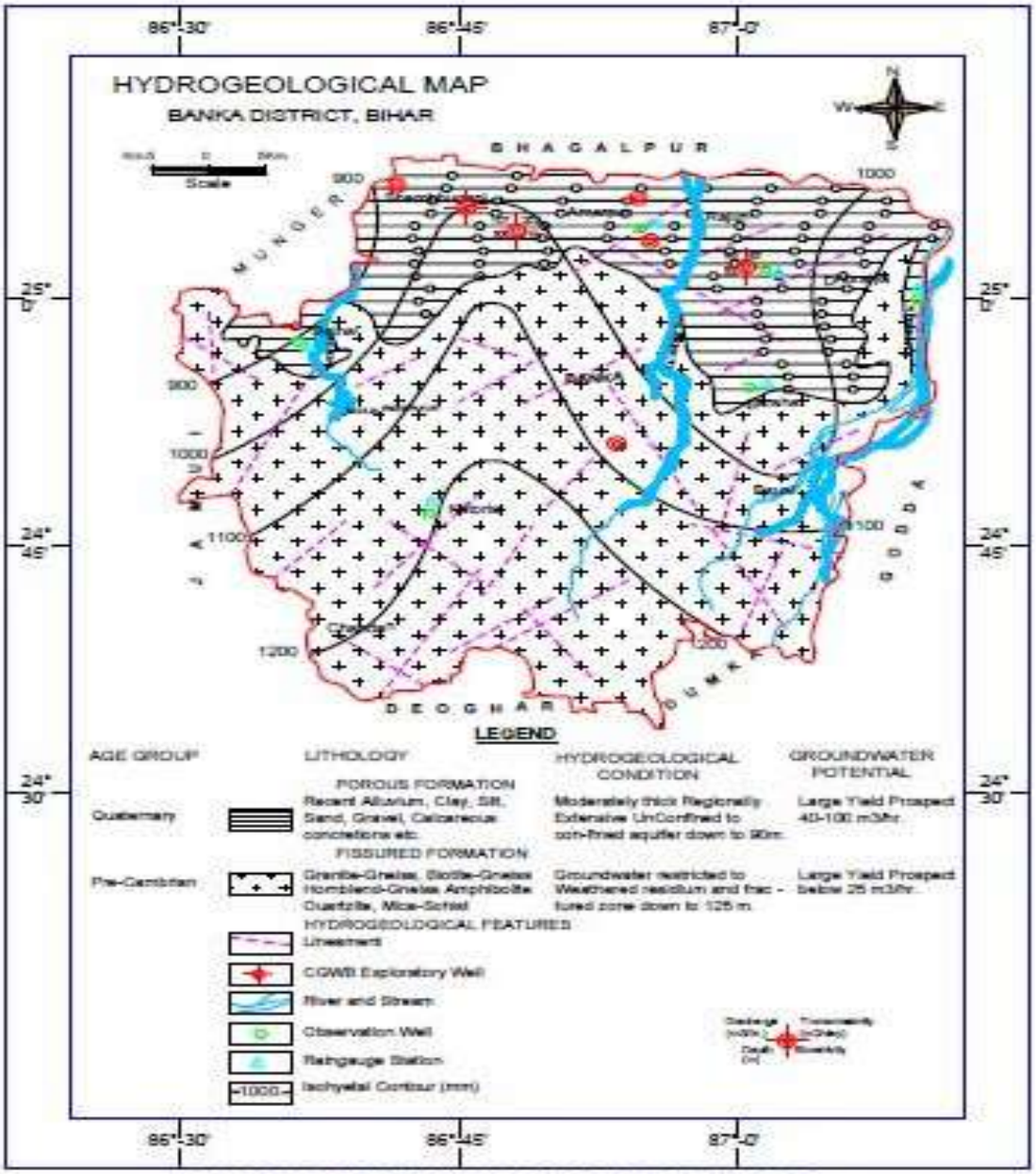



FIGURE 2. HYDROGEOLOGICAL MAP OF BANKA DISTRICT,BIHAR

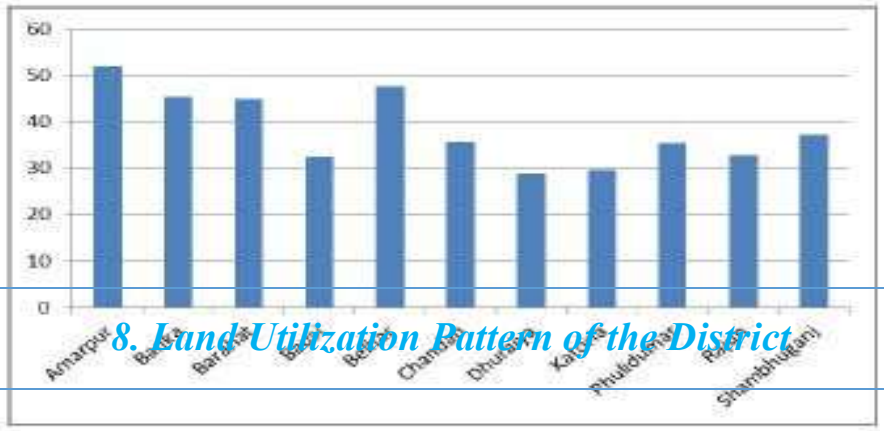
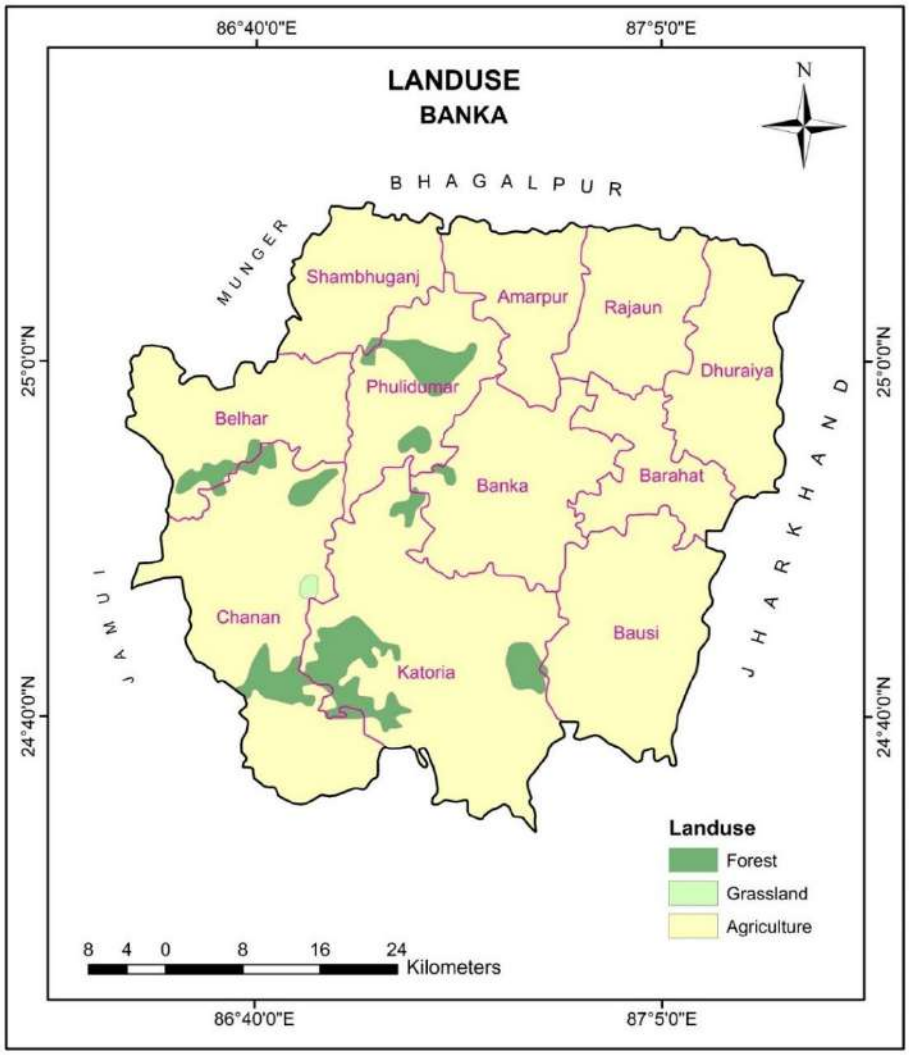



Fig. 5 Block-wise stage of ground water development of the district

## 8. Land Utilization Pattern of the District




| Landuse | Area (in hectare) |
|---|---|
| Forest | 46000 |
| Barren and uncultivable land | 43000 |
| Land under non-agricultural uses | 42000 |
| Permanent pasture and grazing land | 2000 |
| Cultivable waste other than fallow | 8000 |

Source: 1999, Directorate of Statistics and evaluation, Bihar, Patna

# 9. Physiography of the District

The Bihar state can be broadly subdivided into three major units i.e main physical subdivisions are the Northern Mountains, the Gangetic Plains and the Central Highlands.

Northern Mountains comprises the Himalayan ranges including their foot hills. The Gangetic Plains, situated between the Himalayas and the Deccan plateau, constitute the most fertile Plains of the sub-basin ideally suited for intensive cultivation. The Central highlands lying to the south of the Great plains consists of mountains, hills and plateaus intersected by valleys and river plains. They are largely covered by forests. Aravali uplands, Bundelkhand upland, Malwa plateau, Vindhyan ranges and Narmada valley lie in this region. Predominant soil types found in the sub-basin are sandy, loamy, clay and their combinations such as sandy loam, loam, silty clay loam and loamy sand soils.

The district can be broadly divided into two broad physiographic division viz. alluvial plain in the north and the hilly track in the south. The regional slope from south to north is prominent. The west of the alluvial plain of the river Ganga is bordered by the Munger- Kharagpur hills. The hills of the district are generally moderate in height, denuded and irregularly scattered.

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## 10. Rainfall: Month wise

The area receives rainfall by South-West monsoon. Rainy season sets in the middle of June and lasts till September. The District Rainfall in millimetres shown below are the arithmetic averages of Rainfall of stations under the district. The annual average rainfall is 1181.46 mm.

**Table 6: - 5 Years Rainfall data of Banka district**

| Year | | 2016 | 2017 | 2018 | 2019 | 2020 | 5 Years Avg. (in mm) |
|---|---|---|---|---|---|---|---|
| S. No | Month | Avg. (in mm) | Avg. (in mm) | Avg. (in mm) | Avg. (in mm) | Avg. (in mm) | Avg. (in mm) |
| 1 | January | 18.3 | 0 | 0 | 0 | 6.2 | 4.9 |
| 2 | February | 0 | 0 | 0 | 43 | 56.8 | 19.96 |
| 3 | March | 0 | 7.8 | 2.7 | 0.6 | 55.9 | 13.4 |
| 4 | April | 0 | 24.7 | 8 | 12.3 | 36.2 | 16.24 |
| 5 | May | 66 | 80.2 | 52.9 | 101.5 | 93.2 | 78.76 |
| 6 | June | 267.2 | 89.7 | 165.2 | 56.7 | 241.8 | 164.12 |
| 7 | July | 281 | 398.5 | 406.2 | 272.8 | 278.1 | 327.32 |
| 8 | August | 190.8 | 235.2 | 309.7 | 117.5 | 164.2 | 203.48 |
| 9 | September | 377.3 | 238.8 | 71.5 | 376.3 | 295.5 | 271.88 |
| 10 | October | 77.3 | 130.5 | 30.5 | 118.9 | 40.7 | 79.58 |
| 11 | November | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 | December | 0 | 0 | 6.6 | 2.5 | 0 | 1.82 |

Source:-India Meteorological Department, Ministry of Earth Sciences, Delhi
https://hydro.imd.gov.in/hydrometweb/(S(up04vf55o2ci04rn1oeemwfl))/DistrictRaifall.aspx



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# 11. GEOLOGY AND THE MINERAL WEALTH OF THE AREA

The area forms eastern part of the Chhotanagpur plateau. Which happens to be eastern coastal block of Indian peninsular shield. The area shows in general a mature peneplain topography with a few undulating mounds/ hills here and there. The general slope is from south to north.

The area can be classified into three distinct geomorphic surfaces viz-

i) **Rocky upland surface**

ii) **Pediplain surface and**

iii) **Alluvialsurface**.

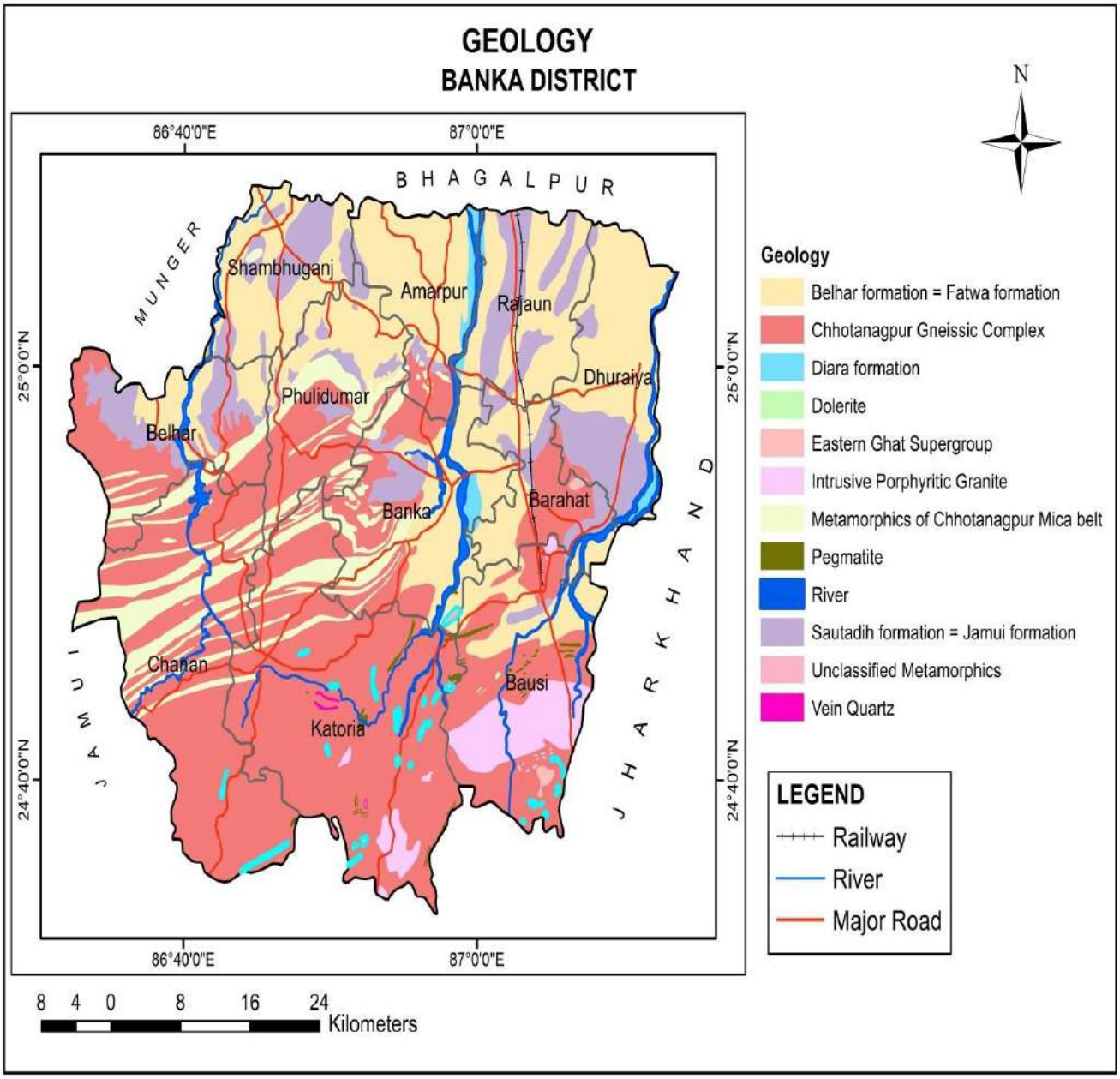
The rocky upland surface is represented by low flat topped mounds/hill ridges occupying a small portion of the area. It consists of resistant rock like quartzite and granite gneiss. The pediplain area occupiesmajor area and is product of erosional processed of pediplaination. Alluvial surface occupies linear track along the river, nadi and nala in the area.

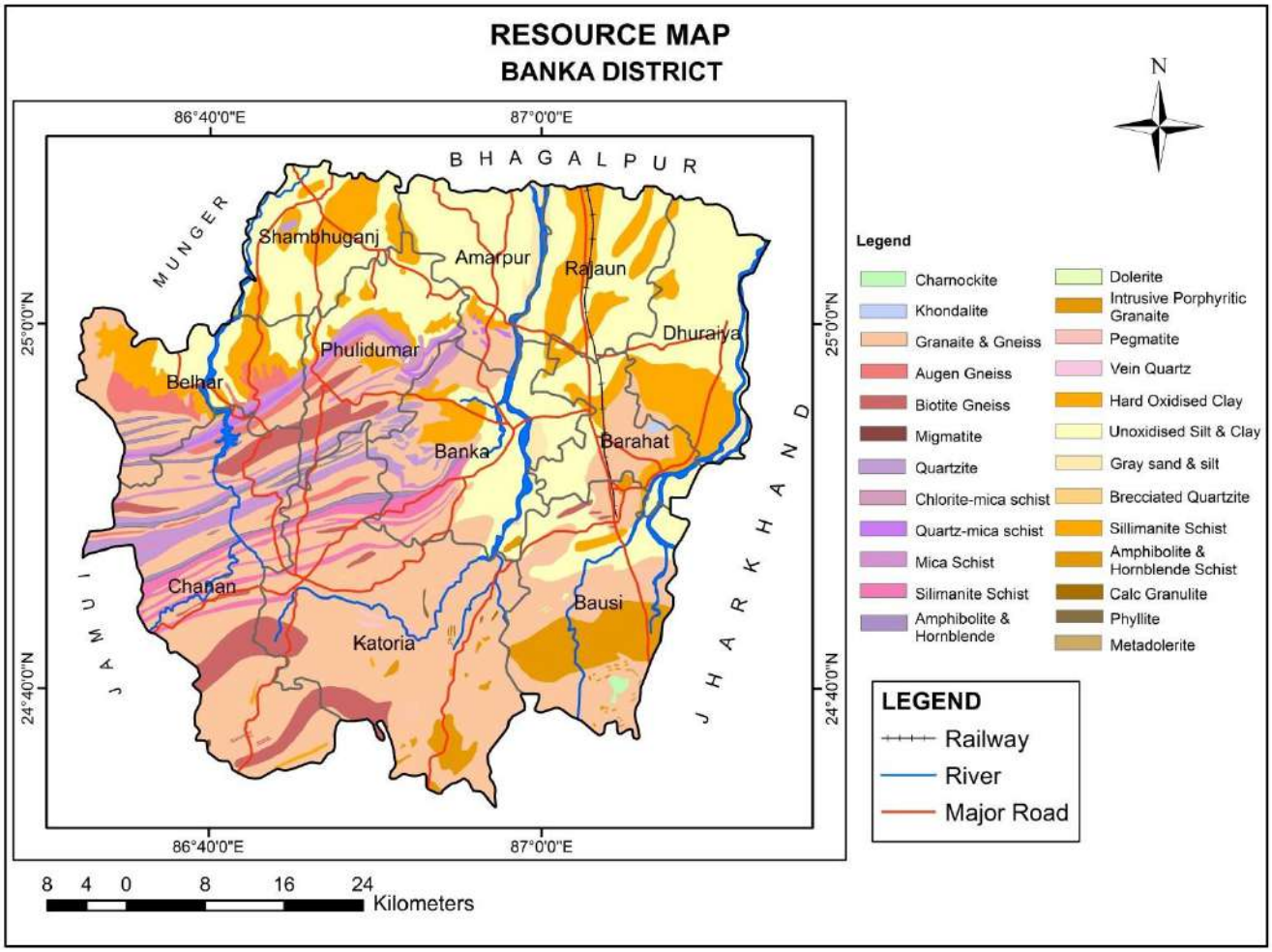
The drainage system of the area is mainly controlled by Chandan – Chatimi, Chhauri Nihan, Dharun, Jhilua and Dharbhasan rivers.

The area is occupied by the rocks of the Chhotanagpur granite gneiss consisting of meta-sedimentary group of rocks comprising palitic schist, quartzite, associated with granite gneiss and granitoids. Later igneous intrusions of acidic to basic composition invaded the Meta sediments and gneisses. Geological succession of the area may be described as follows:

- **Pegmatite and quartzveins**
- **Metabasics including Metadolerite**
- **Gneisses and associated Migmatite**
- **Feldspathic quartzite**

There are numerous base metal (Lead-Zinc) occurrences of varying sizes, reported from among them are Charkipahari-Tulsitan and Bindasa.


GEOLOGY
BANKA DISTRICT
N
86°40'0"E
87°0'0"E
25°0'0"N
24°40'0"N
BHAGALPUR
MUNGER
JAMUI
JHARKHAND
Shambhuganj
Amarpur
Rajaun
Dhuraiya
Phulidumar
Belhar
Banka
Barahat
Chanan
Bausi
Katoria
Geology
Belhar formation = Fatwa formation
Chhotanagpur Gneissic Complex
Diara formation
Dolerite
Eastern Ghat Supergroup
Intrusive Porphyritic Granite
Metamorphics of Chhotanagpur Mica belt
Pegmatite
River
Sautadih formation = Jamui formation
Unclassified Metamorphics
Vein Quartz
LEGEND
Railway
River
Major Road
8 4 0 8 16 24
Kilometers


RESOURCE MAP
BANKA DISTRICT
N
86°40'0"E
87°0'0"E
25°0'0"N
24°40'0"N
BHAGALPUR
MUNGER
JAMUI
JHARKHAND
Shambhuganj
Amarpur
Rajaun
Dhuraiya
Phulidumar
Belhar
Banka
Barahat
Chanan
Katoria
Bausi
8 4 0 8 16 24
Kilometers
Legend
Charnockite
Khondalite
Granaite & Gneiss
Augen Gneiss
Biotite Gneiss
Migmatite
Quartzite
Chlorite-mica schist
Quartz-mica schist
Mica Schist
Silimanite Schist
Amphibolite & Hornblende
Dolerite
Intrusive Porphyritic Granaite
Pegmatite
Vein Quartz
Hard Oxidised Clay
Unoxidised Silt & Clay
Gray sand & silt
Brecciated Quartzite
Sillimanite Schist
Amphibolite & Hornblende Schist
Calc Granulite
Phyllite
Metadolerite
LEGEND
Railway
River
Major Road

**********

# 12. ADDITIONAL INFORMATION

## 12.1 Drainage system with description of main rivers

### Table 7

| Drainage system with description of main river | | | |
|---|---|---|---|
| **Sl.no** | **Name of the River** | **Area drained(sq. km)** | **% Area Drained in the District** |
| 1 | **Chandan/Chanan** | 640 | 3.28 |
| 2 | **Badua** | 296 | 2.19 |

Source : https://insa.nic.in/writereaddata/UpLoadedFiles/PINSA/Vol49B_1983_6_Art06.pdf

## 12.2 Salient features of Important Rivers and Streams

### Table 8

| Salient Features of Important River and Streams | | | | |
|---|---|---|---|---|
| **Sr. no** | **Name of the River Stream** | **Total Length in the District (in km)** | **Place of Origin** | **Altitude at Origin** |
| 1 | ***Chandan** | 60 | Northern part of Deoghar Hills | 275 |
| 2 | **Chir** | 30 | Hills of Dumka | 165 |
| 3 | **Badua** | 50 | Chakai | 265 |
| 4 | **Odhni** | 30 | Katoria | 190 |
| 5 | **Kurar** | 24 | Bhorabadar | 163 |
| 6 | **Darbashan** | 19 | Salaiya | 217 |
| 7 | **Sukhaniya** | 18 | Pareya | 162 |

Source - * Report of the 2nd Bihar Irrigation Commission, 1994 (Volume-V)

## 12.3 Mineral Potential and Annual Deposition

### Table 9

| Name of the River | Portion of the River Strem Recommended for Mineral Concession | Length of area recommended for mineral concession (in km) | Length of area recommended for mineral concession (in meter) | Average width of area recommended for mineral concesion (in meters) | Depth in meter (as per statue) | Area recommended for mineral concesion (in square meters) | Volume recommended for mineral concesion (in cum) | Mineable Mineral Potential (in metric tonne) 60% of total mineral potential |
|---|---|---|---|---|---|---|---|---|
| **Chandan** | Only commercial viable zones are recommended for mineral concession to get economic feasibility | 35.79 | 35790 | 316 | 3 | 11309640 | 33928920 | 36643233 |
| **Chir** | | 14.74 | 14742 | 178 | 3 | 2624076 | 7872228 | 8502006 |
| **Badua** | | 36.53 | 36530 | 157 | 3 | 5735210 | 17205630 | 18582080 |
| **Odhni** | | 7.37 | 7368 | 104 | 3 | 766272 | 2298816 | 2482721 |
| **Kurar** | | 4.50 | 4499 | 107 | 3 | 481393 | 1444179 | 1559713 |
| **Darbashan** | | 10.40 | 10396 | 40 | 3 | 415840 | 1247520 | 1347322 |
| **Sukhaniya** | | 9.52 | 9522 | 77 | 3 | 733194 | 2199582 | 2375549 |

Note:- Specific gravity of sand = 1.80 ton/$m^3$(Source : - Report, Noida Testing Laboratories)

## Annexure - II

### Table 10. List of Potential Mining Leases (existing & proposed)

| River Details | Lease Details | Area (in 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 Tonnes /Annum considering digging depth max as 3 meters | Mineral to be mined (Sand/ Bajri/ RBM etc.) | Existing / Proposed |
|---|---|---|---|---|---|---|---|---|
| CHANAN | Banka Chanan 01 | 75.5 | | | NA | 3669300 | Sand | Proposed |
| CHANAN | Banka Chanan 02 | 83 | | | NA | 403380 | Sand | Proposed |
| CHANAN | Banka Chanan 03 | 82.2 | | | NA | 3994920 | Sand | Proposed |
| CHANAN | Banka Chanan 04 | 40.7 | | | NA | 1978020 | Sand | Proposed |
| CHANAN | Banka Chanan 05 | 89 | | | NA | 4325400 | Sand | Proposed |
| CHANAN | Banka Chanan 06 | 91 | | | NA | 4422600 | Sand | Proposed |
| CHANAN | Banka Chanan 07 | 95.10 | | | NA | 4621860 | Sand | Proposed |
| CHANAN | Banka Chanan 08 | 92 | | | NA | 4471200 | Sand | Proposed |
| CHANAN | Banka Chanan 09 | 95 | | | NA | 4617000 | Sand | Proposed |
| CHANAN | Banka Chanan 10 | 97 | | | NA | 4714200 | Sand | Proposed |
| BADUA | Badua - 01 | 282.1 | | | NA | 13710060 | Sand | Proposed |
| BADUA | Badua - 02 | 176.86 | | | NA | 8595396 | Sand | Proposed |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| DARBASHAN | Darbashan River (Block 1 to 5) | 42.17 | | | NA | 2049462 | Sand | Proposed |
| ODHNI | Odhni River (Block 1 to 4) | 76.40 | | | NA | 3713040 | Sand | Proposed |
| KURAR | Kurar River (Block 1 to 03) | 41.36 | | | NA | 2010096 | Sand | Proposed |
| CHIR | Chir River ( Block 1 to 7) | 257.40 | | | NA | 12509640 | Sand | Proposed |
| SUKHANIA | Sukhania River Block 1 to 05 | 71.30 | | | NA | 3465180 | Sand | Proposed |

## Annexure-III

### Table 11 Cluster & Contiguous Cluster details

| River Name | Cluster No. | Lease No | Location (Riverbed / Patta Land) | Village | Area (in Ha) | Total Excavation (Ton) | Total Mineral Excavation (Ton) |
|---|---|---|---|---|---|---|---|
| NA | NA | NA | NA | NA | NA | NA | NA |

### Contiguous Clusters:

| River Name | Contiguous Cluster No. | Cluster No | Number of leases in the cluster | Location (Riverbed / Patta Land) | Distance between clusters | Village | Area of Cluster ( Ha) | Total Mineral Excavation (Ton) |
|---|---|---|---|---|---|---|---|---|
| NA | NA | NA | NA | NA | NA | NA | NA | NA |

## Annexure-IV

**Table 12 : Transportation Routes for individual leases and leases in Cluster**

| Lease No. | Transportation Route No. | Number of tipper s /day of lease | Number of tippers /day of all the 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 & Locati on |
|---|---|---|---|---|---|---|---|---|
| Banka Chanan 01 | SH 25 | 296 | 2628 | 3.75 | Black Topped | Unpaved | Lease Owner | Location with GPS coordinate is mentioned in potential sand ghat list And route map is attached in the annexure |
| Banka Chanan 02 | SH 25 | 307 | 2628 | 1.0 | Black Topped | Unpaved | Lease Owner | |
| Banka Chanan 03 | SH 25 | 304 | 2628 | 2.50 | Black Topped | Unpaved | Lease Owner | |
| Banka Chanan 04 | NH 333A | 150 | 2767 | 1.25 | Black Topped | Unpaved | Lease Owner | |
| Banka Chanan 05 | SH 19 | 329 | 3640 | 12.0 | Black Topped | Unpaved | Lease Owner | |
| Banka Chanan 06 | NH 333A | 337 | 2767 | 6.0 | Black Topped | Unpaved | Lease Owner | |
| Banka Chanan 07 | SH 19 | 352 | 3640 | 7.0 | Black Topped | Unpaved | Lease Owner | |
| Banka Chanan 08 | SH 25 | 340 | 2628 | 5.0 | Black Topped | Unpaved | Lease Owner | |
| Banka Chanan 09 | SH 25 | 351 | 2628 | 6 | Black Topped | Unpaved | Lease Owner | |
| Banka Chanan 10 | SH 22 | 359 | 2898 | 2.0 | Black Topped | Unpaved | Lease Owner | |
| Badua - 01 | SH 22 | 2539 | 2898 | 2.50 | Black Topped | Unpaved | Lease Owner | |
| Badua - 02 | NH 333A | 1592 | 2767 | 1.50 | Black Topped | Unpaved | Lease Owner | |
| Darbashan River (Block 1 to 5) | SH 25 | 380 | 2628 | 1.0 | Black Topped | Unpaved | Lease Owner | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Odhni River (Block 1 to 4) | NH 333A | 688 | 2767 | 1.0 | Black Topped | Unpaved | Lease Owner | |
| Kurar River (Block 1 to 03) | SH 25 | 373 | 2628 | 6.0 | Black Topped | Unpaved | Lease Owner | |
| Chir River ( Block 1 to 7) | SH 19 | 2317 | 3640 | 1.0 | Black Topped | Unpaved | Lease Owner | |
| Sukhania River Block 1 to 05 | SH 19 | 642 | 3640 | 1.0 | Black Topped | Unpaved | Lease Owner | |

| Cluster No | Transportation Route No | Number of tippers /day of cluster | Number of tippers /day of all the clusters 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 |
|---|---|---|---|---|---|---|---|---|
| NA | NA | NA | NA | NA | NA | NA | NA | NA |

## Annexure-V

## Table 13: Final List of Potential Mining Leases (existing & proposed)

| River Details | Lease Details | Area (in 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 (MT/Yr) (Mine depth max as 3 m) | Mineral to be mined (Sand/Bajri/RBM etc.) | Existing /Proposed |
|---|---|---|---|---|---|---|---|---|
| NA | NA | NA | NA | NA | NA | NA | NA | NA |

## Annexure-VI

# Table 14 Final List of Cluster & Contiguous Cluster

**Clusters :-**

| River Name | Cluster No. | Lease No | Location (Riverbed / Patta Land) | Village | Area (in Ha) | Total Excavation (Ton) | Total Mineral Excavation (Ton) |
|---|---|---|---|---|---|---|---|
| NA | NA | NA | NA | NA | NA | NA | NA |

| River Name | Contiguous Cluster No | Cluster No | Number of leases in the cluster | Location (Riverbed /Patta Land) | Distance between clusters | Village | Area of Cluster (in Ha) | Total Mineral Excavation (Ton) |
|---|---|---|---|---|---|---|---|---|
| NA | NA | NA | NA | NA | NA | NA | NA | NA |

## Annexure-VII

# Table 15 Final Transportation Routes for individual leases and leases in Cluster

| Lease No. | Transportation Route No. | Number of tippers /day of lease | Number of tippers /day of all the 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 |
|---|---|---|---|---|---|---|---|---|
| Banka Chanan 01 | SH 25 | 296 | 2628 | 3.75 | Black Topped | Unpaved | Lease Owner | Location with GPS coordinate is mentioned in potential sand ghat list And route map is attached in the annexure |
| Banka Chanan 02 | SH 25 | 307 | 2628 | 1.0 | Black Topped | Unpaved | Lease Owner | |
| Banka Chanan 03 | SH 25 | 304 | 2628 | 2.50 | Black Topped | Unpaved | Lease Owner | |
| Banka Chanan 04 | NH 333A | 150 | 2767 | 1.25 | Black Topped | Unpaved | Lease Owner | |
| Banka Chanan 05 | SH 19 | 329 | 3640 | 12.0 | Black Topped | Unpaved | Lease Owner | |
| Banka Chanan 06 | NH 333A | 337 | 2767 | 6.0 | Black Topped | Unpaved | Lease Owner | |
| Banka Chanan 07 | SH 19 | 352 | 3640 | 7.0 | Black Topped | Unpaved | Lease Owner | |
| Banka Chanan 08 | SH 25 | 340 | 2628 | 5.0 | Black Topped | Unpaved | Lease Owner | |
| Banka | SH 25 | 351 | 2628 | 6 | Black | Unpaved | Lease | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Chanan 09 | | | | | Topped | | Owner | |
| Banka Chanan 10 | SH 22 | 359 | 2898 | 2.0 | Black Topped | Unpaved | Lease Owner | |
| Badua - 01 | SH 22 | 2539 | 2898 | 2.50 | Black Topped | Unpaved | Lease Owner | |
| Badua - 02 | NH 333A | 1592 | 2767 | 1.50 | Black Topped | Unpaved | Lease Owner | |
| Darbashan River (Block 1 to 5) | SH 25 | 380 | 2628 | 1.0 | Black Topped | Unpaved | Lease Owner | |
| Odhni River (Block 1 to 4) | NH 333A | 688 | 2767 | 1.0 | Black Topped | Unpaved | Lease Owner | |
| Kurar River (Block 1 to 03) | SH 25 | 373 | 2628 | 6.0 | Black Topped | Unpaved | Lease Owner | |
| Chir River ( Block 1 to 7) | SH 19 | 2317 | 3640 | 1.0 | Black Topped | Unpaved | Lease Owner | |
| Sukhania River Block 1 to 05 | SH 19 | 642 | 3640 | 1.0 | Black Topped | Unpaved | Lease Owner | |

| Cluste r No | Transp ortatio n Route No | Number of tippers /day of cluster | Number of tippers /day of all the clusters on route | Lengt h of Route in KM | Type of Road (Black Topped/ unpaved ) | Recomm endation for road (Bla ck Topped/ unpaved ) | The road will be Construc ted by Govt/Le ase Owner | Route Map & Locati on |
|---|---|---|---|---|---|---|---|---|
| NA | NA | NA | NA | NA | NA | NA | NA | NA |

**********

## 13. METHODOLOGY ADOPTED FOR CALCULATION OF MINERAL POTENTIAL :

The mineral potential is calculated based on field investigation and geology of the catchment area of the river or streams. As per the site conditions and location, depth of minable mineral is difined. The area for removal of the mineral in river or stream can be decided depending on geo-morphology and other factors, it can be 50% to 60% of the area of a particular river or stream.

The specific gravity of sand is 1.8 ton/$m^3$. 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 about three meters.

**********

# 14. DISASTER RISK MANAGEMENT

## The Basis :

The fundamentals of existence lie in the struggle one has fought, the instruments one has used and the lessons one has learnt to survive. In this respect, Bihar's struggle for existence is far more grim than most of the states. It has undergone mitosis for as many as four times and has suffered through disasters of the worst kind many a time.

## *The Vision :*

Right from the days following the battle of Buxar in 1764 after which Bihar was passed on to East India Company as a part of the Bengal Presidency, to 1912 when Bihar and Orissa were separated as one State, to 1936 when both Bihar and Orissa were made independent States, to 1956 when some key areas of Bihar was included in West Bengal, to 2000 when Bihar was divided to form the state of Jharkhand, the State has went on losing its natural resource base and got pushed to confine within an area prone to all sort of hazard: earthquake, flood, cyclonic storm/Gale /Hail Storm, drought, fire, extreme cold and heat waves etc.

For such a state of hazards which Bihar is, the VISION of Disaster Management is :

"To attain a position where people are ready to help themselves, local bodies to extend mutual help, the administration to organize public help and the government to facilitate the helping of helpers."

## *The Objectives:*

In order to achieve the Mission, the objectives of the plan have been set as :

i. Treating community as the primary stakeholder and first respondent in the Disaster Management Plan, focusing on disaster risk reduction, prevention, mitigation and preparednessmeasures.

ii. Emphasizing preparedness at the community level and readiness at the local bodies level.

iii. Facilitating therole play by the administration and government departments andotherstakeholdersthroughinstitutionalmechanism.

iv. Creation of specialized institutions to makedisaster management aninclusive exerciseandtowedittodevelopmentinitiatives.

v. To create a dependable early warning system towarn the people andactivate otherstakeholders.

vi. Ensuring quick response and providing relief with care and attention tothose belonging

to themarginalized section.

vii. To undertake rehabilitation with "Build Back Better" motif.

## *The Approach :*

The process adopted for the formulation of the Plan has been

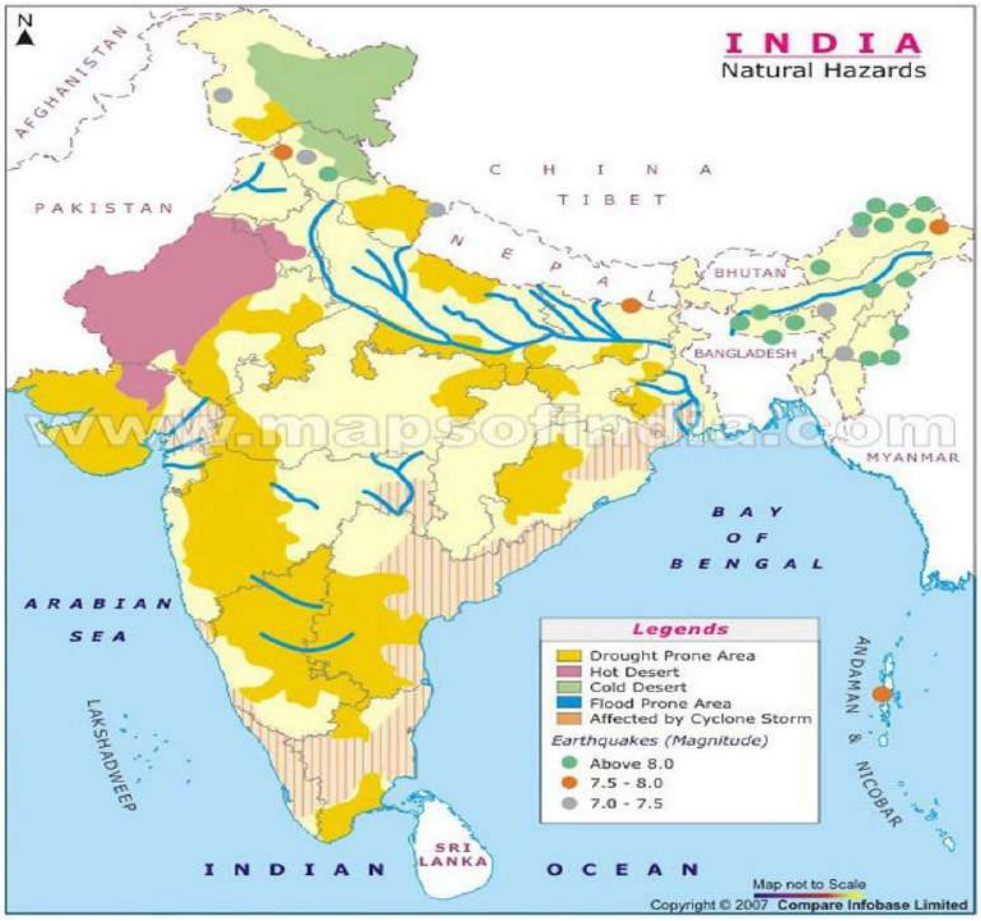
i. **Holistic:** Covering all the hazards the state is vulnerableto.

ii. **Integrative:** Covering prevention, mitigation, preparedness & responsemeasures.

iii. **Participative:** Including the affected people, the Panchayati Raj Institutions, the district administration, the government departments & expert institutions.

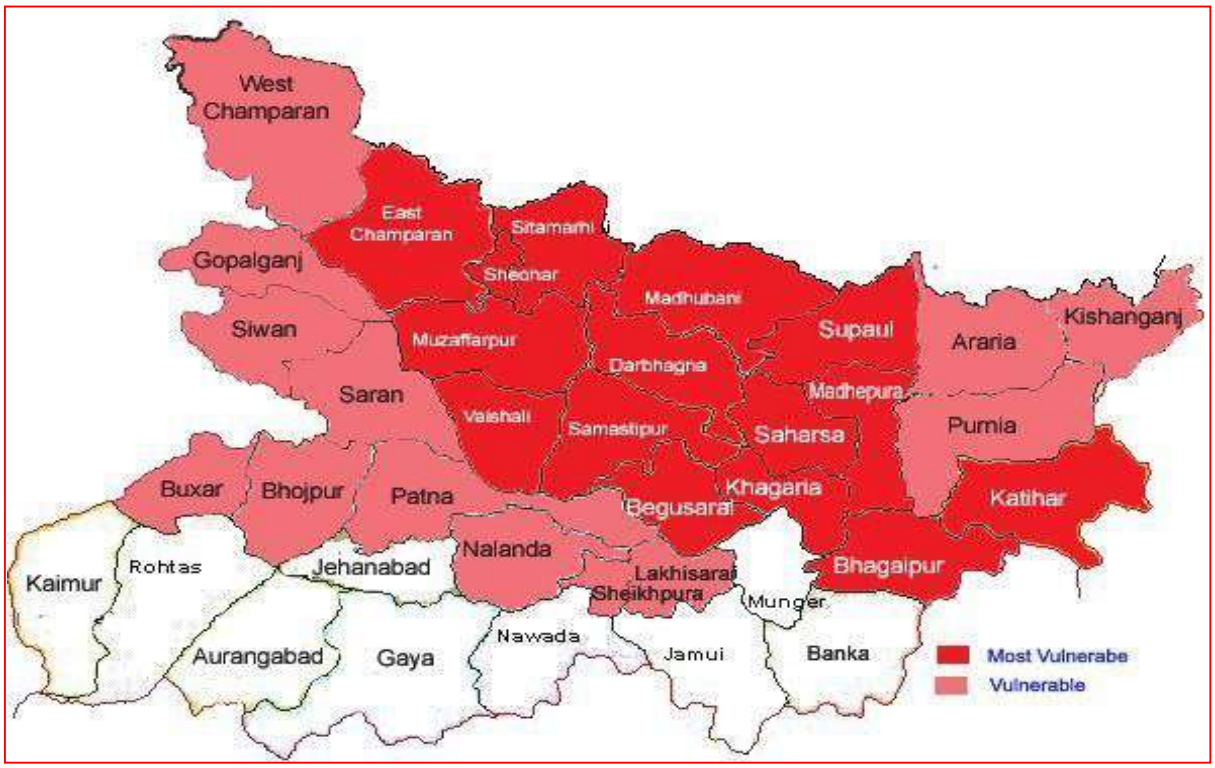
iv. **Associative**: Creating space for the support and help from the corporate bodies, civil societies, NGOs, CBO sand other sand solicit their participation in disaster management.

Mitigation of air pollution through particulate matters transported by the wind as a result of excavations, stockpiles, waste dumps, haul roads, mobile sources (cars, trucks, heavy equipment) etc. Also, control over noise pollution and vibration caused by several equipments used in several phases of mining include loading and unloading ofminerals to dumpers, chutes, power generation, and the sources.



| EQ Zone V- 10.9% | Wind Velocity m/s 55 & 50 - 5% | Flood Prone Area in % - 7.9% |
|---|---|---|
| IV- 17.3% | 47- 40.2% | |
| III- 30.4% | 44&39- 48% | |
| II- 41.4% | 33- 6.7% | |

## ***FLOOD PRONE AREA IN BIHAR:***

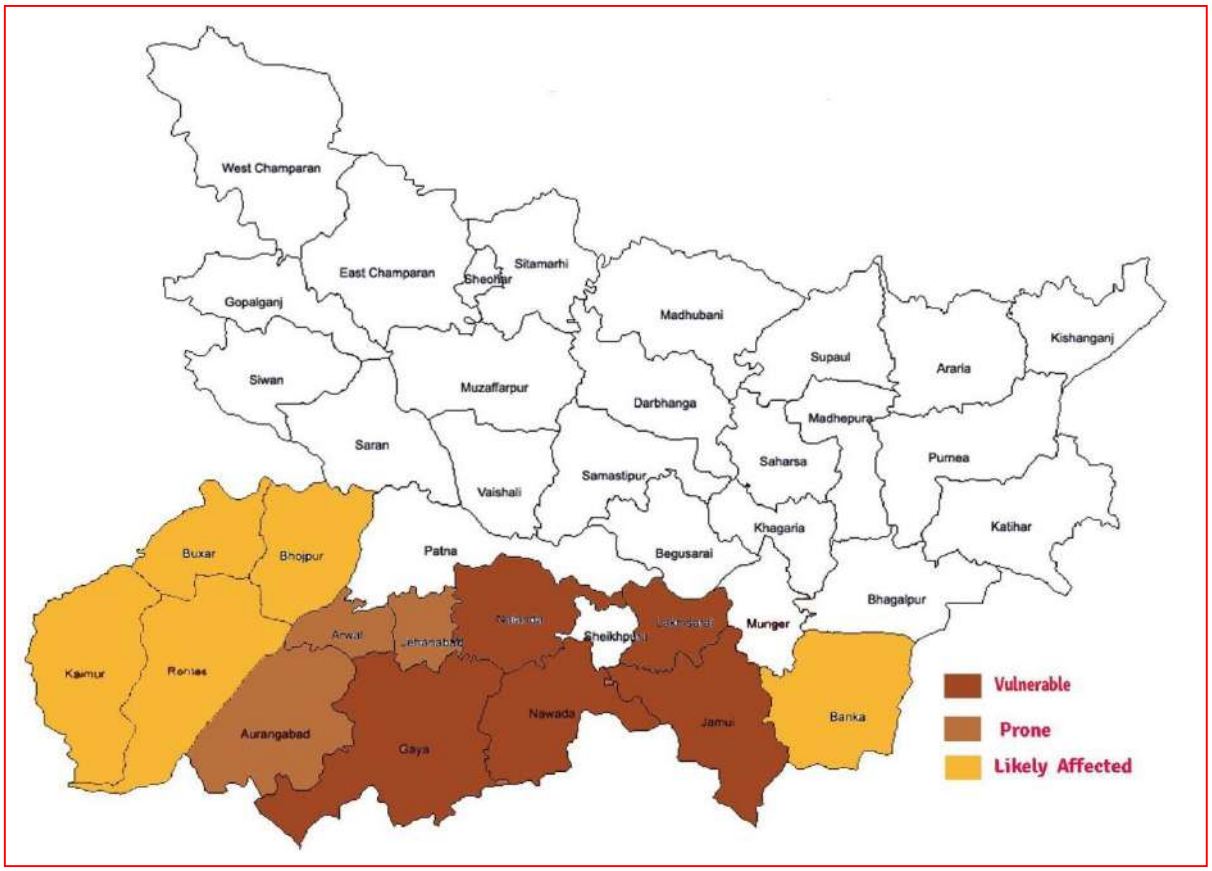



***Source:*** Developed on Inputs from DMD, GoB

**2. Flood—** Most Vulnerable : East Champaran, Sheohar, Sitamarhi,Katihar, Madhubani, Vaishali, Muzaffarpur, Darbhanga, Samastipur, Madhepra, Supaul, Saharsa, Khagaria, Begusarai, Bhagalpur.

Vulnerable : West Champaran, Gopalganj, Siwan, Saran, Buxar, Bhojpur, Patna, Nalanda, Lakhisarai, Sheikhpura, Purnia, Araria, Kishanganj.

## DROUGHT PRONE AREAS




***Source:*** Developed on Inputs from DMD, GoB

**3. Drought** — Vulnerable District : Gaya,NawadaJamui,Nalanda,Lakhisarai

Prone District : Jehanabad,Arwal,Aurangabad

Likely District : Kaimur,Bhojpur,Buxar,Rohtas,Banka

## References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- Mines & Geology Department, Patna, GoB
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# PHOTOGRAPHS OF SITE VISIT AND PHYSICAL SURVEY OF OF POTENTIAL SAND GHAT BY UAV/DRONE TECHNOLOGY

\\TRUE COPY//

**File No.SIA/1(a)/2390/2023**

Goverment of India

ANNEXURE A-12

State Level Environment Impact Assessment Authority

Bihar

***

To,

M/s SANDEEP CHANDAK
C/O Manoj Kumar Singh, Jathaur, Bihanpur, Bishunpur, Banka, Bihar,
Banka-813207
Bihar

**Tel.No.-; Email:sandeepchandak2022@gmail.com**

**Sub. Terms of Reference to the Sand Mining Project of Area 67.0 Ha at Cheer Unit-II ( Sand Block 3,4 & 5) on Cheer River of District-Banka of State-Bihar, C/O Manoj Kumar Singh, Jathaur, Bihanpur, Bishunpur, Banka, Bihar**

Dear Sir/Madam,

This has reference to the proposal submitted in the Ministry of Environment, Forest and Climate Change to prescribe the Terms of Reference (TOR) for undertaking detailed EIA study for the purpose of obtaining Environmental Clearance in accordance with the provisions of the EIA Notification, 2006. For this purpose, the proponent had submitted online information in the prescribed format (Form-1 ) along with a Pre-feasibility Report. The details of the proposal are given below:

| | |
|---|---|
| **1. Proposal No.**: | SIA/BR/MIN/422445/2023 |
| **2. Name of the Proposal**: | Sand Mining Project of Area 67.0 Ha at Cheer Unit-II ( Sand Block 3,4 & 5) on Cheer River of District-Banka of State-Bihar |
| **3. Category of the Proposal**: | Non-Coal Mining |
| **4. Project/Activity applied for**: | 1(a) Mining of minerals |
| **5. Date of submission for TOR**: | 08 May 2023 |

Date : 11-05-2023

Mr. Sudhir Kumar
( Member Secretary )

Office : **2nd Floor, Beltron B**
Phone No : Mobile : **9929605150**
Email id : **seiaa.ms.br@gmail.com**

**Note :** This is auto tor granted letter.

In this regard, under the provisions of the EIA Notification 2006 as amended, the Standard TOR for the purpose of preparing environment impact assessment report and environment management plan for obtaining prior environment clearance is prescribed with public consultation as follows:

# STANDARD TERMS OF REFERENCE (TOR) FOR EIA/EMP REPORT FOR PROJECTS/ACTIVITIES REQUIRING ENVIRONMENT CLEARANCE

Terms of Reference (TOR) for preparation of Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) for "Mining of Minerals" as per the EIA Notification, 2006 has been devised to improve the quality of the reports and facilitate decision-making transparent and easy. TOR will help the project proponents to prepare report with relevant project specific data and easily interpretable information. TOR for mining of minerals is expected to cover all environmental related features.

Mining of minerals plays a positive role in the process of country's economic development. In addition to the contribution towards economic growth, mining can also be a major source of degradation of physical as well as social environment, unless it is properly managed. Environmental impacts can arise during all activities of the mining process. Minimizing the damage due to mining operations depends on sound environmental practices in a framework of balanced environmental legislation. The potential adverse effects of mining activities include air pollution, surface and groundwater pollution, noise and vibration, damage to local ecology, natural topography and drainage, depletion of water resources etc. All these environmental components are required to be considered while selecting a proper methodology of mining, mitigation measures to reduce pollution load, conservation of natural resources etc.

The projects of mining of minerals as stated in the schedule require prior environment clearance under the EIA notification, 2006. Category 'A' Projects are handled in the MoEF&CC and Category 'B' projects are being handled by the respective State Environment Impact Assessment Authorities (SEIAAs) notified by MoEF&CC and following the procedure prescribed under the EIA Notification, 2006. As per this Notification, as amended, the projects of mining of minor minerals with mining lease area equal to or greater than 50 hectare are to be handled at the level of the MoEF&CC for grant of EC. Such projects with mining lease area less than 50 hectare are to be handled by the respective State Environment Impact Assessment Authority (SEIAA).

## 1(a):STANDARD TERMS OF REFERENCE FOR CONDUCTING ENVIRONMENT IMPACT ASSESSMENT STUDY FOR NON-COAL MINING PROJECTS AND INFORMATION TO BE INCLUDED IN EIA/EMP REPORT

1) Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to 1994.

2) A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given.

3) All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee.

4) All corner coordinates of the mine lease area, superimposed on a High Resolution Imagery/ toposheet, topographic sheet, geomorphology and geology of the areashould be provided. Such an Imagery of

the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).

5) Information should be provided in Survey of India Toposheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and mining history of the area, important water bodies, streams and rivers and soil characteristics.

6) Details about the land proposed for mining activities should be givenwith information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from State land use board or the concerned authority.

7) It should be clearly stated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/ violation of the environmental or forest norms/ conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large,may also be detailed in the EIA Report.

8) Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided.

9) The study rea will comprise of 10 km zone around the mine lease from lease periphery and the data contained in the EIA such as waste generation etc. should be for the life of the mine / lease period.

10) Land use of the study rea delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.

11) Details of the land for any Over Burden Dumps outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be given.

12) A Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees.

13) Status of forestry clearance for the broken up area and virgin forestland involved in the Project including deposition of net present value (NPV) and compensatory afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished.

14) Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated.

15) The vegetation in the RF / PF areas in the study area, with necessary details, should be given.

16) A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly, detailed mitigative measures required, should be worked out with cost implications and submitted.

17) Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar site Tiger/ Elephant Reserves/(existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlifeand copy furnished.

18) A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled-I fauna found in the study area, the necessary plan alongwith budgetary provisions for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost.

19) Proximity to Areas declared as 'Critically Polluted' or the Project areas likely to come under the 'Aravali Range', (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Dept. Should be secured and furnished to the effect that the proposed mining activities could be considered.

20) Similarly, for coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL. HTL, CRZ area, location of the mine lease w.r.t CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority).

21) R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the mine lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects should be discussed in the Report.

22) One season (non-monsoon) [i.e. March-May (Summer Season); October-December (post monsoon season) ; December-February (winter season)]primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site-specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the mine lease in the pre-dominant downwind direction. The mineralogical composition of PM10, particularly for free silica, should be given.

23) Air quality modeling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of vehicles for transportation of mineral. The details of the model used and input parameters used for modeling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map.

24) The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.

25) Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.

26) Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.

27) Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.

28) Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.

29) Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out.

30) Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and bgl. A schematic diagram may also be provided for the same.

31) A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered

under plantation and the species to be planted. The details of plantation already done should be given.The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution.

32) Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines.

33) Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.

34) Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report.

35) Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.

36) Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.

37) Measures of socio economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.

38) Detailed environmental management plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project.

39) Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.

40) Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.

41) The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.

42) A Disaster management Plan shall be prepared and included in the EIA/EMP Report.

43) Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.

44) Besides the above, the below mentioned general points are also to be followed:-

a) All documents to be properly referenced with index and continuous page numbering.

b) Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated.

c) Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF&CC/NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the Project.

d) Where the documents provided are in a language other than English, an English translation should be provided.

e) The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted.

f) While preparing the EIA report, the instructions for the Proponents and instructions for the Consultants issued by MoEF vide O.M. No. J-11013/41/2006-IA.II(I) dated 4th August, 2009, which are available on the website of this Ministry, should be followed.

g) Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF&CC with reasons for such changes and permission should be sought, as the TOR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation.

h) As per the circular no. J-11011/618/2010-IA.II(I) dated 30.5.2012, certified report of the status of compliance of the conditions stipulated in the environment clearance for the existing operations of the project, should be obtained from the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable.

i) The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections and (iii) sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area.

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Nadir

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ANNEXURE A-13

# FINAL EIA REPORT OF PROPOSED SAND MINING PROJECT ON CHEER UNIT-2 SAND GHAT ON CHEER RIVER OF BANKA DISTRICT AT

## MAUZA-MOHANI CHANDIDIA & DANKI,

## BLOCK- BARAHAT , DISTRICT. - BANKA, BIHAR

## (MINING AREA- 67.0 HA), CAPACITY: 804000 CUM/ANNUM

By

**APPLICANT**

**Sri Sandeep Chandak**

**Shiva associates**

**Address-38, 22-23, Sukhadiya Nagar,**

**Sriganganagar Rajasthan-335001**

## ENVIRONMENT CONSULTANT

OCEAO-ENVIRO Management Solutions (India) Pvt. Ltd.

***QCI – NABET Certificate No: NABET/EIA/22-25/SA 0212***

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**ABBREVIATIONS**

| | |
|---|---|
| **AAQ** | Ambient Air Quality |
| **bgl** | Below Ground Level |
| **BOD** | Biochemical Oxygen Demand |
| **COD** | Chemical Oxygen Demand |
| **CPCB** | Central Pollution Control Board |
| **SPCB** | State Pollution Control Board |
| **CSR** | Corporate Social Responsibility |
| **dB** | Decibel |
| **DO** | Dissolved Oxygen |
| **SEAC** | State Expert Appraisal Committee |
| **EIA** | Environmental Impact Assessment |
| **EMC** | Environmental Management Cell |
| **EMP** | Environment Management Plan |
| **EPA** | The Environment Protection Act |
| **EMGSM** | Enforcement & Monitoring Guidelines for Sand Mining |
| **GLC** | Ground Level Concentration |
| **Ha** | Hectare |
| **Ham** | Hectare Meter |
| **HFL** | High Flood Level |
| **KLD** | Kilo litre Per Day |
| **Km** | Kilo Meter |
| **Leq** | Equivalent Noise Level |
| **LFL** | Low Flood Level |
| **LOS** | Level of Service |
| **MoEF** | Ministry of Environment and Forest & Climate Change |
| **NABET** | National Accreditation Board for Education and Training |
| **NGO** | Non Governmental Organisation |
| **NH** | National Highway |
| **NOC** | No Objection Certificate |
| **OSHA** | Occupational Safety and Health Administration |
| **PCU** | Passenger Car Unit |
| **PM** | Particulate Matter |
| **PUC** | Pollution Under Control |
| **QCI** | Quality Council of India |
| **R & R** | Rehabilitation & Resettlement |
| **RBM** | River Bed Material |
| **RL** | Reduced Level |
| **SEAC** | State Expert Appraisal Committee |
| **SH** | State Highway |
| **SPCB** | State Pollution Control Board |
| **T/cum** | Tons Per Cubic Meter |
| **TKN** | Total Kjeldahl Nitrogen |
| **TOR** | Term of Reference |
| **TPA** | Tonnes Per Annum |
| **UNFC** | United Nations Framework Classification |
| **VWG** | Village Working Group |

# EXECUTIVE SUMMARY

## INTRODUCTION

As per MoEF&CC, New Delhi Gazette dated 14th September 2006 and amended thereof, the proposed mining project is categorized as **Category 'B1'** project.

The proposed sand mining project of Cheer river of Cheer Unit no-2 are as:- Sand Block 03 (Area- 24.0 Ha) at Thana no- 373, 375& 376 Khata no- 243,42,43,376 , Khasra no- 1.223.224,586 & 105 at Mauza-Mohani Chandidia & Danki, Sand Block-4 (Area- 21.0 Ha) at Thana- 376, Khata no-77 Khasra no- 01 & 105 at Mauza- Danki, & Sand Block-5 (Area- 24.0 Ha) at Khata no-376 at Mauza- Danki, Block- Barahat , District. - Banka, Bihar (Total Area- 67.0 Ha).

The estimated project cost for the proposed project is Rs. **1833.1** Lakhs.

## PROJECT DESCRIPTION

## LOCATION

The proposed mining lease area falls in Survey of India Toposheet 72P/1. The lease area is located on Cheer river of Banka District Bihar.

. The mine lease co-ordinates are listed below:

**Cheer Unit-II ( Sand Block 3,4 & 5) ), Banka (**Area: 67.0 Ha)

**Coordinates: -Sand block-3 (Area-24.0 Ha):-**

| Points | Latitude | Longitude |
|---|---|---|
| A | 24°'50'31.29"N | 87°4'17.64"E |
| B | 24°50'30.58"N | 87°4'23.12"E |
| C | 24°49'18.63"N | 87°4'11.23"E |
| D | 24°49'19.00"N | 87°4'8.33"E |

**Coordinates: -Sand block-4 (Area-21.0 Ha):-**

| Points | Latitude | Longitude |
|---|---|---|
| A | 24°49'12.88"N | 87°3'49.69"E |
| B | 24°49'12.28"N | 87°3'52.72"E |
| C | 24°48'26.74"N | 87°3'34.33"E |
| D | 24°48'27.75"N | 87°3'28.27"E |

**Coordinates: -Sand block-5 (Area-22.0 Ha):-**

| Points | Latitude | Longitude |
|---|---|---|
| A | 24°48'2.88"N | 87°3'26.23"E |
| B | 24°48'2.32"N | 87°3'30.93"E |
| C | 24°47'21.99"N | 87°4'4.82"E |
| D | 24°47'16.73"N | 87°3'54.59"E |

**Area & production:** The total lease area of the sand block is **67.0 Ha** Proposed rate of production will be **804000 cum. per annum or 1447200 MTPA**

The details of the sand block including area, location, production and their proponent details are as:

| S.No | Block Name | Address | Area (Ha) | Production |
|---|---|---|---|---|
| 1 | Block-3 | Sand Block 03) at Thana no- 373, 375& 376 Khata no- 243,42,43,376 , Khasra no- 1.223.224,586 & 105 at Mauza-Mohani Chandidia & Danki, Block- Barahat , District. - Banka, Bihar | 24.0 | 288000 cum. per annum or 518400 MTPA |
| 2 | Block-4 | Block-4 at Thana- 376, Khata no-77 Khasra no- 01 & 105 at Mauza- Danki, Block- Barahat , District. - Banka, Bihar | 21.0 | 252000 cum. per annum or 453600 MTPA |

| | | | | |
|---|---|---|---|---|
| 3 | Block-5 | Sand Block-5 at Khata no-376 at Mauza-Danki, Block- Barahat , District. - Banka, Bihar | 22.0 | 264000 cum. per annum or 475200 MTPA |
| **Total** | | | **67.0** | **804000 cum. per annum or 1447200 MTPA. Bulk density:- 1.8** |

**Connectivity:**

| | |
|---|---|
| **Nearest Highway** | NH-133E- Approx. 4.4 km towards West<br>NH-333A- Approx. 600 m towards North |
| **Nearest Railway Station** | Mandar hill Railway Station, approx. 3.5 Km towards West. |
| **Nearest Airport** | Deoghar Airport, approx. 56 Km towards SW. |

**MINING**

The mining process is opencast semi-mechanized method without drilling & blasting. Light weight excavators will be used for loading of mineral in tippers. No drilling/ blasting are required as the material is loose in nature.

The sand shall be exploited up to depth of 2.0 m. The sand shall be exploited with the deployment of an excavator & filled into tippers & transported to various buyers.

**RESERVE AND PRODUCTION**

Safety zone will be left all around the lease area. Working depth will be 2 meter from the surface. Volume is multiplied by specific gravity (1.8) to get tonnes.

The annual production of sand from the proposed sand block is 804000 cum. per annum or 1447200 MTPA

It is a river bed deposit and mined out area shall be replenished each year during monsoon period and depth of quarry shall be filled back by river sand each year and area will restore its original topography.

## SITE FACILITIES AND UTILITIES

### Water Supply

Water requirement for the proposed project will be provided for the workers for drinking & domestic purpose. Water will also be provided for dust suppression. The water will be supplied from available sources from private tankers. Total **16.6 KLD** of water will be used for this mine.

### Temporary Rest Shelter

A temporary rest shelter will be provided for the workers near to the site for rest. In addition, First aid box will be made available at the site. Sanitation facility i.e. septic tank or community toilet facility will be provided for the workers.

## BASELINE ENVIRONMENTAL STATUS

Environmental data has been collected in relation to proposed mining for Air, Noise, Water, Soil, Flora& Fauna. The baseline environment study was carried out over an area with radial distance of 10 km around the mining lease area during winter season from October 2023 to December 2023.

**Table 1:- Baseline Environmental Status**

| Attribute | Baseline status |
|---|---|
| **Ambient Air Quality** | The ambient air quality study for the 11 AAQ monitoring stations shows that the maximum and minimum ground level concentration for PM10 is respectively 86.7 µg/m3at AAQ9 and 62.6 µg/m3at AAQ5. Whereas the maximum and minimum ground level concentration for PM2.5 ranges between 57.3 µg/m3 at AAQ10 and 31.9 µg/m3 at AAQ1 respectively. Similarly for SO2, the maximum and minimum ground level concentration varies between 12.9 µg/m3 and 6.6 µg/m3 for respectively AAQ10 and AAQ1 respectively. For NO2 the maximum and minimum ground level concentration varies between 25.3 µg/m3 at AAQ8 & 14.6 µg/m3 at AAQ9 respectively. |
| **Noise Levels** | Noise monitoring study reveals that the minimum & maximum noise levels at day time were recorded as 42.7 dB (A) at NQ3 & 55.7 dB (A) at NQ10. The minimum & maximum noise levels at night time were found to be 30.6 dB (A) at NQ6 & 42.4 dB (A) at NQ7. |
| **Water Quality** | 6 Groundwater samples were analyzed and concluded that: |

| | |
|---|---|
| | The ground water from all sources remains suitable for drinking purposes as all the constituents are within the limits prescribed by drinking water standards by Indian Standards IS: 10500. Overall the surface water quality collected is meeting the Class D of DBU Criteria of CPCB for its suitability for wild life and fisheries. |
| **Soil Quality** | The analysis results show that soil is basic in nature as pH value ranges from 7.4 to 8.1 with organic matter 0.41 % to 0.53 %. The concentration of Nitrogen, Phosphorus and Potassium has been found to be in good amount in the soil samples. Soil texture is silty clay loam. |
| **Environmental Sensitivity** | Mandar giri parvat PF- Approx. 3.8 km in west<br>Protected forest near Mahuawa- Approx. 4.0 km in North |

## ANTICIPATED ENVIRONMENTALIMPACTS

### Impact on Air Environment

The collection and lifting of minerals will be done semi-mechanically. Therefore, the dust generated is likely to be insignificant as there will be no drilling & blasting. The only air pollution sources are the road transport network of the trucks.

Water sprinkling will be done on the haul roads twice in a day. This will reduce dust emission further by 74%. Monitoring to ensure compliance with emission limits would be carried out during operation

### Impact on Water Environment

Mining of sand from within or near river has an indirect impact on the physico-chemical habitat characteristics during monsoon season. These characteristics include in stream roughness elements, depth, velocity, turbidity, sediment transport and stream discharge.

The detrimental effects, if any, to biota resulting from bed material mining are caused by following:

- Alteration of flow patterns resulting from modification of the *river*
- An excess of suspended sediment during monsoon season.

Project activity will be carried out only in the dry part of the Cheer River. Hence, none of the project activities affect the water environment directly. In the project, it is not proposed to divert or truncate any stream in monsoon season only. No proposal is envisaged for pumping of water either from the *River* (in monsoon) or tapping the ground water.

**Impact on Land Environment**

The proposed extraction of stream bed materials, mining below the existing streambed, and alteration of channel-bed form and shape may lead to several impacts such as erosion of channel bed and banks, increase in channel slope, and change in channel morphology if, the operations are not carried out systematically.

The systematic and scientific removal of sand will not cause bed degradation. The silt and clay generated as waste will be used for plantation or filling up low lying area else where.The mining is planned in non monsoon seasons only, so that the excavated area gets replenished gradually during the monsoons each year.

**Impact on Noise Environment**

The proposed mining activity is semi-mechanized in nature. No drilling & blasting is envisaged for the mining activity. Hence, the only impact is anticipated is due to movement of vehicles deployed for transportation of minerals. The vehicles will be maintained in good running condition so that noise will be reduced to minimum possible level.

**Impact on Biological Environment**

As the proposed mining will be carried out in a scientific manner, not much significant impact is anticipated. No mining will be carried out during the monsoon season to minimize impact on aquatic life which is mainly breeding season for many of the species. The mining site has no vegetation, no clearance of vegetation will be done. Haul roads will be sprinkled with water which would reduce the dust emission, thus avoiding damage to the crops.

**Impact on Socio Economic Environment**

The impact of mining activity in the area is positive on the socio-economic environment of the region. Sand mining will be providing employment to local people whenever there is requirement of manpower.

## POST PROJECT ENVIRONMENTAL MONITORING

| S.No. | Description of Parameters | Schedule of Monitoring |
|---|---|---|
| **1** | Air Quality | 24 hourly samples twice a week in each season except monsoon |
| **2** | Water Quality (Surface &Groundwater) | Once a season for 4 seasons in a year |
| **3** | Soil Quality | Once in a year in project area |
| **4** | Noise Level | Twice a year for first two years & then once a year |
| **5** | Socio-economic Condition | Once in 3 years |
| **6** | Plantation Monitoring | Once in a season |

## ADDITIONAL STUDIES

### Public Hearing

As per MOEF7CC notification S.O. 1533 (E) dated 14.09.2006 as amended on dated 01.12.2009 and departmental circular dated 12.12.2018 of Environment Impact Assessment Notification of MoEF&CC & ToR issued by SEIAA Bihar, public Hearing/consultation was held on dated 19.06.2024 at afternoon 11.00 AM under the chairmanship of • **Smt. Pratibha Kumari ( Additional collector cum Public Grievance Redressal Officer)** at Prakhand sabhagar, Barahat, District- Banka. In Public Hearing local persons participate & raise their issues & concern in the environmental impacts of the project. Proper video recording was done for this meeting.

### Risk Assessment

The complete mining operation will be carried out under the management control and direction of a qualified mine manager holding. The DGMS have been regularly issuing standing orders, model standing orders and circulars to be followed by the mine management in case of disaster, if any. Moreover, mining staff will be sent to refresher courses from time to time to keep them alert

### Disaster Management Plan

Emergency preparedness is an important aspect in the planning of Disaster Management. Personnel would be trained suitably and prepared mentally and physically in emergency response through carefully planned, simulated procedures. Similarly, the key personnel and essential personnel shall be trained in the operations.

## PROJECT BENEFITS

**Physical Benefits:** Road Transport, Market, Enhancement of green cover & Creation of community assets.

**Social Benefits:** Increase in Employment Potential, Contribution to the Exchequer, Increased Health related activities, Educational attainments & Strengthening of existing community facilities

**Environmental Benefits:**

- Controlling *river* channel and protection of banks.
- Reducing submergence of adjoining agricultural lands due to flooding.
- Reducing aggradation of *river* level.
- A check on illegal mining activity.

## ENVIRONMENTAL MANAGEMENT PLAN (EMP)

- Extraction will be done from the bed leaving safety zone from bank.
- The maximum working depth will remain above ground water table of the area.
- Provide health facilities to the workers & surrounding people in the impact area to reduce the health impacts.
- Ensuring wildlife protection & arranging awareness campaigns for the same.
- Minimize activities that release fine sediment to the *river*.
- Effective mitigation measures will be adopted to minimize disturbance during transportation & handling of minerals
- Establishment of reclamation program with plantation of local/native & fast growing species
- Establishment of restoration plan during the closure of mine at the onset of monsoon season.

- Establishment of effective Disaster Management Plan to take timely precautionary measures to avoid effects of impending disasters.
- Establishment of effective Monitoring Program monitored by Environment Management Cell.

## CONCLUSION

Based on the EIA study it is observed that there will be an increase in the dust pollution, which will be controlled by sprinkling of water and plantation. There will be an insignificant impact on ambient environment and ecology due to the mining activities moreover the mining operation will lead to direct and indirect employment generation in the area. Green belt development around the area will also be taken up as an effective pollution mitigative technique, as well as to control the pollutants released from the premises of the Mine. Monitoring program will be followed till the mining operations continue. Hence, it can be summarized that the development of the mine will have a positive impact on the socio-economic environment of the area and lead to sustainable development of the region.

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## TERM OF REFERENCE (TOR)

The project proposal was submitted to State Level Environment Impact Assessment Authority-Bihar for TOR approval. Based on which standard Terms of Reference (TOR) issued by MOEFCC-GOI for mining of minor minerals, therefore as per the approved TOR, in the TOR have been considered and its compliance given below in Table No-1.1

**Table 1.1: Point Wise Compliance for ToR**

| S.No | TOR | Compliance | Reference Chapter/Section |
|---|---|---|---|
| **1** | Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to 1994' | Proposed sand mining project is a new mine. No production from the mine lease area has been carried out by the project proponent. Mining will start only after getting Environmental & other statutory clearances. | **--** |
| 2 | A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given" | Proponent is rightful lessee of the mine, The Letter of Intent of this mine site is attached as **Annexure No. II**. | Refer, **Annexure -II.** |
| 3 | All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, | Mining plan approval letter is being submitted with Final EIA as Annexure-III and Public hearing details are given in Chapter-7 under section 7.3 | Refer **Annexure-III** for Mine Plan approval letter & **Chapter 7,** |

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| | production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee. | | **section 7.3** for Public hearing details. |
| 4 | All corner coordinates of the mine lease area, superimposed on a High Resolution Imagery toposheet, topographic sheet, geomorphology and geology of the area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone). | Project boundary with site layout and geographical corner coordinates along the mine site is shown in pillar co-ordinate map. Pillar co-ordinate Map shown in chapter 2 of Figure 2.3.<br>An Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone) are given in chapter 3. | Refer chapter 2 of Figure 2.3 for pillar co-ordinate map.<br><br>Refer Chapter -3 for Landuse map. **Figure 3.3** |
| 5 | Information should be provided in Survey of India Toposheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and mining history of the area, important water bodies, streams and rivers and soil characteristics. | Information's have been provided superimposed on toposheet of survey of India in 1:50,000 scale showing all land forms of the area, important water bodies, streams and rivers etc in figure 1.1 of Chapter 1. | Refer Chapter-1, under **Figure-1.1** |
| 6 | Details about the land proposed for mining activities should be given with information as to whether mining conforms to the land use policy of the State; land | Land proposed for mining is riverbed area. The proposed sand ghat is a proposed sand mining project is on Cheer river of Cheer Unit no-01 | --- |

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| | diversion for mining should have approval from State land use board or the concerned authority. | consist of 3 sand ghats i.e. Cheer Unit no-2 are as:- Sand Block 03 (Area- 24.0 Ha) at Thana no- 373, 375& 376 Khata no- 243,42,43,376 , Khasra no- 1.223.224,586 & 105 at Mauza-Mohani Chandidia & Danki, Sand Block-4 (Area- 21.0 Ha) at Thana- 376, Khata no-77 Khasra no- 01 & 105 at Mauza- Danki, & Sand Block-5 (Area- 24.0 Ha) at Khata no-376 at Mauza- Danki, Block-Barahat , District. - Banka, Bihar (Total Area- 67.0 Ha). There is no need of land diversion in this case. | |
| 7 | It should be clearly stated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement / deviation / violation of the environmental or forest norms /conditions? The hierarchical system or administrative order of the Company to deal with the | Approved Environment policy has been made.<br><br>The same information is given in Chapter-6 of Final-EIA report. | Refer chapter-6 for information about Environmental Policy |

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| | environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the EIA Report. | | |
| 8 | The study area will comprise of l0 km zone around the mine lease from lease periphery and the data contained in the EIA. | The 10 km zone from periphery of the lease has been considered as the study area. The Buffer map of the study area is attached with report. | For Buffer Map. Refer **Figure 1.1 of Chapter-1** |
| 9 | Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided. | Mines safety for workers working at the site has been taken care of. Safety measures related to risks during mining activity, natural disasters, etc has been proposed. The details are incorporated in the EIA/EMP Report. This is an inside river bed mining. There will be no underground mining; hence subsidence study is not required.<br><br>**Slope Study**<br><br>As working will be done in the river bed to maximum depth of 2.0 m only, thus slope study is not required.<br><br>**Blasting Study**<br><br>This is a Sand (minor mineral) mining project, no blasting is | Refer Chapter 7, under section 7.4 |

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| | | proposed. | |
| 10 | Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given. | Land Use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, National park, migratory routes of fauna, water bodies, human settlements and other ecological features has been incorporated.<br>Refer Chapter 3. (Table no-3.1).<br>Land use plan of the mine lease area showing the preoperational, operational and post operational phases is incorporated in the EIA/EMP Report and in approved mine plan. | Refer Chapter 3. (Table no-3.1) for Landuse distribution of study area. |
| 11 | Details of the land for any Over Burden Dumps outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be given. | There is no generation of Overburden / waste material in case of river bed mining.<br>There is no human settlement in lease | --- |
| 12 | A Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding | The proposed area is a part of Cheer river bed as per revenue record. No forest land is involved. | --- |

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| | the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees. | | |
| 13 | Status of forestry clearance for the broken up area and virgin forestland involved in the Project including deposition of net present value (NPV) and compensatory afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished. | The proposed area is a part of Cheer river bed. No forest land is involved. | --- |
| 14 | Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated. | No forest land is involved under Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006. | --- |
| 15 | The vegetation in the RF / PF areas in the study area, with necessary details, should be given | Protected forest near Mahuawa- Approx. 4.0 km in North. Mandar giri parvat PF- Approx. 3.8 km in west. Vegetation details of the study | Refer **Chapter-3, section 3.7.** |

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| | | area are given in Chapter-3 | |
| 16 | A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly, detailed mitigative measures required, should be worked out with cost implications and submitted. | EB Study has been carried out by the Ecology and Biodiversity Expert (NABET/QCI Approved) in and around the lease area to study the wild life of the area.<br>The details Impacts & there mitigation measures are given in chapter 4 of EIA/EMP Report. | Refer Chapter-3 under section 3.7 for EB study and Chapter-4, section 4.5 impact and mitigation measures of EIA/EMP Report. |
| 17 | Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar site Tiger / Elephant Reserves / (existing as well as proposed), if any, within l0 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished. | No found in the study area exept protected forest. Topomap on Survey of India showing study area has been incorporated in EIA/EMP report. of **Chapter-1, Fig-1.1** | Refer Chapter-1, Fig-1.1 |
| 18 | A detailed biological study of the study area [core zone and | Detailed biological study of core zone and buffer zone | Refer Chapter-3, Section-3.7 |

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| | buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled-I fauna found in the study area, the necessary plan along with budgetary provisions for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost. | within 10 km radius of the periphery of the mine lease for flora fauna , endangered & endemic species has been incorporated in the EIA/EMP report. Refer **Chapter-3, Section-3.7**<br><br>No any schedule –I species has been recorded in the study area, therefore no any conservation plan is required. | |
| 19 | Proximity to Areas declared as 'Critically Polluted' or the Project areas likely to come under the 'Aravali Range', (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Department should be | Not applicable as the mine lease area is away from the any critically polluted areas and ‘Aravalli Range’, | --- |

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| | secured and furnished to the effect that the proposed mining activities could be considered. | | |
| 20 | Similarly, for coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL. HTL, CRZ area, location of the mine lease w.r.t CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority). | Not Applicable, since the project site does not comes under coastal area. | --- |
| 21 | R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation &Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments | This is a River Bed Mining Project.<br><br>There are no inhabited areas in the allotted mine area which lies on the Cheer River, therefore no R&R Plan is proposed. | --- |

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|---|---|---|---|
| | of the State Government. It may be clearly brought out whether the village(s) located in the mine lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects should be discussed in the Report. | | |
| 22 | One season (non-monsoon) primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the mine lease in the predominant downwind direction. The mineralogical composition of PM1e, | Baseline data for ambient air quality (PM10, SO2 & NO2), water quality, noise level, soil and flora & fauna has been collected during Post Monsoon Season (October 2023 to December 2023.).<br><br>Details regarding the same have been incorporated in Chapter III of EIA/EMP Report.<br><br>Site-specific micro-meteorological data has been recorded and enclosed with the this EIA/EMP Report.<br><br>Location of the monitoring stations was selected keeping in view the pre- dominant downwind direction and location of the sensitive receptors and also that they represent whole of the study area. One location has been | Refer Chapter-3 for all baseline data of Air, Water, Social & Biological study. |

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| | particularly for free silica, should be given. | selected in downwind direction at 500 m from the lease boundary.<br><br>Details of the same are given in Chapter III. | |
| 23 | Air quality modeling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of vehicles for transportation of mineral. Details of the model used and input parameters used for modeling should be provided for both mining and non-mining scenario. The air quality contours should be shown on a location map clearly indicating the location of the site, location of sensitive receptors, and the habitation, The wind roses showing predominant wind direction also be indicated on the map. | AERMOD version 9.5 Dispersion Model, based on steady state Gaussian Plume Dispersion, was used for the Prediction of Ground Level Concentrations (GLC) due to the Proposed Riverbed Mining Project. Impact of movement of vehicles for transportation of mineral has been considered. | Refer **Chapter-4** for Air modeling input. Under section 4.1.1 |
| 24 | The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated. | The water requirement for the project is 16.6 KLD for proposed sand ghat.<br><br>Water for drinking water will be sourced from the private tankers. | Refer chapter 2, table 2.5. |

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|---|---|---|---|
| | | A detailed water balance is being provided in the report. **Refer Chapter-2, Table-2.5** | |
| 25 | Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided. | Water for drinking water will be sourced from the private tankers. Water will be sourced for dust suppression and for green belt development will be done from private tankers. | --- |
| 26 | Description of water conservation measures proposed to be adopted in the Project should be given. | The project do not consume any process water except for drinking, dust suppression & plantation. Plantation is proposed, which will increase the water holding capacity & help in recharging of ground water.<br><br>No artificial rainwater harvesting is proposed for the present project in lease area. | --- |
| 27 | Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided" | Mining activity will be done on Dry Bed of River so there is no impact on surface water.<br>Details of impact of the project on the water quality both surface and groundwater & Necessary safeguard measures proposed to be adopted has been incorporated in Chapter 4 of Final EIA/EMP Report. | Refer, chapter 4 under section 4.1 |
| 28 | Based on actual monitored data, | The maximum working depth | --- |

| | | | |
|---|---|---|---|
| | it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished. | of mining will be 2.0 m bgl in river bed where the groundwater table exists at an average depth of 9-10 m bgl.<br>So mining depth will not intersect the ground water table. Systematic diagram of mining depth also incorporated in the EIA/EMP report. Water will be sourced from the hired tankers; hence permission from CGWA is not applicable. | |
| 29 | Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out. | This is a proposal for Riverbed mining project for collection of sand.<br>Adequate protection measures will be followed for protection of river bank and its course viz.<br>• Mining will proceed along the river in the direction from downstream to upstream in each block. No mining will be done across the river channel. | --- |

| | | | |
|---|---|---|---|
| | | • Adequate width as safety margin will be left on both sides of river banks during collection of sand to permit unhindered flow of water. | |
| 30 | Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and bgl. A schematic diagram may also be provided for the same. | Maximum Working Depth : 2.0 m bgl.<br><br>Ground water Table:- 9-10 m bgl in study area<br><br>Site elevation:81 m RL to 94 m RL | Refer Chapter-1, Table -1.4 |
| 31 | A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and Quantities coverage, plant species and time frame) and Submitted keeping in mind the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good | Plantation/afforestation will be done as per program i.e along the road sides and near civic amenities, as per mine plan. Post plantation, the area will be regularly monitored in every season for evaluation of success rate. List of plants selected for green belt development if incorporated in **Chapter-4. Section-4.5 under table-4.1** | Refer Chapter-4. Section-4.5 under table-4.1 |

| | | | |
|---|---|---|---|
| | utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution. | | |
| 32 | Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines. | There will be about 173 from Block-3 & 309 from Block 4& 5 carrying the minerals per day. The projection has been done based on the mineral transportation.<br><br>The details of traffic analysis are discussed in the report.<br><br>**Refer Chapter-4 under section 4.7.** | Refer Chapter-4 under section 4.7. |
| 33 | Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report | A temporary rest shelter will be provided for the workers near to the site with provisions of water, first aid facility, protective equipment's, etc. Details are given in the EIA/EMP Report.<br><br>**Refer Chapter-2, Section-** | Refer Chapter-2, Section- 2.16.4 |

| | | | |
|---|---|---|---|
| | | **2.16.4** | |
| 34 | Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report. | The land use of the lease area will remain same as the proposed activity for extraction of deposited Sand (minor mineral) from river bed which will get replenished during succeeding monsoon seasons. | --- |
| 35 | Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed. | Occupational health impact mainly is expected due air pollution due to fugitive dust emission because of movement of vehicles. However appropriate mitigation measures for air pollution control have been given in the report, discussed in **Chapter-10.**<br><br>Each labour will undergo pre-placement medical examination. Thereafter periodical heath check up will be arranged as stated in the report. | Refer Chapter-10, Table-10.2 for budgetary allocation. |
| 36 | Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary | Public health implication like respiratory disorder, noise induced problems are major issues which will be addressed properly. Study has been performed which includes to gain an understanding of the | --- |

| | | | |
|---|---|---|---|
| | allocations. | source, identification of exposure pathway and determination of likely receptor. The impact will not be concentrated and confined to particular zone. Periodic health camps will be undertaken regularly | |
| 37 | Measures of socio economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time to time for implementation. | CER amount will be used for social welfare for the nearby people. Proposed project will provide the employment opportunity to the local community hence project will have positive impact on the surrounding local community. | Refer. Chapter-8, **Section- 8.3** |
| 38 | Detailed environmental management plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project | The detailed environmental management plan to mitigate the environmental impacts has been mentioned in of the EIA/EMP Report. **Refer Chapter-10.** | Refer Chapter-10 |
| 39 | Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated | As per MOEF7CC notification S.O. 1533 (E) dated 14.09.2006 as amended on dated 01.12.2009 and departmental circular dated 12.12.2018 of Environment Impact Assessment | --- |

| | | | |
|---|---|---|---|
| | in the final EIA/EMP Report of the Project. | Notification of MoEF&CC & ToR issued by SEIAA Bihar, public Hearing/consultation was held on dated 19.06.2024 at afternoon 11.00 am under the chairmanship of • Smt. Pratibha Kumari ( Additional collector cum Public Grievance Redressal Officer) at Prakhand sabhagar, Dhorraiya, District-Banka. In Public Hearing local persons participate & raise their issues & concern in the environmental impacts of the project. Proper video recording was done for this meeting. | |
| 40 | Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given. | No litigation is pending against the project. | --- |
| 41 | The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out. | Total cost of project will be 1833.1 lakhs for proposed sand block.<br><br>EMP cost of proposed sand block is given in Chapter-9 | Refer, Chapter-2. Table-2.6 for project cost.<br><br>Refer Chapter-9 Table 9.3 for EMP cost. |
| 42 | A Disaster management Plan shall be prepared and included in the EIA/EMP Report". | A Disaster management Plan has been given in EIA report. **Refer Chapter-7, Section 7.4** | Refer Chapter-7, Section 7.4 |
| 43 | Benefits of the Project if the | Physical, social and ecological | Chapter-8, under |

| | | | |
|---|---|---|---|
| | Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc. | benefits of the proposed sand mining project has been prepared and incorporated in the of EIA/EMP report.<br><br>Benefits of the project is discussed in detail under **Chapter -8** | section 8.3 |
| 44 | **Besides the above, the below mentioned general points are also to be followed:-** | | |
| a | All documents to be properly referenced with index and continuous page numberings. | All documents have been properly referenced with index and continuous page numberings. | ---- |
| b | Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated. | Tables mentioned in final EIA/EMP Report contain the period in which the data were collected and the sources. | ---- |
| c | Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF&CC/NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the Project. | All analysis/testing reports of water, air, soil, noise etc. using the MoEF&CC/NABL accredited laboratory are given in chapter 3.<br><br>All the original analysis/testing reports should be available during appraisal of the Project. | ---- |
| d | Where the documents provided are in a language other than English, an English translation should be provided. | Complied. English translation has been provided therein. | --- |
| e | The Questionnaire for environmental appraisal of | Questionnaire of the proposed project attached as **Annexure-** | Refer Annexure- |

| | | | |
|---|---|---|---|
| | mining projects as devised earlier by the Ministry shall also be filled and submitted. | **VII.** | VII. |
| f | While preparing the EIA report, the instructions for the Proponents and instructions for the Consultants issued by MoEF vide O.M. No. J-11013/41/2006-IA.II (I) dated 4th August, 2009, which are available on the website of this Ministry, should be followed. | Instructions issued by MoEF vide O.M. No. J-11013/41/2006-IA.II (I) dated 4th August, 2009, have been followed. | ---- |
| g | Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF&CC with reasons for such changes and permission should be sought, as the TOR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation | Agreed & compiled | ---- |
| h | As per the circular no. J-11011/618/2010-IA. II (I) dated 30.5.2012, certified report of the status of compliance of the conditions stipulated in the | This is a proposed project and therefore, this is not applicable. | ---- |

| | | | |
|---|---|---|---|
| | environment clearance for the existing operations of the project, should be obtained from the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable. | | |
| i | The EIA report should also include (i)Surface plan of the area indicating contours of main topographic features, drainage and mining (ii) Geological maps and sections and (iii) Sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area. | Surface geological plan & their sections have been in Approved mine plan.<br><br>Mine pits will not be formed. Only collection of sand will be done. No waste will be generated. | ---- |
| **Specific conditions as mentioned in SEAC Minutes of Meeting dated 27.12.2022** | | | |
| 1 | Submit a report based on cumulative assessment of increase in air pollutants due to increase in traffic load in view of proposed mining activities on all the roads located within aerial distance of 10 km using suitable air model, | Cumulative assessment of increase in air pollutants due to increase in traffic load in view of proposed mining activities are given in Chapter-4. | Refer **Chapter - 4** for Air modeling input under section 4.1.1 |
| 2 | If the proposed mining lease has overlapping areas with previously allotted mining lease or already working or worked out mining lease, the same should be clearly shown (in | Letter regarding overlapped area certified by district mining officer is attached as **Annexure- V** | Refer **Annexure-5** |

| | | | |
|---|---|---|---|
| | map) and details about quantity of sand extracted from over lapped area should be furnished duly certified from the concerned district mining officer. | | |
| 3 | Satellite imagery of last three years for summer, rainy and winter seasons of each proposed mining lease shall be submitted | Satellite imagery of last three years for summer, rainy and winter seasons of each proposed mining lease is annexed as **Annexure –VI.** | Refer **Annexure- VI.** |
| 4 | Submit a map on appropriate scale to show extraction paths to be used outside the mining lease boundary to approach major public roads (Rural/District road or State/National Highway). Alternatives route shal be explored if extraction path is passing through dense population. human settlements. Also submit cumulative traffic management plan for cluster sand mining proposal | Map on appropriate scale to show extraction paths to be used outside the mining lease boundary to approach major public roads (Rural/District road or State/National Highway) is given in chapter 4. Refer Chapter 4, section 4.7. | Refer **Chapter 4, section 4.7.** |
| 5 | Submit a map of the area falling within 2.5 km radius from boundary of each mining lease showing all man-made public utility features such as bridge/public civil structures (including water intake points), culverts etc. and highways, and a table showing distance of the | Google map showing all features is given in Chapter 2 of 2.2 | Refer Chapter 2 of 2.2 |

| | | | |
|---|---|---|---|
| | above mentioned man-made features from the mining lease boundary to facilitate decision making pertaining to relevant rules/guidelines. | | |
| 6 | Submit a report of cumulative EIA/EMP study for the cluster sand mining blocks of the proposed mining site. | Proposed mining sand ghat is not falling in a cluster therefore, not applicable. | --- |

# CHAPTER-1
# INTRODUCTION

## 1.0 INTRODUCTION TO EIA:-

The term Environment Impact Assessment (EIA) refers to the anticipation of various impacts a project will have on the environment and the local community. It is a decision making tool, which guides decision makers in taking appropriate decisions prior to sanctioning clearance. It aims predicting environmental impacts at an early stage of project planning and design, find ways and means to reduce adverse impacts, shape projects to suit the local environment and present the predictions and options to decision makers. The Ministry of Environment, Forests & Climate Change, Govt. of India, made environmental clearance (EC) for certain development projects mandatory through its notification of 27$^{th}$ January, 1994 under the Environment Protection Act, 1986. Keeping in view of the experience gained in environmental clearance process over a period of one decade, the Ministry of Environment, Forests & Climate Change came out with Environment Impact Notification, SO 1533(E), and dt.14/09/2006. It has been made mandatory to obtain environmental clearance for different kinds of developmental projects such as expansion, modernization or renewal projects. The conditions are applicable as per the MoEF&CC guidelines and EIA notifications issued and amended time to time. In accordance with the schedule of EIA notification, September 14, 2006 and its subsequent amendments later, (especially after OM dated 12.12.2018 issued by MOEFCC) the project falls under category 'B1' of Schedule-1(a) for the purpose of seeking prior environmental clearance from MOEF, GOI, New Delhi as the mine lease area is more than 5.0 ha.

## 1.1 PURPOSE OF THE REPORT

The Environmental Impact Assessment Report has been prepared to assess the current environmental scenario of the area and then based on the activities of the proposed mining; prepare carry out Environment Management Plan (EMP). This plan will identify and address the impacts, where these are adverse in nature, and thereafter design mitigative measures to manage such impacts in a manner as to conserve environment and ecology of the area. The EMP has been prepared with a view to ultimately ensure that the adverse impacts are minimized if these cannot be prevented altogether.

## 1.2 GENERAL INFORMATION

The river along its course brings huge quantity of material consisting of sand during every monsoon. This material has to be removed every year in order to channelize the river course and to prevent it from widening. The proposed sand mining project is on Cheer river of Cheer Unit no-2 are as:- Sand Block 03 (Area- 24.0 Ha) at Thana no- 373, 375& 376 Khata no- 243,42,43,376 , Khasra no- 1.223.224,586 & 105 at Mauza-Mohani Chandidia & Danki, Sand Block-4 (Area- 21.0 Ha) at Thana- 376, Khata no-77 Khasra no- 01 & 105 at Mauza- Danki, & Sand Block-5 (Area- 24.0 Ha) at Khata no-376 at Mauza- Danki, Block- Barahat , District. - Banka, Bihar (**Total Area- 67.0 Ha).**

**Environment Consultant**: The lessee has hired an Environment Consultant *i.e* .OCEAO-ENVIRO Management Solutions (India) Pvt. Ltd. (QCI – NABET Certificate No: NABET/EIA/22-25/SA 0212) office at 218, 1st Floor, Sector 11, Vasundhara, Ghaziabad, U.P-201012 for preparation of Environment Impact Assessment Report for obtaining Environment Clearance from SEIAA/SEAC, Bihar.

**ToR Letter**: It is in this context, soft copy of Form-I and Pre-Feasibility Report has been submitted to SEIAA/SEAC on state portal requesting for issue of "Terms of Reference" (ToR)Details of sand ghat with their proposal numbers and their approved TOR letter no. are as:-

**TOR no:- SIA/1(a)/2390/2023**

**Proposal no- SIA/BR/MIN/489647/2024**

## 1.3 IDENTIFICATION OF PROJECT AND PROJECT PROPONENT

### 1.3.1 Project Proposal

Proposed sand mining project is on Cheer river of Cheer Unit-2 balu ghat have cumulative production of 804000 cum. per annum or 1447200 MTPA.

Details of each sand block with their name, Area, Address and their production are as:-

**Table 1.1:- Proposed sand block details of Block-10**

| S.No | Block Name | Address | Area (Ha) | Production |
| --- | --- | --- | --- | --- |
| 1 | Block-3 | Sand Block 03) at Thana no- 373, 375& 376 Khata no- 243,42,43,376 , Khasra no- 1.223.224,586 & 105 at Mauza-Mohani Chandidia & Danki, Block- Barahat , District. - Banka, Bihar | 24.0 | 288000 cum. per annum or 518400 MTPA |
| 2 | Block-4 | Block-4 at Thana- 376, Khata no-77 Khasra no- 01 & 105 at Mauza- Danki, Block- Barahat , District. - Banka, Bihar | 21.0 | 252000 cum. per annum or 453600 MTPA |
| 3 | Block-5 | Sand Block-5 at Khata no-376 at Mauza- Danki, Block- Barahat , District. - Banka, Bihar | 22.0 | 264000 cum. per annum or 475200 MTPA |
| **Total** | | | **67.0** | **804000 cum. per annum or 1447200 MTPA. Bulk density:- 1.8** |

**A. Screening Category**

As per EIA Notification dated 14th September, 2006, amended till date; the project under falls under S. No. '1' (Mining of Minerals), Project or Activity '1(a) - (3)', Category "B-1".

**B. Mining Lease Status:-**

This is a new proposal of mining lease for which Letter of Intent has been issued to Sri Sandeep Chandak through letter no- through letter no- 2101/M, dated 02.12.2022 for 5 Years by district mining department. LOI of the proposed sand ghat is **Annexure-II.**

**C. Status of approval of Mining Plan**

Mining Plan and Progressive Mine Closure Plan of the proposed mine lease area is prepared by Mr. Sanjay Manwani (A professional RQP). Mine plan of the proposed sand ghat have been approved by Mines and Geology department, Patna, Bihar. Mining Plan approval letter is attached as **Annexure- III.**

### 1.3.2 Introduction of Project Proponent

Letter of Intent has been issued to proponent for the proposed sand ghat**.** Detail of project proponent and there addresses are as:-

**Sandeep Chandak**

Shiva associates

Address-38,22-23 Sukhadiya Nagar,

Sriganganagar Rajasthan-335001

### 1.4 BRIEF DESCRIPTION OF NATURE, SIZE, LOCATION OF THE PROJECT

| S. No. | Particulars | Details |
|---|---|---|
| 1. | **Nature and Size of the Project** | Mining of Sand as Minor Minerals with Production Capacity of 804000 cum. per annum or 1447200 MTPA. (M.L. Area- 67.0 ha). |
| 3 | **Toposheet (OSM) No.** | 72P/1 |
| 4. | **Lease Area Details** | |
| | Lease Area | 67.0 Ha. |
| | Type of Land | River bed of Cheer |
| | Topography | Undulated (Riverbed) |
| | Site Elevation Range | 81.0 m RL to 94.0 m RL |
| 5. | **Production in TPA** | 804000 cum. per annum or 1447200 MTPA |
| 5. | **Cost Details** | |
| | Cost of the project | Rs. 1833.10 Lakhs (Including Auction Cost) |
| | Cost for EMP | Rs. 28.4 Lakhs |
| | Cost for CER | Rs. 36.6 Lakhs |
| 6. | **Environmental & Infrastructural settlings of the area** | |
| | Ecological Sensitive Areas (National Park, Wild Life Sanctuary, Biosphere Reserve, Reserve/ Protected Forest etc.) within 10 Km radius | Mandar giri parvat PF- Approx. 3.8 km in west<br>Protected forest near Mahuawa- Approx. 4.0 km in North |
| | District Headquarter | Banka, approx. 16 km towards NW. |
| | Nearest Town | Bounsi- 2.5 km towards West |
| | Nearest Railway Station | Mandar hill Railway Station, approx. 3.5 Km towards West. |
| | Nearest National/State Highway | NH-133E- Approx. 4.4 km towards West<br>NH-333A- Approx. 600 m towards North |

| | | |
| --- | --- | --- |
| | Nearest Airport | Deoghar Airport, approx. 56 Km towards SW. |
| **7** | Medical Facilities | Referal Hospital, Approx. 4.5 km towards West. |
| **8** | Education Facilities | Middle School, Bikha & Durgapur, Approx. 2.2 KM towards West . |
| **9** | Seismic Zone | Zone IV (High damage risk zone) |
| **10** | Water Body | Cheer River (Riverbed) |
| **11** | Ground water Table: | 9-10 m bgl in study area |

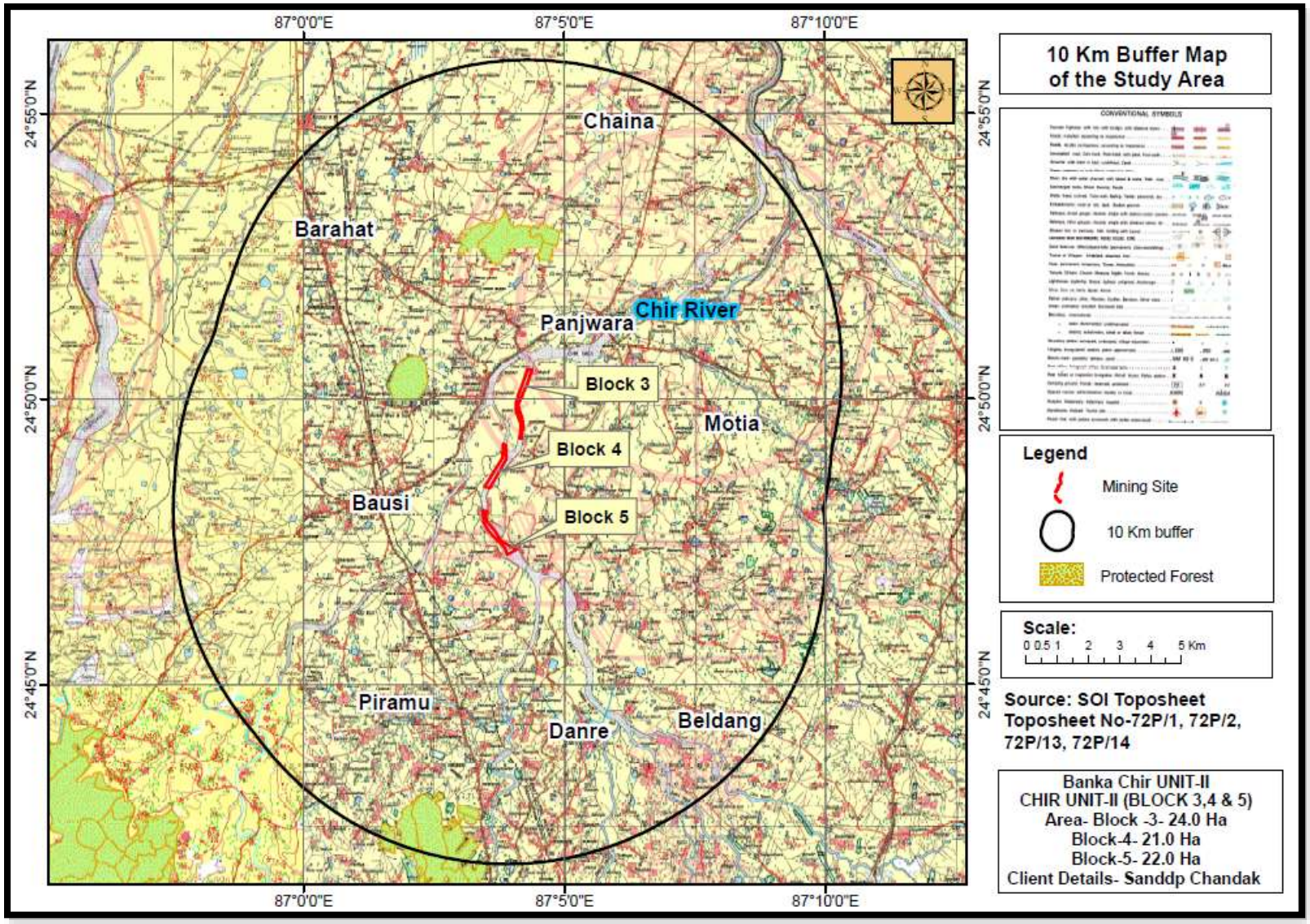



**Fig:1.1 :-10 km radius toposheet map**

## 1.5. SCOPE OF STUDY

The scope of the study includes a detailed characterization of the environment in an area of 10 Km radius of the Mine Lease Area for various environmental parameters like Ambient Air, Water, Noise, and Land, Biological and Socio-economic aspects. This report contains Analytical data of ambient air monitoring as well as the ecological studies, noise environment, biological environment study, socio-economic study carried out during Post-monsoon Season, (October - 2023 to December-2023). Application (Appendix-I / Form-I / TOR and Pre-Feasibility Report) for obtaining Environmental Clearance from SEIAA-Bihar for this project was has been already submitted. The compliance of all the points suggested as per approved ToR has been incorporated in this Final EIA/EMP Report at respective places.

## 1.6. PREPARATION OF EIA

The EIA includes the following details:

1) Study of the reports like Geological report, Pre-Feasibility Report (PFR) or mining plan made available by the client.
2) Present Environmental Setting
3) Identification, prediction and evaluation of Anticipated Environmental Impact due to the proposed mine and related facilities.

The environmental impacts would be anticipated in core and buffer zone on:

- Topography and drainage,
- Climate,
- Water quality (Surface/Ground),
- Hydro-geological Regime,
- Air quality,
- Noise Levels,
- Soil Quality,
- Flora and Fauna,
- Traffic density survey,
- Land-Use,
- Socio-Economic Conditions,
- Habitat,
- Health, culture, human environment including public health, occupational health and safety
- Sensitive Places/Historical Monuments.

## 1.7 LAWS APPLICABLE TO THIS PROJECT

The Acts, Notifications, Rules and Amendments applicable for setting up a new mining industry or its expansion of an existing mine and for operation of a mine include the following:

- Bihar Mines and Mineral Concession rules amended till date
- The Mines and Mineral (Development and Regulation) Act, 1957.(Amended till date)
- The Mines Act, 1952.
- Mines Rules, 1955.
- Mineral Concession Rules, 1960.
- Mineral Conservation and Development Rules, 1968 (Amended till date)
- The Water (Prevention & Control of Pollution) Acts1974/ Rules1975
- The Air (Prevention & Control of Pollution) Acts 1981/ Rules1982
- The Environment (Protection) Acts1986/Rules 1986
- The Factory Act 1948 (as amended till 1987) & Bihar Factory Rules, 1950
- Contract Labor (Regulation & Abolition) Act 1970 & Its Central Rule 1971
- The Central Motor Vehicle Rules 1989(Under Motor Vehicle Act 1988)
- The Workmen's Compensation Act 1923 as amended up to 2000/ Rule 1924, 1935, 1991 & 1996.
- Enforcement & Monitoring Guidelines for Sand Mining, 2020 issued by Ministry of Environment, Forest and Climate change.

# CHAPTER 2
# PROJECT DESCRIPTION

## 2.0 TYPE OF THE PROJECT

The project is proposed for the excavation of Sand from Cheer unit no-2 consist of 3 sand ghats i.e Block 1, 2 & 3 of Banka District located on dry part of river bed of Cheer River. It's the opencast mining project in which mining will be done through the semi-mechanized manner.

## 2.1 NEED FOR THE PROJECT

Sand is the main material required for construction activities. River Cheer & Chanan are the source of sand around the area since a long time. The sand present in Cheer river, which will be used for construction activities. The mining activities will increase better employment opportunities. Average income level which is the indicator of socio-economic status of house hold is expected to uplift the economic standard which will in turn improve quality of life. The Sand is deposited in the river bed during rainy season. To avoid risk of spreading the river and channelize the flow of river, the excavation of Sand from river bed is necessary or we can say unavoidable as assessed and estimated by State Govt. Therefore, the project will contribute towards development of infrastructure in the region.

## 2.2 LOCATION

The mine lease area is located on Cheer river (Cheer unit no-2 consist of 3 sand ghats) of Banka district. Address, Geographical co-ordinates, location map and their 2.5 km radius Google map is given below:-

**Table 2.1: Location details of the sand block**

| | |
|---|---|
| **Name of the project** | Cheer Unit no-2 sand chat on Cheer river of Banka district |
| **Address** | Cheer Unit no-2 are as:- Sand Block 03 (Area- 24.0 Ha) at Thana no- 373, 375& 376 Khata no- 243,42,43,376 , Khasra no- 1.223.224,586 & 105 at Mauza-Mohani Chandidia & Danki, Sand Block-4 (Area- 21.0 Ha) at Thana- 376, Khata no-77 Khasra no- 01 & 105 at Mauza- Danki, & Sand Block-5 (Area- 24.0 Ha) at Khata no-376 at Mauza- Danki, Block- Barahat , District. - Banka, Bihar (Total Area- 67.0 Ha). |

<table>
<tr><td>Geographical co-ordinates</td><td>Cheer Unit-2 ( Sand Block 3, 4 & 5) ), Banka<br><br>Total Area: 67.0 Ha,<br><br>Coordinates: -Sand block-3 (Area-24.0 Ha):-
<table>
<tr><th>Points</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>A</td><td>24°'50'31.29"N</td><td>87°4'17.64"E</td></tr>
<tr><td>B</td><td>24°50'30.58"N</td><td>87°4'23.12"E</td></tr>
<tr><td>C</td><td>24°49'18.63"N</td><td>87°4'11.23"E</td></tr>
<tr><td>D</td><td>24°49'19.00"N</td><td>87°4'8.33"E</td></tr>
</table>
Coordinates: -Sand block-4 (Area-21.0 Ha):-
<table>
<tr><th>Points</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>A</td><td>24°49'12.88"N</td><td>87°3'49.69"E</td></tr>
<tr><td>B</td><td>24°49'12.28"N</td><td>87°3'52.72"E</td></tr>
<tr><td>C</td><td>24°48'26.74"N</td><td>87°3'34.33"E</td></tr>
<tr><td>D</td><td>24°48'27.75"N</td><td>87°3'28.27"E</td></tr>
</table>
Coordinates: -Sand block-5 (Area-22.0 Ha):-
<table>
<tr><th>Points</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>A</td><td>24°48'2.88"N</td><td>87°3'26.23"E</td></tr>
<tr><td>B</td><td>24°48'2.32"N</td><td>87°3'30.93"E</td></tr>
<tr><td>C</td><td>24°47'21.99"N</td><td>87°4'4.82"E</td></tr>
<tr><td>D</td><td>24°47'16.73"N</td><td>87°3'54.59"E</td></tr>
</table></td></tr>
<tr><td>Toposheet Number</td><td>72P/1</td></tr>
<tr><td>Nearest Highway</td><td>NH-133E- Approx. 4.4 km towards West<br>NH-333A- Approx. 600 m towards North</td></tr>
<tr><td>Nearest Railway Station</td><td>Mandar hill Railway Station, approx. 3.5 Km towards West.</td></tr>
<tr><td>Nearest Airport</td><td>Deoghar Airport, approx. 56 Km towards SW.</td></tr>
</table>

The location map and pillar co-ordinate maps of the project site is given below:

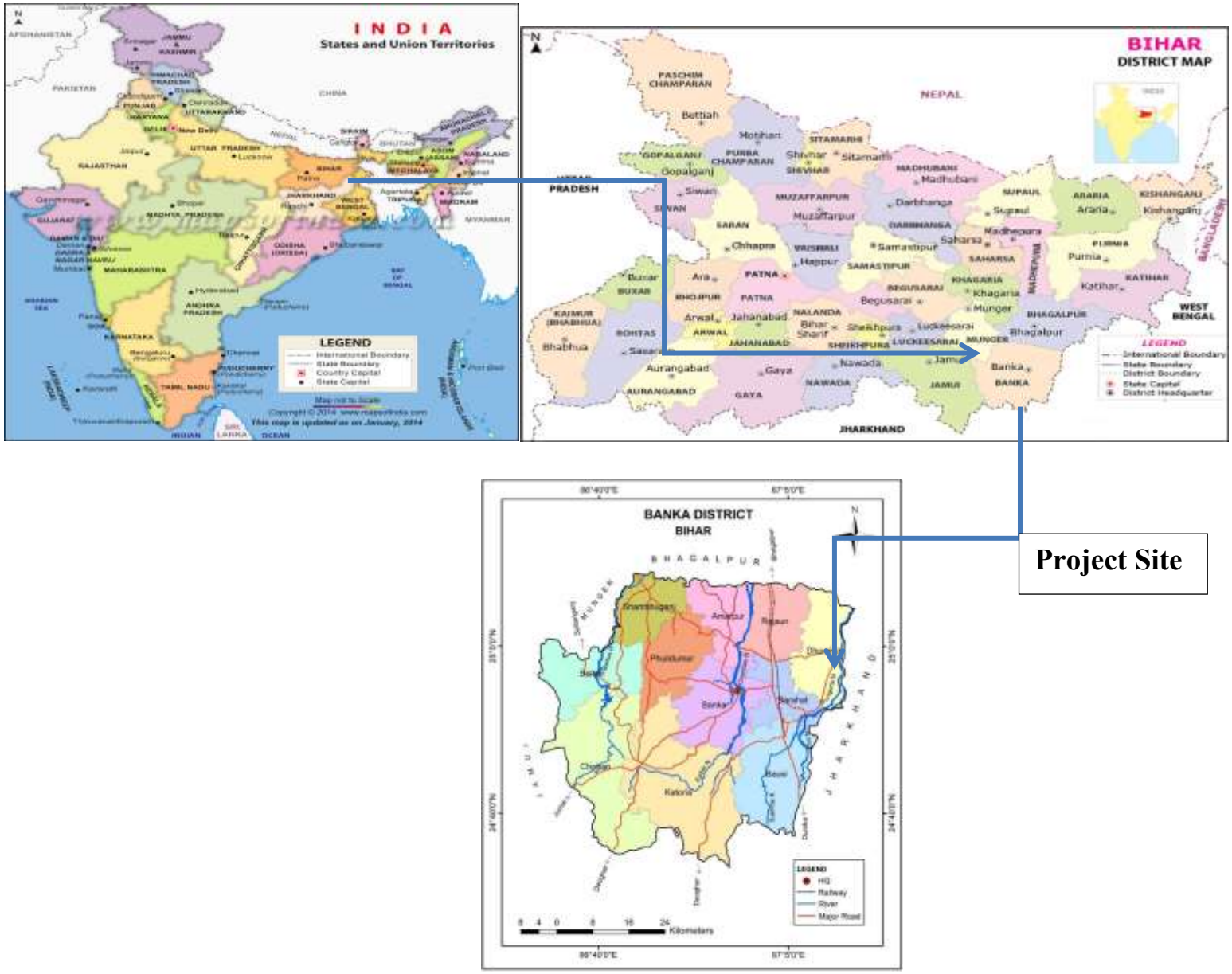



**Figure: 2.1 Location Map of the Project Site**

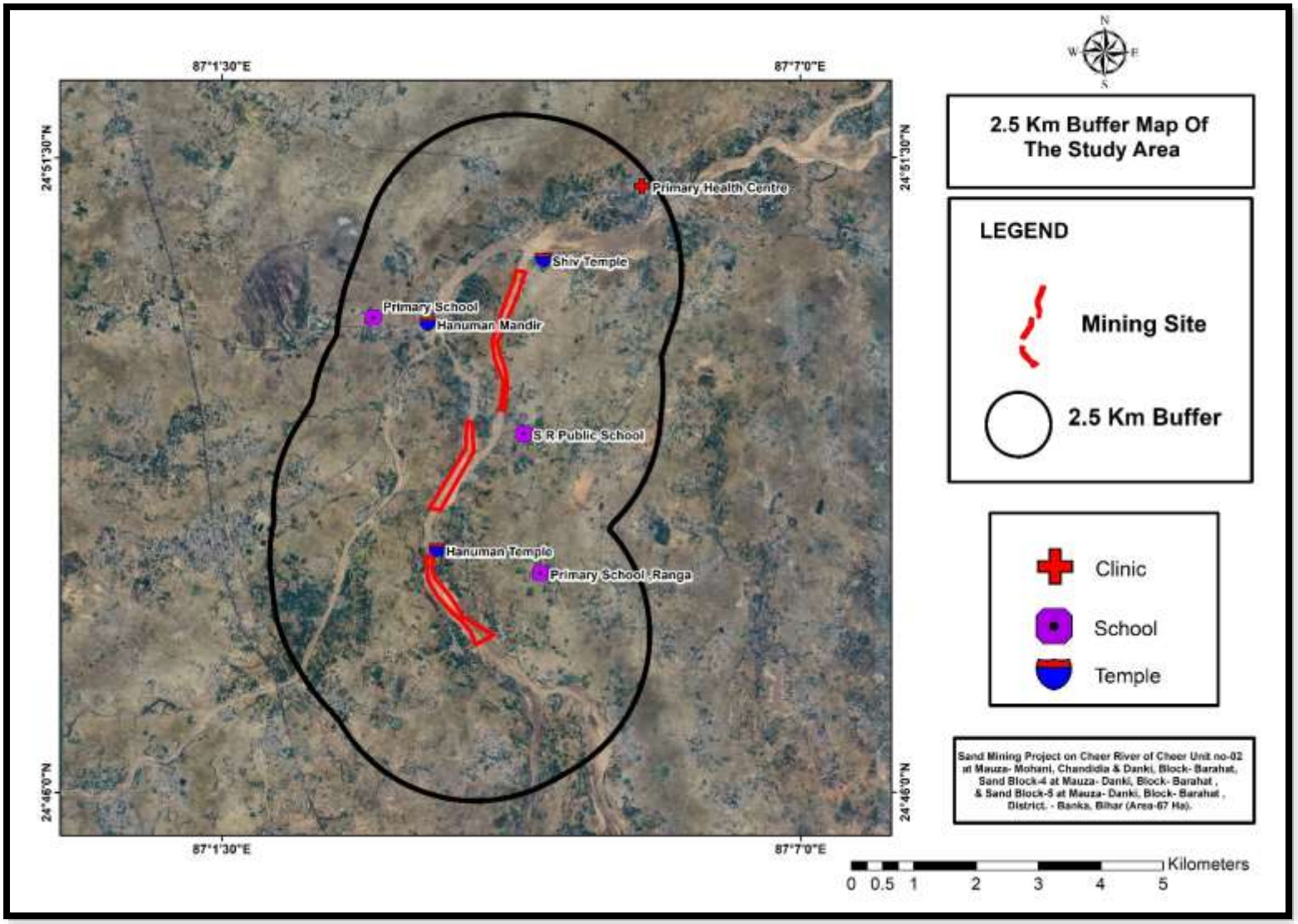



**Figure 2.2:- 2.5 Km Buffer Google Map**

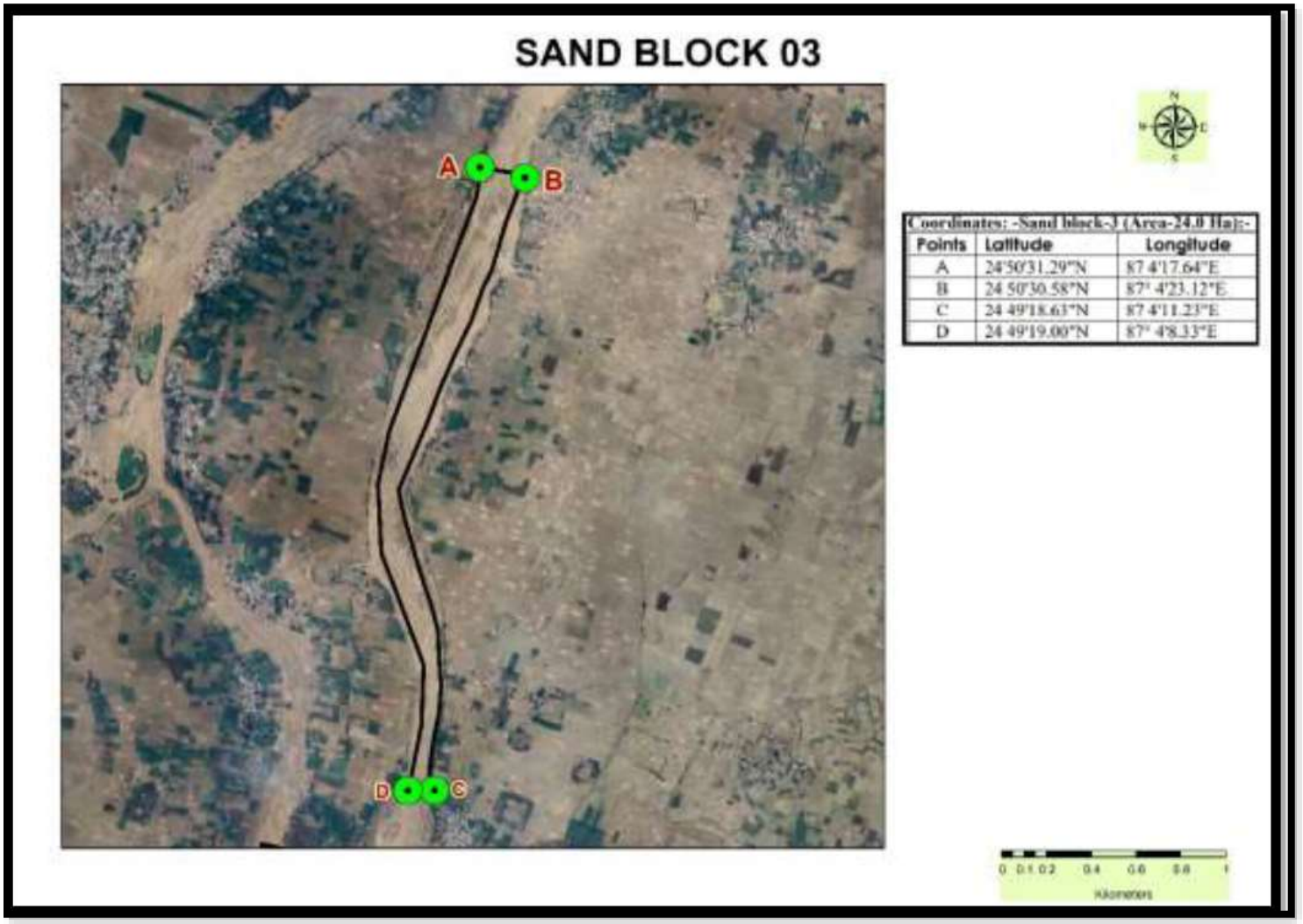



**Figure 2.3 (a):- Pillar coordinates map of the lease area**

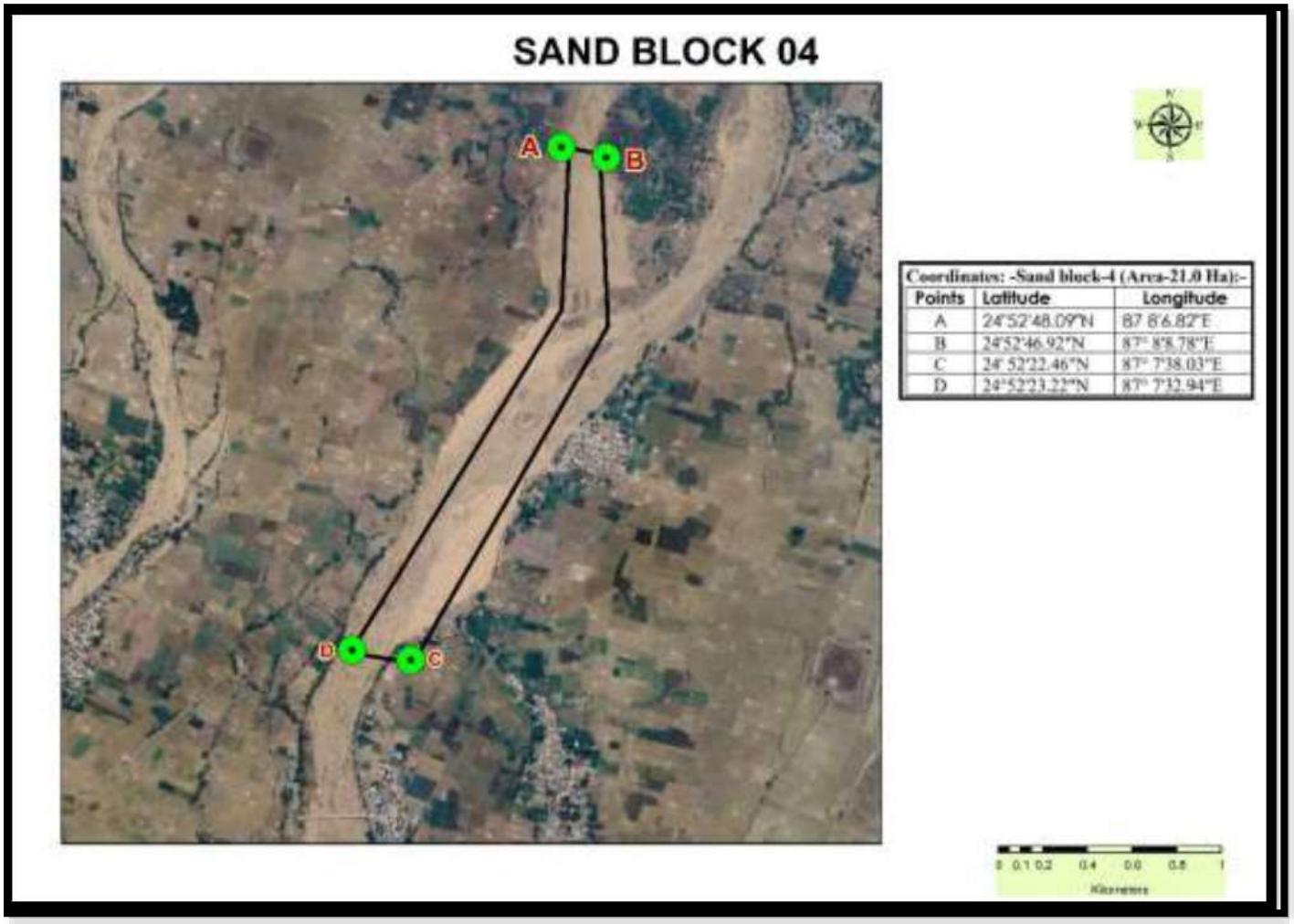



**Figure 2.3 (b):- Pillar coordinates map of the lease area**

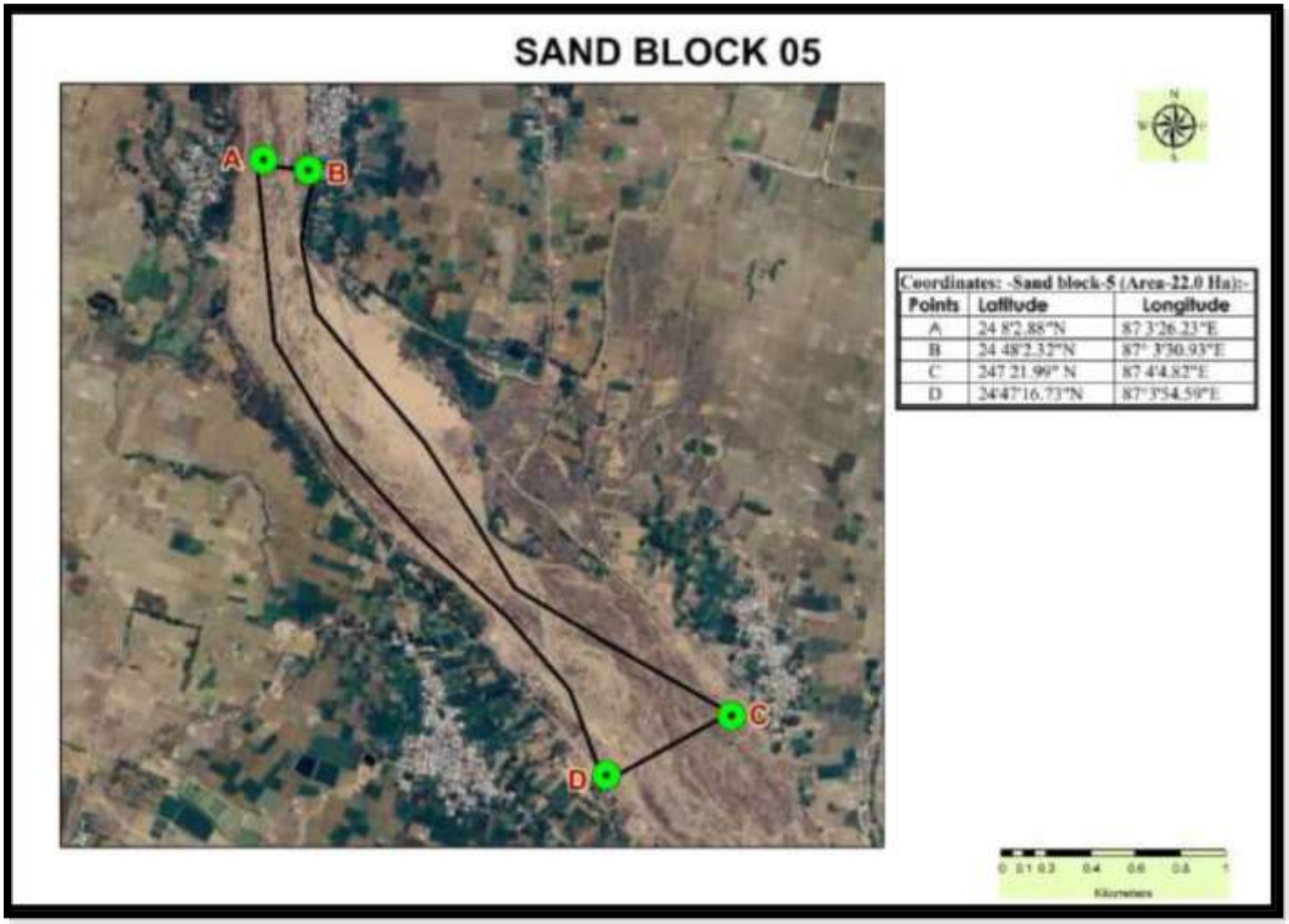



**Figure 2.3 (c):- Pillar coordinates map of the lease area**

## 2.3 TOPOGRAPHY & GEOLOGY

The district is located at a Longitude of 86°30'E to 87°12'Eand the Latitude is 25°03'40" N to 25°30'N (Figure 3). It is situated at a altitude of around 88.9 meters above MSL. Banka district is surrounded by six districts, eastern and southern boundary coincides with Deoghar, Dumka and Godda district of Jharkhand state, western boundary coincides with Jamui district and north-west side to Munger district and with Bhagalpur district in north. Geographical area of the district is 3,020 sq km. The southern blocks of Banka district fall in the Chota Nagpur plateau while the northern blocks of Banka district fall in the Ganges basin.

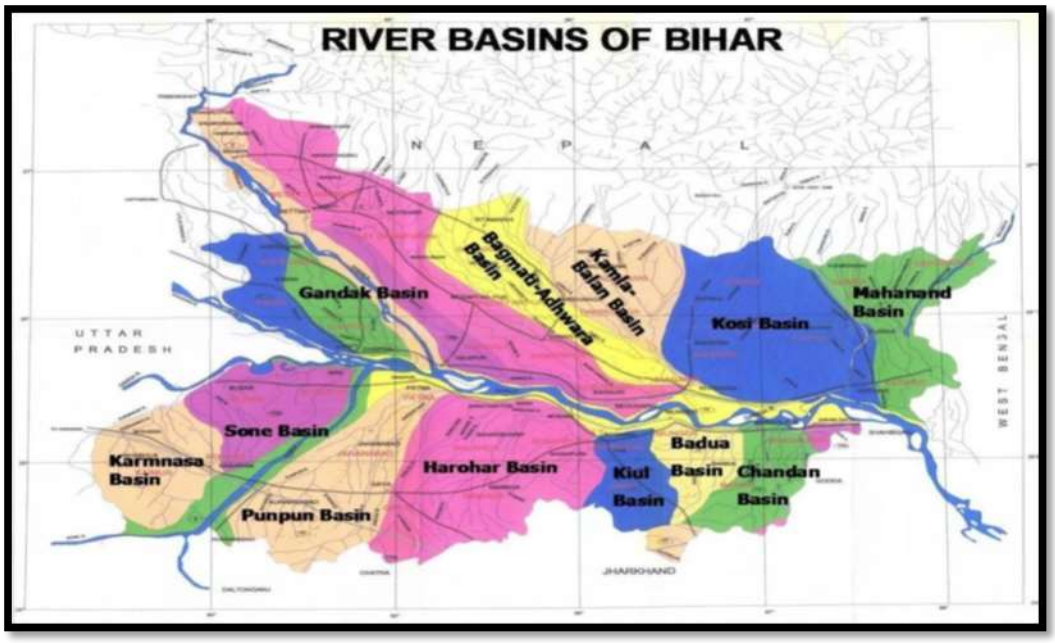



**Figure 2.4: River Basins of Bihar**

### 2.3.1 Geology

The area is underlain by Archean to Proterojoic rocks and Quaternary sediments of Holocene age. Unconsolidated to semi-consolidated Diara, Belahar and Jamui Formation constitutes the Quaternary parts whereas the consolidated to semi consolidated Dolerite, Quatzite, Mica schist, BGC comprises Proterozoic and Archean groups of rocks. Chhotonagpur Gneissic Complex form the basement in the district. Precambrian crystalline rocks occupy the considerable area in

the southern parts of the district. The Precambrian meta-sediments are overlain by Pliestocene-Holocene and late Holocene sediments. The Precambrian gneissic complex is characterised highly metamorphosed gneissic rocks, granite gneiss, biotite gneiss, hornblede, amphibolite etc. Porphyritic granites are also common in the area. The gneissic rocks are often undergoes weathering forming weathered mantle with depth of weathering 3-10 m depending on the underlying formation, local geomorphology and drainage pattern in that particular area. The Precambrian gneissic rocks are often succeeded by meta-sediments of quartzite, phyllite and schist.

Quaternary formation constituting the alluvial basin in the northern parts of the district are characterised by semi-consolidated to unconsolidated sediments of sands, silts, clay, kankar etc. The Sautadih Formation, Belhar formation and Diara formation (Sinha etal 1900) comprises the continental alluvial quaternary deposits in the Chandan Badua Complex in Banka district. The pre-Quaternary rocks in the area have undergone multiple phases of deformation resulting in complex patterns of diastrophic structures. Folds, joints, schistosity/gneissocity, lineaments etc. are common. The major structural trend is ENE_WSW in the eastern parts, NE_SW in the central parts and NE_SW to almost E_W in the western parts of the district. Lineaments affecting the pre-quaternary rocks are important in the perspective of ground water exploration and occurrences in the area.

**2.4 SOIL**

Banka district is characterized by a wide variety of soils, which can be broadly grouped into two categories, the alluvial soil and mountainous soil. The alluvial soil derived partly from the older alluvium deposit and partly from the newer flood plain deposits. It is characterized by light grey to dark grey color and fine texture. The mountainous soil derived from the weathered product of rocks is coarse grained, ferruginous, low in nitrogen, medium to high potash and acidic in nature. Sandy loam and loamy sand soil types are prevalent in the district. The rivers, originating from the Chhotanagpur plateau, bring along with it significant amount of sediments that results in their deposition along the bank of the rivers. This leads to soil being medium or heavy texture with negligible marsh lands.

**2.5 DRAINAGE**

Banka district lies south of the river Ganga and constitutes a part of the Ganga River Basin. It falls under Badua–Chandan sub-basin. It has three watersheds, namely Badua Nala, Chandan

river watershed and the left bank watershed of Burigeria Nala. The major part of the district falls under Chandan river watershed. Chandan River is the main river of Banka District. The Belharni River and Badua River flows in the northwestern area of the district. Chandan and Odhani River flows from middle of the district. The river Cheer meets river Chandan in the north- eastern of Mandar Giri, which rises in the east of Mandar. Badua Nala forms the northwestern boundary. Chandan river flows through the central part of the district. Burigeria Nala forms the eastern boundary of the district. All the three rivers/nalas originate from the hilly tracts present in the south of the district and flows from south to north direction. The streams namely Kudar, Odhani, Panchkatia are the main tributaries of Chandan River while Lohargara, Karunior, Belharna are the main tributaries of Badua River. All the rivers are ephemeral in nature. It almost dries in summer but is flooded during rainy season. Construction of embankments and channels on Chandan and Badua Rivers has made them useful. These channels not only irrigate the fertile lands but also help in preventing floods.

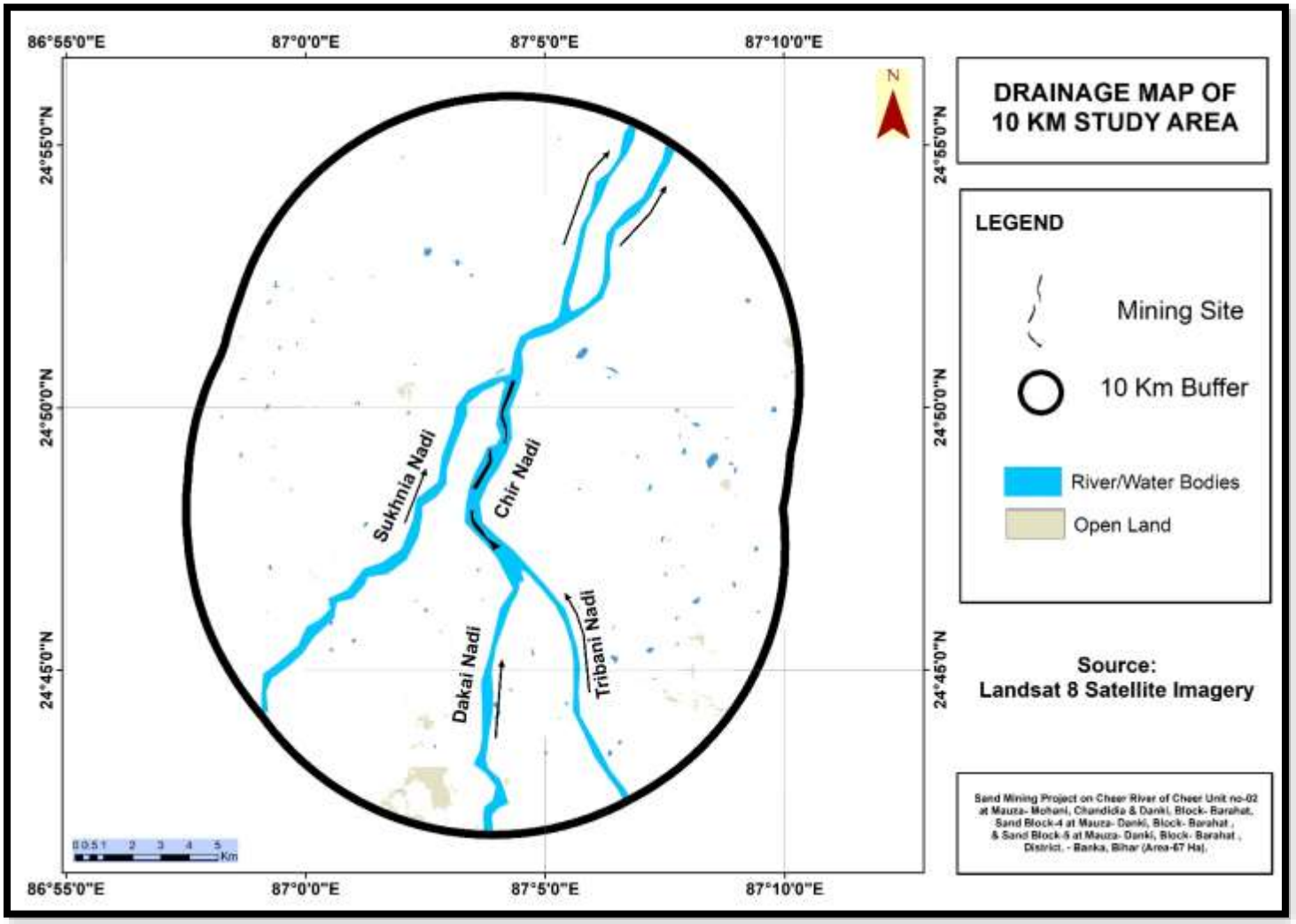



**Figure 2.5: Drainage map of Study area**

## 2.6 CLIMATE AND RAINFALL

The Climate of this district is characterized by a hot Summer and a pleasant winter season. March to June comprises the summer months while the cold season lasts from November to February. Monsoon sets in sometimes in the part of June and the rains continue till September. The district also received some winter rains. The south west monsoon generally breaks in during the second half of June. The bulk of the rainfall occurs in July and August. The average annual rain fall is 1200 mm almost uniformly throughout the district. Kark Rekha passes through North Part of the District so the temperature rises up to 45° C. In winter season average temperature is 15° C.

## 2.7 HYDROGEOLOGY

The Banka district can be sub-divided broadly into two hydrogeological units.

**A) Alluvial Formation:** It occupies the northern part of the district. The Quaternary alluvial deposits consisting of sand ,silt and clay forms a good repository of the ground water. The ground water occurs in the porous material under both unconfined and semi-confined to confined conditions depending on the disposition of aquifers.

**B) Fissured Formation:** The fissured formation constitutes the Chotanagpur Granite Gneissic Complex and meta sedimentaries. Ground water occurs in these rocks under confined to semi-confined conditions. The secondary porosity e.g. fractures,joints and fault planes acts as aquifer and controls the storage and movement of ground water.

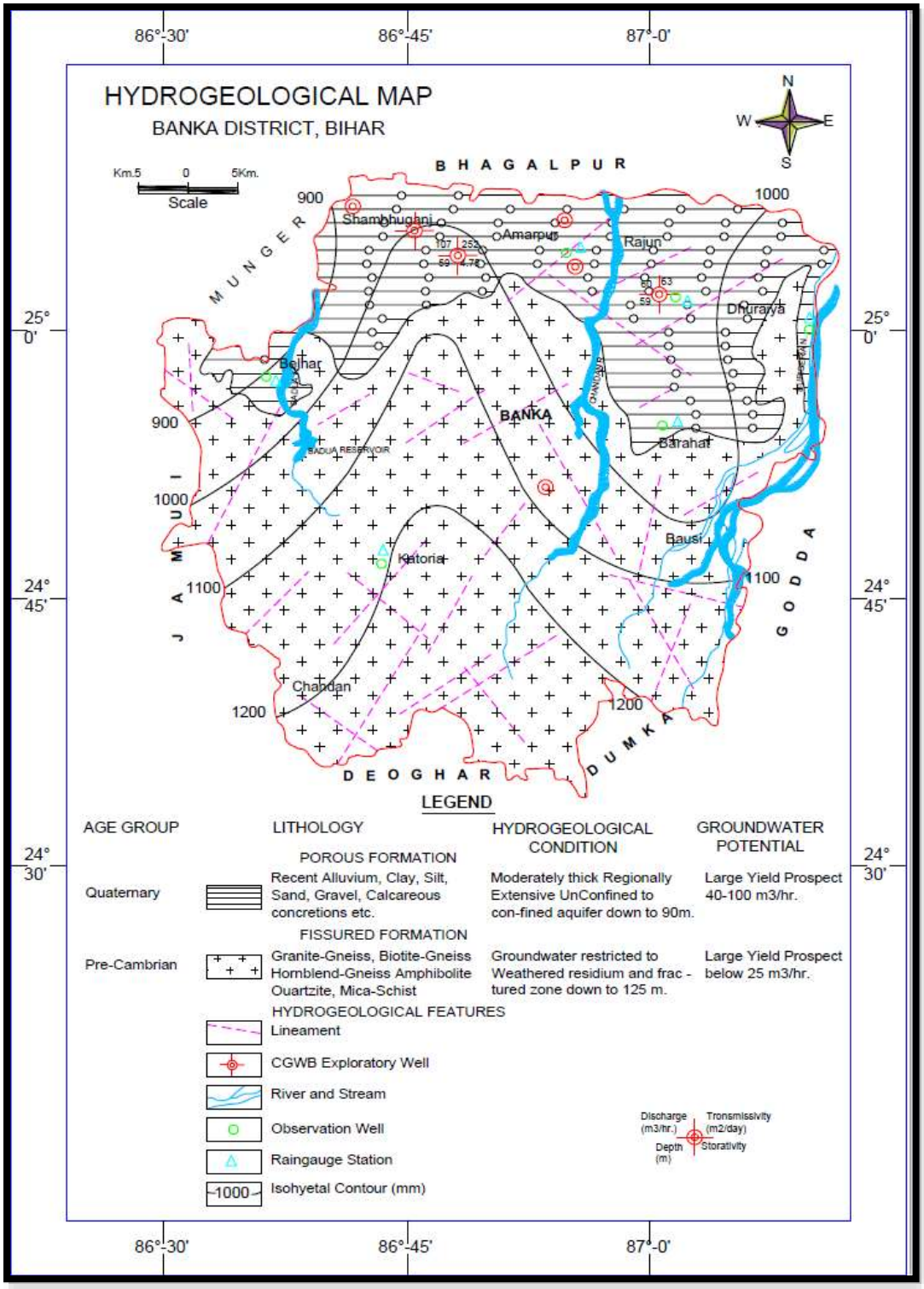



**Figure 2.6: Hydrogeology map of district**

**Source:-** https://cgwb.gov.in/old_website/District_Profile/Bihar/banka.pdf

## 2.8 SEISMICITY OF THE AREA

The state of Bihar lies in a region with moderate to low to high seismic hazard. As per the 2002 Bureau of Indian Standards (BIS) map, this state also falls in Zones III, IV and V. Historically, this region has experienced earthquake in the M5.0-7.0 range. The mine lease area is located in seismic **Zone IV**. This region is classified as the **High damage Risk Zone.**

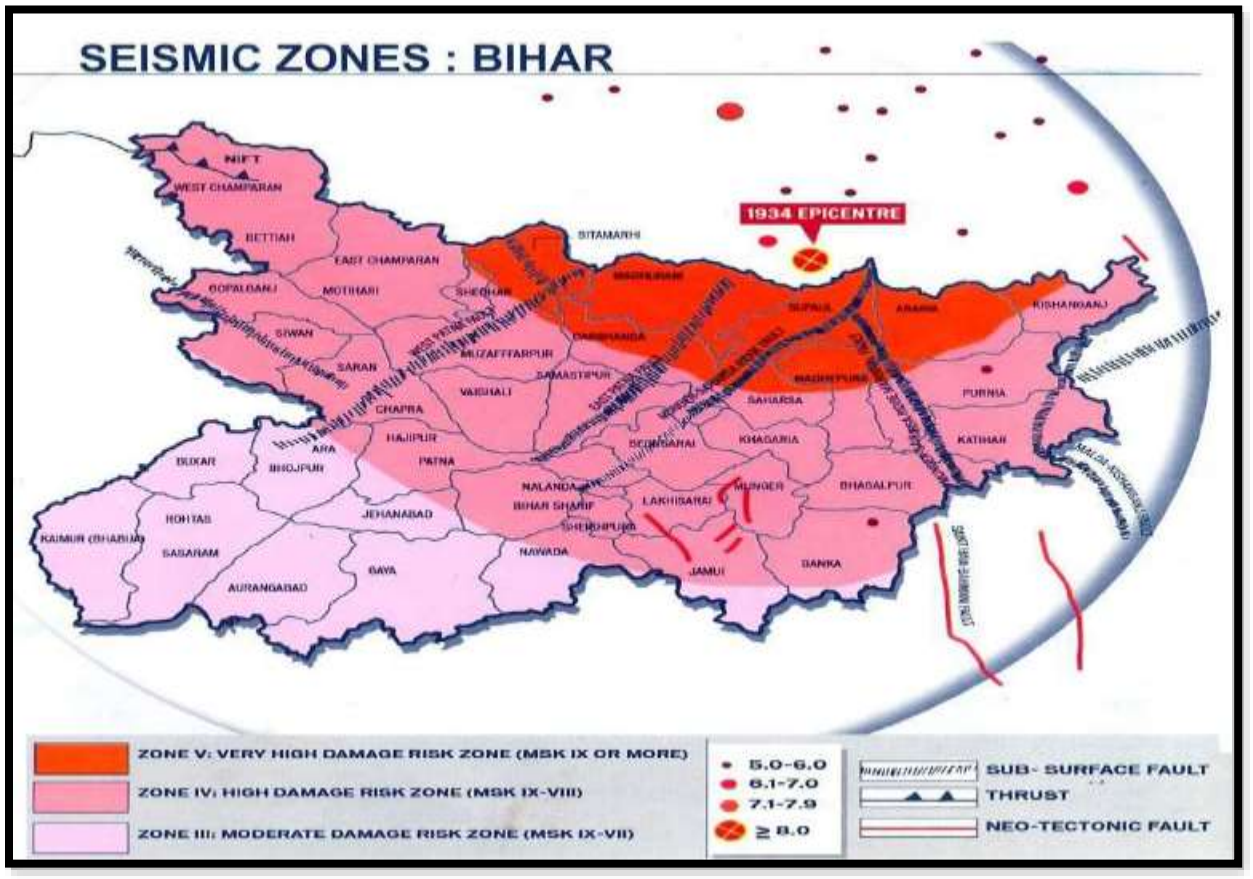



**Figure 2.7: Earthquake Hazard Map of Bihar**

## 2.9 RESERVE ESTIMATION:

For estimating the reserve of sand the following parameters are considered:

1. The Mineral reserves have been estimated as per the Indian Standard Procedures. Geological reserves have been completed through cross sectional area method. The area of each section line is multiplied by strike influence to get the volume.

2. The entire reserves of Sand up to the depth of 2.0 m are calculated for river bed area.
3. The Minable reserve has been calculated by considering 60% of the Lease area as per EMGSM 2020 guidelines.
4. The bulk density of Sand is considered 1.8
5. Mineral Reserves falling in the river bed area has been calculated taking the maximum permissible depth of 2.0 m from the river bed surface RL.
6. It is considered that river bed Sand shall be replenished every year.

Reserve estimated details of proposed sand block are as:-

**Table 2.2: Reserve estimation of sand block**

| Stretch/ River | River | Area (Ha.) | Total Proved Geological Reserves cum = area * depth (UNFC Code 111) (A) | Blocked area of 40% blocked in River, banks, etc.=hectares | Geological Reserves in Blocked Area (UNFC Code 211*222) (B) | Mineable Reserves (cum) (A-B) |
|---|---|---|---|---|---|---|
| **Cheer Unit-2, Sand Block-3** | Cheer | 24.0 | 480,000 | 9.6 | 192000 | 288000 |
| **Cheer Unit-2, Sand Block-4** | | 21.0 | 420000 | 8.4 | 168000 | 252000 |
| **Cheer Unit-2, Sand Block-5** | | 22.0 | 440000 | 8.8 | 176000 | 264000 |

| | | | | | |
|---|---|---|---|---|---|
| **Total** | **67.0** | **1340000** | **26.8** | **536000** | **804000** |

**Source:-Approved Mine Plan**

## 2.10 TARGETED PRODUCTION

The targeted production of this proposed ghat is 804000 cum. per annum or 1447200 MTPA up to the lease period. Five year proposed production are as:-

**Table2.3:- 5 year proposed production**

| **Annual estimated production of sand mineral during the 5 Years plan** | | | |
|---|---|---|---|
| **Sl. No.** | **Year** | **Sand in $m^3$** | **Sand in MT** |
| **1** | 1st Year | 804000 | 1447200 |
| **2** | 2nd Year | 804000 | 1447200 |
| **3** | 3rd Year | 804000 | 1447200 |
| **4** | 4th Year | 804000 | 1447200 |
| **5** | 5th Year | 804000 | 1447200 |
| **Total** | | **4,020,000** | **7,236,000** |

## 2.11 LIFE OF MINE

For Balance reserves in River bed it is presumed that the mineral will be replenished every year during the rainy season. New mineral will be added every year in the river bed. Mine areas have been leased for 5 years.

## 2.12 MINING PROCESS

Lease has been allotted for 5 years on the river bed of Cheer Mining process will be as:-

- Mining will be done up to a maximum depth of 2 m as per **Approved District Survey Report.**
- Mining will be done as per MOEFCC guidelines amended till date and as per the Bihar Minor Mineral concession rules amended till date.
- It will be done by leaving a safety distances from the both the banks of the river and the river channel.

- Excavated area will be replenished naturally due to sediment inflow from the catchment area.
- 60% of the total Lease are will be used for mining as per EMGSM 2020 guidelines.

### 2.12.1 Method of Mining:

Mining activity will be carried out by open cast semi mechanized method.

- No overburden/ waste material will be produced in river bed. No drilling/ blasting are required as the material is loose in nature.
- Light weight excavators will be used for loading of mineral in tippers.
- Strips of 1 meter will be worked in phases and benches will be left for convenience of the mining operation.
- Mining activities will be carried out in a manner so that there is no obstruction to the movement of water flow, if any, during rainy season.
- Roads will be properly made and sprayed by water for suppression of dust.
- Extraction activities will start in the blocks from the upstream side to downstream side. This will not obstruct the movement of water, if any, during monsoon period in the river course.
- Approved quantity is based on the permissible mining depth that is 2.0 meter below the surface as there is no replenishment study / report has been conducted yet. As and when it will be conducted approved quantity may be enhanced after getting approval from appropriate authority.

### 2.12.2 Conceptual Plan of Mining

Mine area will be worked in blocks for ease of operation. However, as the digging depth will be restricted to 2.0 m only in river bed and material will still be available below. This will be further replenished during rainy season.

### 2.12.3 Machinery Requirement

This is a new mining project. Following equipment's are proposed to be deployed for the desired production. Details of equipment's for proposed sand block are as:-

**Table 2.4: List of Machinery proposed for mining**

| SL NO | MACHINERY | NUMER OF MACHINERY |
|---|---|---|
| 1 | Excavator PC 200, 1.6 CUM Bucket capacity | 8 |
| 2 | Back Hoe Loader, 0.25 CUM Bucket Capacity | 2 |
| 3 | Dumpers, 9 CUM Capacity | 43 |
| 4 | Water tanker, 6 KL capacity | 2 |
| 5 | Tractor | 3 |
| 6 | Utility Vehicle | 1 |

**Source:-Approved Mine Plan**

## 2.13 TRANSPORTATION OF MINERALS

Mineral Sand will be transported by trucks. Loaded trucks will travel on Kuccha road made for plying of trucks. The temporary road will provide access to the river bed and the movement of loaded trucks. The village has its outlet meeting the tar road on the nearby villages and from where the mineral is sent to various destinations. Similarly, mineral will be transported on the other side through approach roads which finally merge with tar roads for final destinations.

## 2.14 STACKING OF MINERAL REJECTS AND DISPOSAL OF WASTE

The present sand mining locations do not have significant top soil/clay layer to be preserved elsewhere during the mining operations.

The sand deposits inherit gravels, pebbles with them being a part and parcel of river system. During the field visit and information gathered during discussions with concerned people, 5%of the geological reserves occurring in the sand ghats are provided for these inclusions and accordingly these have been considered during the minable sand reserves.

### 2.14.1 Disposal of Waste (Reject) materials Silt

The proposed project is the mining of sand from dry part of riverbed, all the excavated material will be saleable, therefore no mines reject will be generated. Some amount of silt may generate will be used in haul road development.

### 2.14.2 Land chosen for disposal of waste with proposed justification

There shall be no waste materials generated during the course of sand mining. Therefore, disposal of solid wastes resulting from the sand mine shall not be required.

## 2.15 USE OF MINERAL

Deposit is moderate to good quality Sand. It is widely used in construction, buildings, bridges and other infrastructure. It is free from clay and non-sticky in nature.

***Source:*** *Approved Mine Plan.*

## 2.16 UTILITIES AND PROPOSED SITE FACILITIES

### 2.16.1 Water Requirement

The total water requirement will be 16.6 KLD. This water will be supplied by private tankers. Drinking water will be made available at site and water for plantation purposes and for dust suppression will be sourced from private tankers from daily basis.

The details of water uses are given below:

**Table 2.5: Water Requirement in KLD**

| Activity | Water requirement (KLD) |
|---|---|
| Dust suppression | 10.0 |
| Domestic | 3.2 |
| Green Belt Development | 3.4 |
| **Total** | **16.6** |

### 2.16.2 Power

The material will be excavated by open cast semi-mechanized method and loaded directly into tractors by the workers themselves. The operation will be done only from sun rise to sun set. So there is no power requirement for the mining activity.

### 2.16.3 Manpower

Total manpower required for entire project will be **106.** The mining project will also generate direct & indirect employment. Local persons will be preferred for employment.

**Table 2.6: Manpower requirement for proposed project**

| SL NO | DESIGNATION | NO OF PERSONS |
|---|---|---|
| 1 | Administrator | 1 |
| 2 | Excavator Operator | 5 |
| 3 | Dumper Drivers | 43 |
| 4 | Back Hoe Loader Operator | 2 |
| 5 | Tractor Driver | 2 |
| 6 | General Helper | 45 |
| 7 | Supervisor | 4 |
| 8 | Weighbridge Operator | 1 |
| 9 | Electrician | 1 |
| 10 | Mechanic | 1 |
| 11 | Auto Electrician | 1 |
| **TOTAL** | | **106** |

**Source:-** Approved Mine Plan

### 2.16.4 Infrastructure and Site Facilities

Infrastructure facilities like site office, first aid station, rest shelter, potable drinking water facility etc will be established within the mine area. The following infrastructure facilities will be made available for the workers:

**a. First Aid Facility**

A first aid facility will be made available at site with proper equipment will be maintained as per Mines Act and Mine Rules at the mine site office. First aid -box with all necessary facilities will be maintained and provided.

**b. Temporary rest shelter**

The Temporary rest shelter for the workers working in the mine and also to provide tea etc as the laborers will come from nearby villages at day time only.

**c. Washroom**

Washroom facility will be provided to the laborers nearby the site.

**d. Water Supply**

The water supply for drinking purpose proposed will be made available by hired tanker.

## 2.17 PROJECT COST

The project cost of the of the project will be approx. **Rs**. **1833.1 Lakhs s**and may vary from place to place and with magnitude of the sand mining. This will include cost of auction cost, labour, equipment Cost & site facilities cost with miscellaneous charges.

**Table 2.7: Proposed Project Cost of the project**

| S. No. | Description | Cost in Rs. |
| --- | --- | --- |
| 1 | Auction Cost | 162810000 /- |
| 2 | Cost of Labour & Equipment | 20000000/- |
| 3 | Miscellaneous | 500000/- |
| **TOTAL** | | **183,310,000/-** |

# CHAPTER 7
# ADDITIONAL STUDIES

## 7.0 GENERAL

All types of industries face certain types of hazards like failure of machinery, explosion etc. and disasters like fires, inundation, earthquake etc. which can disrupt normal activities abruptly. Mining and allied activities are associated with several potential hazards to both the employees and the public at large. Therefore, it is necessary to consider specific issues as applicable to individual projects to take precautions against these issues. A worker in a mine should be able to work under condition, which are adequately safe and healthy. At the same time the environmental conditions should be such as not to impair his working efficiency. Therefore, the EIA report and EMP address such issues.

## 7.1 ITEMS IDENTIFIED BY PROPONENT

The project proponent has identified some issues which are important from environmental point of view for the proposed project or site selected. A sedimentation study has also been carried out for the proposed project. Points of consideration are given below.

- Mining unwanted material including mineral or spillage (if any) should not be stacked on the banks as it will hinder the flow of water in monsoon season.
- The sand will be mined out in a uniform way so that the river flow/course shall not get disturbed.
- River banks will not be excavated to from access ramps.
- Only excavated river gravel should be used to deposit against the river bank to form access ramps.

## 7.2 ITEMS IDENTIFIED BY REGULATORY AUTHORITY

All studies identified by regulatory authority have been discussed in detail in Chapter 3.

## 7.3 ITEMS IDENTIFIED BY THE PUBLIC AND OTHER STAKEHOLDERS

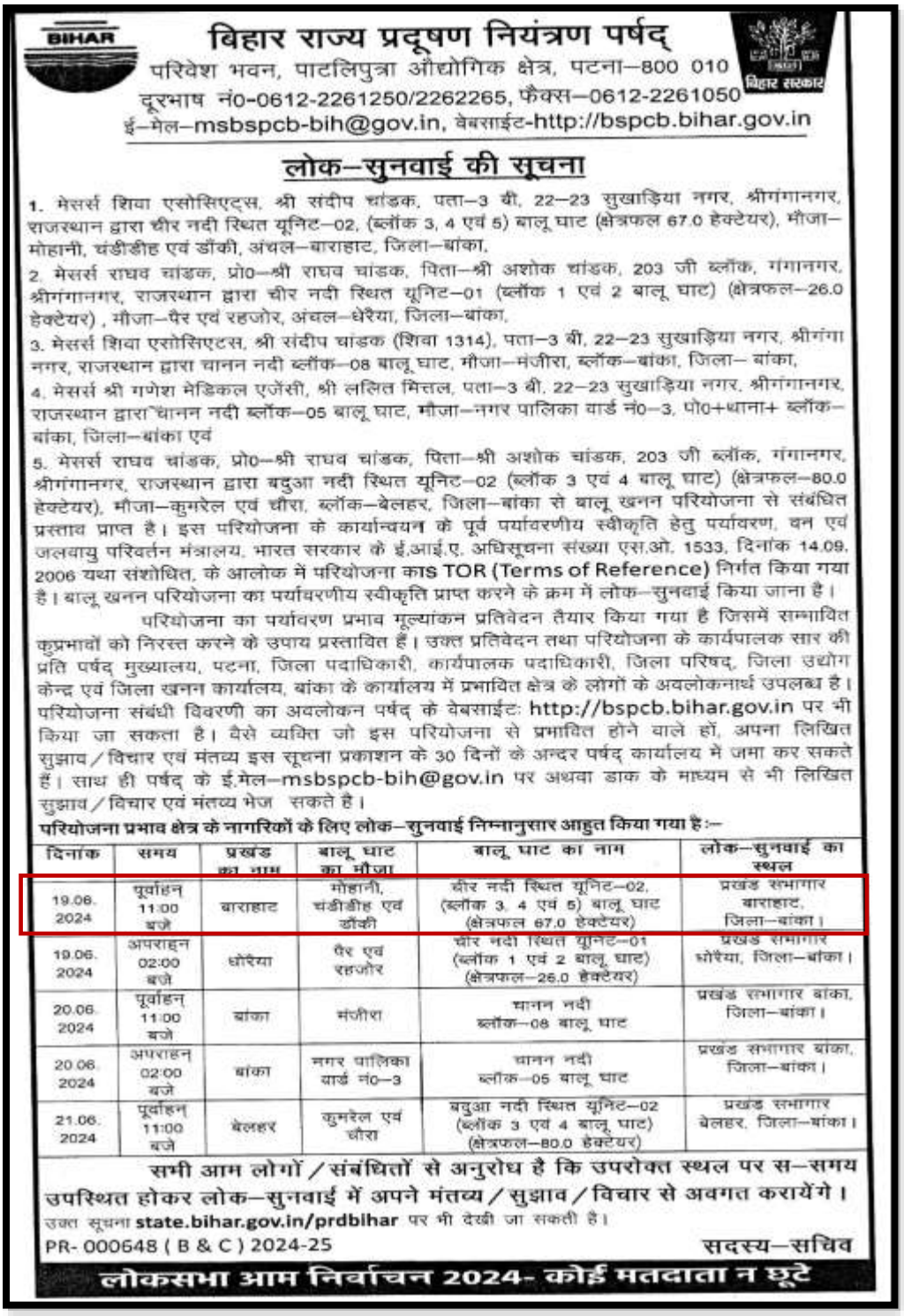
As per MOEF7CC notification S.O. 1533 (E) dated 14.09.2006 as amended on dated 01.12.2009 and departmental circular dated 12.12.2018 of Environment Impact Assessment Notification of

MoEF&CC & ToR issued by SEIAA Bihar, public Hearing/consultation was held on dated 19.06.2024 at afternoon 11.00 AM under the chairmanship of • **Smt. Pratibha Kumari ( Additional collector cum Public Grievance Redressal Officer)** at Prakhand sabhagar, Barahat, District- Banka. In Public Hearing local persons participate & raise their issues & concern in the environmental impacts of the project. Proper video recording was done for this meeting.

The Public Hearing was arranged by the Regional office of Bihar State Pollution Control Board, Bhagalpur

**Table no.-7.1:- Public hearing detail**

| Particular | Description |
|---|---|
| **Advertisement for Public Hearing**<br>➢ **Date of Advertisement in Newspapers**<br>➢ **Name of Newspapers** | <br><br>14.05.2024<br><br>Dainik Jagran & Dainik Bhaskar (Bhagalpur Edition) |
| **Date of Public Hearing** | 19th June, 2024 |
| **Venue** | Prakhand sabhagar, Dhorraiya, District- Banka |
| **Members** | • Smt. Pratibha Kumari ( Additional collector cum Public Grievance Redressal Officer)<br>• Shri S.N Jha, Regional Officer, BSPCB, Bhagalpur |



BIHAR

# बिहार राज्य प्रदूषण नियंत्रण पर्षद्

परिवेश भवन, पाटलिपुत्रा औद्योगिक क्षेत्र, पटना–800 010
दूरभाष नं0-0612-2261250/2262265, फैक्स–0612-2261050
ई–मेल–msbspcb-bih@gov.in, वेबसाईट-http://bspcb.bihar.gov.in

बिहार सरकार

## लोक–सुनवाई की सूचना

1. मेसर्स शिवा एसोसिएट्स, श्री संदीप चांडक, पता–3 बी, 22–23 सुखाड़िया नगर, श्रीगंगानगर, राजस्थान द्वारा चीर नदी स्थित यूनिट–02, (ब्लॉक 3, 4 एवं 5) बालू घाट (क्षेत्रफल 67.0 हेक्टेयर), मौजा–मोहानी, चंडीडीह एवं डौंकी, अंचल–बाराहाट, जिला–बांका,

2. मेसर्स राघव चांडक, प्रो0–श्री राघव चांडक, पिता–श्री अशोक चांडक, 203 जी ब्लॉक, गंगानगर, श्रीगंगानगर, राजस्थान द्वारा चीर नदी स्थित यूनिट–01 (ब्लॉक 1 एवं 2 बालू घाट) (क्षेत्रफल–26.0 हेक्टेयर) , मौजा–पैर एवं रहजोर, अंचल–धोरैया, जिला–बांका,

3. मेसर्स शिवा एसोसिएटस, श्री संदीप चांडक (शिवा 1314), पता–3 बी, 22–23 सुखाड़िया नगर, श्रीगंगा नगर, राजस्थान द्वारा चानन नदी ब्लॉक–08 बालू घाट, मौजा–मंजीरा, ब्लॉक–बांका, जिला– बांका,

4. मेसर्स श्री गणेश मेडिकल एजेंसी, श्री ललित मित्तल, पता–3 बी, 22–23 सुखाड़िया नगर, श्रीगंगानगर, राजस्थान द्वारा चानन नदी ब्लॉक–05 बालू घाट, मौजा–नगर पालिका वार्ड नं0–3, पो0+थाना+ ब्लॉक–बांका, जिला–बांका एवं

5. मेसर्स राघव चांडक, प्रो0–श्री राघव चांडक, पिता–श्री अशोक चांडक, 203 जी ब्लॉक, गंगानगर, श्रीगंगानगर, राजस्थान द्वारा बदुआ नदी स्थित यूनिट–02 (ब्लॉक 3 एवं 4 बालू घाट) (क्षेत्रफल–80.0 हेक्टेयर), मौजा–कुमरेल एवं चौरा, ब्लॉक–बेलहर, जिला–बांका से बालू खनन परियोजना से संबंधित प्रस्ताव प्राप्त है। इस परियोजना के कार्यान्वयन के पूर्व पर्यावरणीय स्वीकृति हेतु पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार के ई.आई.ए. अधिसूचना संख्या एस.ओ. 1533, दिनांक 14.09.2006 यथा संशोधित, के आलोक में परियोजना का TOR (Terms of Reference) निर्गत किया गया है। बालू खनन परियोजना का पर्यावरणीय स्वीकृति प्राप्त करने के क्रम में लोक–सुनवाई किया जाना है।

परियोजना का पर्यावरण प्रभाव मूल्यांकन प्रतिवेदन तैयार किया गया है जिसमें सम्भावित कुप्रभावों को निरस्त करने के उपाय प्रस्तावित हैं। उक्त प्रतिवेदन तथा परियोजना के कार्यपालक सार की प्रति पर्षद् मुख्यालय, पटना, जिला पदाधिकारी, कार्यपालक पदाधिकारी, जिला परिषद्, जिला उद्योग केन्द्र एवं जिला खनन कार्यालय, बांका के कार्यालय में प्रभावित क्षेत्र के लोगों के अवलोकनार्थ उपलब्ध है। परियोजना संबंधी विवरणी का अवलोकन पर्षद् के वेबसाईट: http://bspcb.bihar.gov.in पर भी किया जा सकता है। वैसे व्यक्ति जो इस परियोजना से प्रभावित होने वाले हों, अपना लिखित सुझाव/विचार एवं मंतव्य इस सूचना प्रकाशन के 30 दिनों के अन्दर पर्षद् कार्यालय में जमा कर सकते हैं। साथ ही पर्षद् के ई.मेल–msbspcb-bih@gov.in पर अथवा डाक के माध्यम से भी लिखित सुझाव/विचार एवं मंतव्य भेज सकते है।

**परियोजना प्रभाव क्षेत्र के नागरिकों के लिए लोक–सुनवाई निम्नानुसार आहुत किया गया है :–**

| दिनांक | समय | प्रखंड का नाम | बालू घाट का मौजा | बालू घाट का नाम | लोक–सुनवाई का स्थल |
|---|---|---|---|---|---|
| 19.06.2024 | पूर्वाह्न 11:00 बजे | बाराहाट | मोहानी, चंडीडीह एवं डौंकी | चीर नदी स्थित यूनिट–02, (ब्लॉक 3, 4 एवं 5) बालू घाट (क्षेत्रफल 67.0 हेक्टेयर) | प्रखंड सभागार बाराहाट, जिला–बांका। |
| 19.06.2024 | अपराह्न 02:00 बजे | धोरैया | पैर एवं रहजोर | चीर नदी स्थित यूनिट–01 (ब्लॉक 1 एवं 2 बालू घाट) (क्षेत्रफल–26.0 हेक्टेयर) | प्रखंड सभागार धोरैया, जिला–बांका। |
| 20.06.2024 | पूर्वाह्न 11:00 बजे | बांका | मंजीरा | चानन नदी ब्लॉक–08 बालू घाट | प्रखंड सभागार बांका, जिला–बांका। |
| 20.06.2024 | अपराह्न 02:00 बजे | बांका | नगर पालिका वार्ड नं0–3 | चानन नदी ब्लॉक–05 बालू घाट | प्रखंड सभागार बांका, जिला–बांका। |
| 21.06.2024 | पूर्वाह्न 11:00 बजे | बेलहर | कुमरेल एवं चौरा | बदुआ नदी स्थित यूनिट–02 (ब्लॉक 3 एवं 4 बालू घाट) (क्षेत्रफल–80.0 हेक्टेयर) | प्रखंड सभागार बेलहर, जिला–बांका। |

**सभी आम लोगों/संबंधितों से अनुरोध है कि उपरोक्त स्थल पर स–समय उपस्थित होकर लोक–सुनवाई में अपने मंतव्य/सुझाव/विचार से अवगत करायेंगे।**

उक्त सूचना **state.bihar.gov.in/prdbihar** पर भी देखी जा सकती है।

PR- 000648 ( B & C ) 2024-25

सदस्य–सचिव

**लोकसभा आम निर्वाचन 2024- कोई मतदाता न छूटे**

**Fig- 7.1:- Public hearing advertisement**

**Fig no. 7.2:- Photographs of public hearing**

Public hearing meeting has been started with due permission from chairmen. During meeting the environmental consultant (representative of project proponent) explained in details about proposed mines such as:-

- The proposed sand ghat on Cheer river as Cheer Unit-2 (Block 3,4 & Block 5 balu ghat) of Area- 67.0 hectares situated on Cheer river at Village- Mohani, Chandidih & Danki, Block- Barahat, District- Banka. Letter of intent for this mining lease has been issued to Sri Sandeep Chandak by Bihar Mines and Geology department. From the Chher unit-2 561600 MTPA production is proposed. The total project cost is approx. Rs. 1833.1 Lakhs (including auction cost. This sand block 3, 4 & 5 are included in District Survey Report.
- Mining will be done scientifically as per approved mine plan. The mitigation measures of environmental hazards arises due to implementation of mining operation is given in report .
- He also informed that drilling and blasting is not proposed for the project, Mining will be done on dry part of river bed not on the water stream area. Mining will not done in Monsoon season.
- Mining will be done by leaving safety distance from the river bank to protect the river banks and mining will be done upto depth of 2 meter and above the ground water level.
- Approach road will be made with the consultation of local peoples. Sand loaded vehicles will be transported through covered tarpaulin sheet and Overloading will not be allowed in any condition. The maintenance of approach road will be done by project proponent.
- Before the execution of mining work, a notice board or signals will be placed on sensitive places such as connecting roads, mining area etc and to overcome the emergency situation information regarding necessary services and their mobile numbers will be displayed on notice board.
- The plantation is proposed for this project , which will be planted on available lands and the both sides of the roads and middle of the village as per suggestion from villagers. Taking care of planted saplings will be done by project proponent for next 5 years.
- Dense plantation near mining area and in village can reduce noise pollution. To follow the norms of noise pollution minimal honking will be done to reduce noise pollution and mining will not allowed at night time. High pressure horn vehicles will be not allowed in mining area. Mining will not done at night time and only collected sand will be transported.

- Dust suppression will be done thrice a day. Sand loaded trucks will be transported by covered tarpaulin sheets. The Approved amount of sand will be stored at 300 m from the mining area.
- Only PUC certified vehicles will be allowed and record of the same will be maintained. High speed vehicles will be prohibited within mine site area. Covered trucks will be allowed for sand transportation.
- To protect the environment for the proposed project, a management cell will be formed, which ensure the implementation of every kind of management and to provide information and receive suggestion from villagers time to time.

**Table 7.2:- Details of suggestions/ issues raised during the public hearing**

| Sr. No | Name | Questions asked by Citizens/ Members | Response/ Action Plan |
|---|---|---|---|
| 1 | Sri Sonu Kumar, Motihar, Barahat, Banka | It has been asked by them that:-<br>1. Is mining being done as per rules or not.<br>2. Are mining sites inspected by officials?<br>3. In proposed project what measures will be taken for employment /plantation / environmental protection<br>4. There is a possibility of dust emission due to non mettled approach road Proper treatment should be done for this. | It has been replied by project proponent that proposed project is not started yet, it will start only after getting environmental clearance.<br>After commencement of mining work, there will be implementation of the rules as per issued license by mining department and administration.<br>In proposed project approx. manpower of 106 people will get direct employment. Total 670 trees are proposed to be planted. Plantation can be more as per proposal |

| | | | |
|---|---|---|---|
| | | | received from villagers. For environmental protection it will be ensured to implement environment management plan.<br>For dust suppression water sprinkling will be done on approach roads 2-3 times in a day. Vehicles used for sand transportation will be covered by tarpaulin sheet. Plantation will be done on approach road and other available spaces. |
| 2 | Sri Vidya prasad verma, Bheda mod, Barahat, Banka | They requsted to distribute the the sand on discount rate for the poor peoples. | The rate of the sand is being determined by the market demand. |
| 3 | Sri Mithun Kumar, Bheda mod, Barahat, Banka | He requested to give employment to the local people. | After getting of environmental clearance and start of mining work priority will be given to local people in employment as per their eligibility. Along with this indirect employment will also be generated. In meeting it has been |

| | | | |
|---|---|---|---|
| | | | assured by the representative of project proponent to give employment to local people. |

At the end of the Public hearing, additional collector cum chairmen of the meeting told that sand is a natural resource and it should be used sensitively. It cannot be denied that excessive mining can create an excessive hazard to the environment, along with this, adequate extraction of sand helps economic development at local and state levels. The mitigation measures proposed for pollution control will be assured. The supervision of the implementation of this activity shall be monitored by the public and if required the information should be given to district administration so that proper action can be taken to control pollution. The chairman showed gratitude to the people for their presence, their suggestions, and their complaints, he said that the suggestions and questions asked from them were relevant and important. By this, the proposed project can be better implemented. The suggestions given by the people who attended the meeting will be forwarded to higher officials so that the proposed project can be operated as per law and the villagers could also benefit from this.

At the end of the public hearing, compiling the suggestions received from the public present in the meeting, it has been recommended to competent authority regarding the start of mining work as soon as possible. After that, it was announced to end of the public hearing was with kind regards

## 7.4 RISK ANALYSIS AND DISASTER MANAGEMENT PLAN

All types of industries face certain types of hazards which can disrupt normal activities abruptly. Similar inside river bed mines also have risks which need to be addressed for which a disaster management plan has been formulated with an aim of taking precautionary steps to avert disasters and also take such action after disasters which limits the damage to minimum. In the sections below, the identification of various hazards, probable risks during the operational phase of the mining, maximum credible accident analysis and consequences analysis are addressed either qualitatively or quantitatively.

Risk assessments will help mine operators to identify high, medium and low risk levels. This is a requirement of the Occupational Health and Safety Act 2000. Risk assessments will help to priorities the risks and provide information on the need to safely control the risks. In this way, mine owners and operators will be able to implement safety improvements. The following

natural/industrial problem may be encountered during the mining operation.

- ✓ Inundation: Filling of the mine pit due to excessive rains
- ✓ Slope failures at the mine faces or stacks
- ✓ Accident due to fire (in forested areas)

As per proposal made under the mining plan the area will be developed by means opencast mining method. Extraction of minerals is to be carried out by open cast semi-mechanized method. Water table will not be touched during the mining process. No high risk accidents like landslides, subsidence flood etc. have been apprehended.

**7.4.1 Risks due to Inundation**

Mining will be done during the non-monsoon periods (October-June); therefore problem of inundation is not likely to happen.

**7.4.2 Risks Due to Failure of Pit Slope**

In order to allay dangers due to open cast slope failure, final pit, slope stability estimations will be made for the existing mines. Determining the factor of safety, the slopes should be monitored at regular intervals to check for any possible failure.

**7.4.3 Risks due to Failure of Waste Dumps**

All the Material excavated during mining will be saleable, therefore no waste dumps are proposed.

**7.4.4 Risks of Accidents due to Trucks and Dumpers**

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- ✓ Rough access roads
- ✓ Time pressure
- ✓ Inadequate brakes (Possibly from lack of maintenance)
- ✓ Carelessly parked vehicles(*e.g.* being parked on a slope without being adequately secured)
- ✓ Unsafe coupling and uncoupling of trailers, and
- ✓ Untrained drivers
- ✓ Overturning vehicles

To avoid such instances we will talk to the workers and their representatives and will involve them in the risk assessment process and tell them what to do, to reduce risk. All transportation nearby the mine lease area should be carried out directly under the supervision and control of management.

The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.

- ✓ Road signs will be provided at each and every turning point up to the main road (wherever required)
- ✓ To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- ✓ Only trained drivers will be hired.

## 7.5 DISASTERS AND ITS MANAGEMENT

Mining and allied activities are associated with several potential hazards to both the employees and the public at large. A worker in a mine will be able to work under conditions, which are adequately safe and healthy. At the same time the environmental conditions also will not impair his working efficiency. This is possible only when there is adequate safety in mines. Hence mine safety is one of the most essential aspects of any working mine. The safety of the mine and the employees is taken care of by the Mines Act 1952, which is well defined with laid down procedure to ensure safety and constantly monitored and supervised by Directorate General of Mines Safety and Department of Mines, State Government.

### 7.5.1 Identification of Hazards

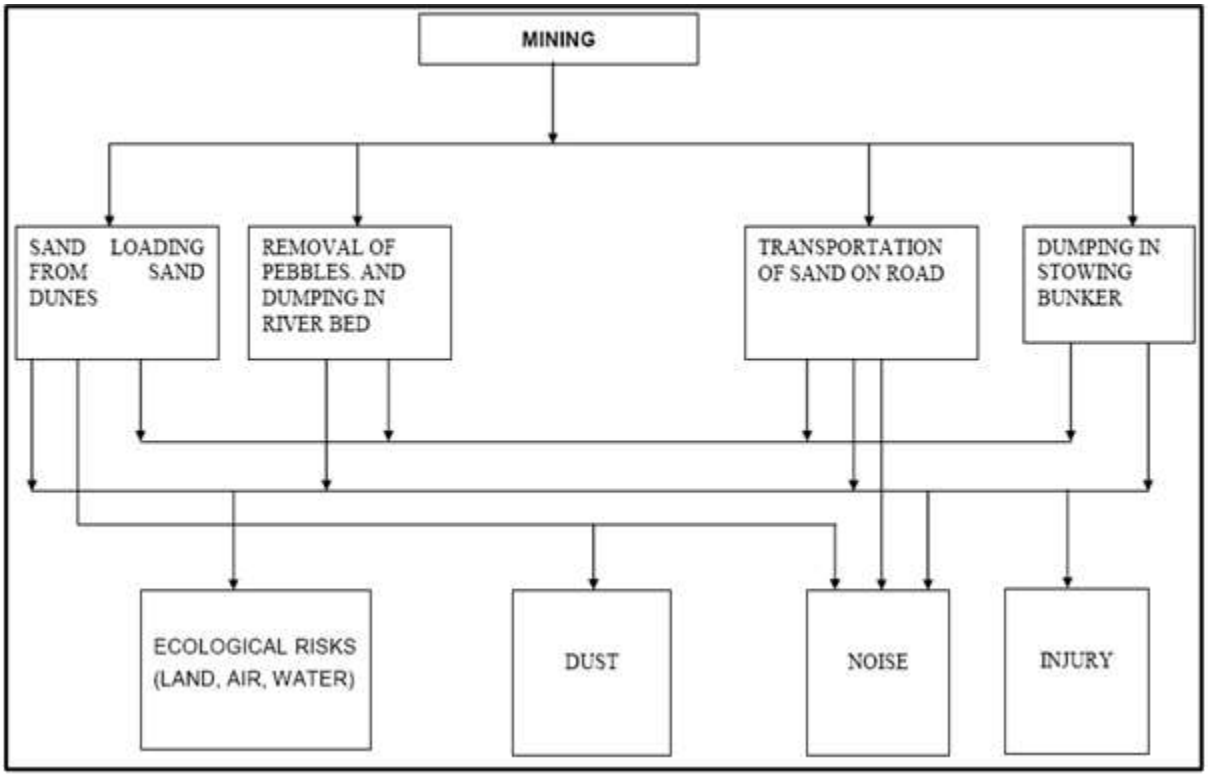
There are various factors, which can create disaster in sand mine. These hazards are as follows:

- ✓ Inundation / Flooding.
- ✓ Quick Sand Condition.
- ✓ Drowning.
- ✓ Accident due to vehicular movement.
- ✓ Accident during sand loading, transporting and dumping.

### 7.5.2 Sand Loading

The sand is loaded in the trucks using hand shovels and back-hoe. There are possibilities of injury in the hands during loading with shovels and staying under bucket movement.

- ✓ There are possibilities that the workers standing on the other side of loading may get injury due to over thrown sands with pebbles.
- ✓ There are possibilities of workers getting injured during opening of side covers of the trucks to facilitate sand loading.
- ✓ There are possibilities of riverbank collapse due to close proximity of sand extraction.
- ✓ There are chances of falling of cattle/children into sand pit in river bed-- instances of death due to fall in such pits were reported from other areas to the Department of Mines.
- ✓ Chance of workers getting injured due to improper balancing of truck while loading.




### 7.5.3 Heavy Machinery

Most of the accidents occur during transportation by dumpers, trucks and other heavy vehicles and are often attributable to mechanical failures, in which the factor of human errors cannot be ruled out.

### 7.5.4 Inundation / Flooding

- ✓ The possibility of inundation/flooding of the sand mines are very high during monsoon or during heavy rains in lean season as the mine area lies over the sand dunes of a riverbed.
- ✓ There are dangers to the trucks and other machineries due to flooding.
- ✓ There are dangers to the workers working in the sand dunes. Inundation or flooding is expected and beneficial for these sand mines as during this time only the sand reserve gets replenished.

### 7.5.5 Safety Features Required in Tippers/Trucks

- ✓ **Rear Vision System:** For assisting operator to have back view during reversing.
- ✓ **Auto dipping System:** To reduce glaring of eyes of operator during night.
- ✓ **Load Indicator and Recorder:** Enables management to detect and prevent over loading.
- ✓ **Global Positioning system:** To prevent illegal transport and selling of sand, restricting short-cut routes other than stipulated routes and computerized monitoring.
- ✓ **Seat belt reminder:** To alert operator for using the seat belt.

### 7.5.6 Mitigation of Hazards

#### 7.5.6.1 Measures to Prevent Accidents during Sand Loading.

- ✓ Protective equipment like dust masks, earplugs/muffs and other equipment's shall be provided for use by the work persons.
- ✓ The trucks will be brought to a level so that the sand loading operation suits to the ergonomic Condition of the workers and the back-hoe.
- ✓ The loading will be done from one side of the truck only.
- ✓ Danger signs shall be displayed near the excavations.
- ✓ The workers will be provided with gloves and safety shoes during loading.
- ✓ Opening of the side covers (pattas) will be done carefully and with warning to prevent injury to the loaders.
- ✓ No sand will be collected within safety distances from bank, especially from outer bank of the meandering river. Safe clearance will be mainly determined by the height of the river bank and thickness of sand to be extracted from the close vicinity of that bank.
- ✓ Ponding in the river bed shall not be allowed.
- ✓ Operations during daylight only.

- ✓ No foreign material (garbage's) will be allowed to remain/spill in river bed and catchment area, or no pits/pockets are allowed to be filled with such material.
- ✓ Stockpiling of harvested sand on the river bank will be avoided.
- ✓ For particular operations, approaching river bed from both the banks will be avoided.
- ✓ Excavation will be 2 m in river bed.

## 7.6 REPLENISHMENT OF SAND DEPOSITS

The rivers are dynamic in nature. The rivers carry Sediment transport is a direct function of water movement. During transport in a water body, sediment particles become separated into three categories: suspended material which includes silt + clay + sand; the coarser, relatively inactive bed load and the saltation load. Suspended load comprises sand + silt + clay-sized particles that are held in suspension because of the turbulence of the water.

The size grades defined in the circular of the Central Water Commission (CWC), Government of India, are coarse (> 0.2 mm), medium (0.2- 0.075 mm) and fine (< 0.075 mm) fractions. They correspond to fine sand; very fine sand and silt-clay on the Udden Went worth scale. The coarse and medium fractions are interpreted as 'temporarily suspended bed load' whereas the fine fraction is the 'wash load' or 'long term suspended load'.

The suspended load is further divided into the wash load which is generally considered to be the silt + clay-sized material (< 62 μm in particle diameter) and is often referred to as "fine-grained sediment". The wash load is mainly controlled by the supply of this material (usually by means of erosion) to the river. The amount of sand (>62 μm in particle size) in the suspended load is directly proportional to the turbulence and mainly originates from erosion of the bed and banks of the river. In many rivers, suspended sediment (i.e. the mineral fraction) forms most of the transported load. Bedload is stony material, such as gravel and cobbles that moves by rolling along the bed of a river because it is too heavy to be lifted into suspension by the current of the river. Bed load is especially important during periods of extremely high discharge and in landscapes of large topographical relief, where the river gradient is steep (such as in mountains). It is rarely important in low-lying areas.

## 7.7 SOCIAL IMPACT ASSESSMENT, REHABILITATION & RESETTLEMENT (R&R) ACTION PLAN

Socio Economic Impact Assessment (SEIA) refers to systematic analysis of various social and economic characteristics of human being living in a given geographical area during a given period. SEIA is carried out separately but concurrently with Environment Impact Assessment (EIA). It focuses the effect of the project on social and economic well-being of the community.

### 7.7.1 Impact on Demographic Composition

The proposed project will hardly make any difference in the demographic composition of the study area as the additional employment it envisages to create will be met locally to the maximum extent. Hence, the chances of immigration of people from outside the study area are remote. Accordingly, there will be no variation in the total population of the study area including that of sex ratio, when the mine starts operating.

### 7.7.2 Employment Opportunities

The proposed project will provide employment to the local people. It has been estimated that **106 people** will get direct employment in this mining project for this mine sites. It is a positive impact of the project since it is providing employment opportunities to the local people.

### 7.7.3 Increased Supply of Sand in the Market

With the commencement of the proposed mining project the supply of sand will increase and the gap between demand and supply will decrease to some extent, if not fully.

### 7.7.4 Impact on Agriculture

The entire mining area is part of river bed. It is a non-forest land and the proposed activity is to take place in the bed of river Bagmati & agriculture field. There will be no negative impact on agriculture because compensation will be made to the land owners and agriculture land is reclaimed & give back to the land owners after the completion of mining contract so that they will again use the field for cultivation, if required. Scientific mining will be adopted in the

proposed mining project the area will be free from annual floods, which destroy standing crops, land and property. This is a positive impact of the proposed mining project.

### 7.7.5 Impact on Road Development

Movement of tractor-trolleys and other vehicles to and fro the mining site is expected to increase substantially, when mining will start. The existing roads connecting the quarry with the National and State Highways are mostly narrow mud roads. There will be mud slide and traffic bottle neck if these roads are not widened and their conditions are not improved. Hence, there is good scope for road development in the mining area. Further, there are risks of accidents during loading of extracted minerals into tractor-trolleys and transportation to markets for sell. However, accidents can be avoided by taking due care & precautions.

### 7.7.6 Income to Government

The proposed mining activity will benefit the State in the form of royalty, dead rent, fees & earning from taxes.

### 7.7.7 Impact on Law and Order

As most of the workers to be employed in the proposed mining project are local residents no law & order problem is envisaged. It is expected that the workers will attend to their duties from their residence and return to their homes after the day's work. There would have been law & order problem if the workers were migrants and lived in shanties closed to the mining area. However, to meet any untoward incident one police post may be set up closed to the mining area.

### 7.7.8 Impact on Health

There are no chances of occurring diseases, due to mining of sand. Sand is non-toxic. However, sand mining activities such as excavation and loading unloading of sand require precautions since it create respiratory problems among mine workers. Excessive inhalation of sand is a serious health concern. To avoid respiratory problem from sand necessary protection should be taken.

**Rehabilitation and Resettlement (R&R) action plan is not applicable for this project.**

## 7.8 SUMMARY

Risk assessments will help to priorities the risks and provide information on the need to safely control the risks. In this way, mine owners and operators will be able to implement safety improvements. Mining and allied activities are associated with several potential hazards to both the employees and the public at large. A worker in amine will be able to work under conditions, which are adequately safe and healthy. At the same time the environmental conditions also will not impair his working efficiency. This is possible only when there is adequate safety in mines. Hence mine safety is one of the most essential aspects of any working mine. It is very important to conserve the scheduled fauna in the area by the local authority as well as by the forest officials. People are not aware about the wildlife and protection of wild animals. There is an urgent need of education and awareness to local people about the wild life and their importance. A green belt will be developed around the core zone. Green belt plantation will be started with the beginning of the mining and will be completed at the end of mine lease. This mining project has positive impact on social and economic well-being of the community because this project provides employment opportunities to local people and many social welfare works done by project proponent. There is no displacement of the population within the project area and adjacent nearby area.

# CHAPTER-8

# PROJECT BENEFITS

## 8.0 GENERAL

Various benefits are envisaged while planning for the mining of sand, from River Bed. Sand are very important minor mineral and is the principal raw material for meeting the huge demand of construction material required in building construction and infrastructure works, road material for construction and maintenance of roads / highway; elastic ballast material for rail tracks in the State of Bihar. The natural available materials in shoal deposits of river bed quarry site have been found suitable from techno-economic consideration.

## 8.1 PHYSICAL BENEFITS

- ✓ Generate useful economic resource for construction.
- ✓ Improve Socio-economic conditions of surrounding areas.
- ✓ Protecting river banks.
- ✓ Reduce the probability of submergence of adjoining agricultural lands.
- ✓ Protection of crops being cultivated along the river bank.
- ✓ Reducing aggradations of river level.
- ✓ **Improvements in the physical infrastructure:-**The proposed Sand mine will have numerous induced impacts on society such as growth in schools, hospitals, hotels & resorts, transport etc. It will also attract other entrepreneur to establish their venture in the region.
- ✓ **Improvements in the social infrastructure: -**The social infrastructure like religious places (temple, mosque, church, gurdwara); marriage homes, Bus stations, railway stations, play grounds, stadium will be improved due to the induced impact of the proposed drug manufacturing.
- ✓ **Employment potential –skilled; semi-skilled and unskilled: -** The present project will provide direct employment i.e. Total worker are **106** will be engaged in proposed mining activity.
- ✓ **Other tangible benefits:-**The other tangible benefits includes metrics and improvements demonstrating process and system cost savings, compliant inspections and customer audits, faster product approvals and manufacturing throughput, less rejected material, reduced nonconformance issues, and more efficient continuous improvement and project implementation.

Intangible benefits include improved staff morale, faster, more accurate transparent decision making, less employee turnover, increased staff accountability, and an enhanced culture of quality throughout the organization.

## 8.2 SOCIAL BENEFITS

The mining in the area will create rural employment. It has been observed that conditions of the villages around mining areas are better than that of distant villages. The mining activity in the region will have positive impact on the social economic condition of the area by way of providing employment to the local in-habitants; wages paid to them will increase the per capita income, housing, education, medical and transportation facilities, economic status, health and agriculture.

A detailed programme for socio economic development of the area has been framed. The salient features of the programme are as follows:

- ✓ Social welfare programme like provision of medical facilities educational facilities, water supply for the employees as well as for nearby villagers will be taken.
- ✓ A well laid plan for employment of the local people has been prepared by giving priority to local people.
- ✓ Supplementing Govt. efforts in health monitoring camps, social welfare and various awareness programs among the rural population.
- ✓ Assisting social forestry programme.
- ✓ Adoption of villages for general development.
- ✓ Supply of water to village nearby villages.
- ✓ Development of facilities within villages like roads, etc.
- ✓

## 8.3 CORPORATE ENVIRONMENTAL RESPONSIBILITIES

A Budget of 2.0 % of the total Project cost is incurred as Corporate Environmental Responsibility **(CER)** and the utilization of this amount will be decided during the time of Public Consultation.

CER cost will be 2.0% of the total project cost. This amount will be used for social welfare.

CER COST is 183,310,000x 2.0% = Rs 3,666,200

## 8.4 ECOLOGICAL BENEFITS

A green belt will be developed along the boundary of the mining lease area. The area for green belt plantation consists of undisturbed soil; hence plantation could be made as in any garden or road side plantation. Green belt is erected not from biodiversity conservation point of view but is basically developed as a screen to check the spread of dust pollution. It is proposed to plant approx. 670 **Nos. native species** per during the mining plan periods for this sand block by assuming 10 plant per hectare of mining lease area by considering survival rate 60-70%.

## 8.5 CONCLUSION

The management will recruit the semi-skilled and unskilled workers from the nearby villages. The project activity and the management will definitely support the local Panchayat and provide other form of assistance for the development of public amenities in this region. The company management will contribute to the local schools, dispensaries for the welfare of the villagers. A suitable combination of trees that can grow fast and also have good leaf cover will be adopted to develop the green belt. It is proposed to plant 670 **Nos. native** species per during the mining plan periods for this sand block by assuming 10 plant per hectare of mining lease area.

# CHAPTER-9
# ENVIRONMENTAL COST BENEFIT ANALYSIS

## 9.0 Environmental Cost Benefit Analysis

Environmental Cost Benefit Analysis not recommended at scoping stage (TOR) – thus no detailed analysis carried out separately in this EIA/EMP report.

# CHAPTER-10

# ENVIRONMENT MANAGEMENT PLAN

## 10.0 GENERAL

The environmental management must be integrated into the process of mine planning so that ecological balance of the area is maintained and adverse effects are minimized. The Environmental Management Plan (EMP) consists of a set of monitoring programme, mitigation measures, and management control strategies to minimize adverse environmental impacts.

Environment Management Plan, which is to be implemented in the project has detailed under the following heads:

- River course environment
- Air Environment
- Water Environment
- Noise Environment
- Biological Environment including Plantation Development
- Occupational Safety and Health
- Socio-economic and cultural environment
- EMP Budget

## 10.1 RIVER COURSE ENVIRONMENT

Land degradation is one of the major adverse impact of opencast mining activities related to mining and any effort to control adverse impacts would be incomplete without appropriate land reclamation strategy.

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. Thus for environment friendly river bed mining the following control/abatement measures will be followed.

- Removal of sand is from dry part in river bed it is during non-monsoon from dried area and sufficient safety barrier will be left as per EMGSM 2020 guidelines. So that the river flow / course will not get disturbed.
- Unwanted material including mineral or spillage (if any) will not be stacked by the side of the excavation area. If need be done then it should be dozed afterwards in excavation voids created. This is to be done so, because it will otherwise hinder the flow of water in monsoon season.
- Removal of sand is to done leaving safety barrier on both sides and maximum barrier should be on concave side of river preferably the flow channel (excavation void created) should be kept straight so as to help avoid erosion as side cutting.

## 10.2 AIR ENVIRONMENT

During the course of sand mining, no toxic substances are released into the atmosphere, so there seems to be no potential threat to health of human beings. In river bed mining activities, dust will be generated during mining, loading ad transportation. The only source of fugitive gaseous emission during mining is vehicles which will be used for transportation. The environmental management for air pollution control includes:

- The un-metalled haul roads should be adequately compacted before being put into use.
- Water should be sprinkled on these roads periodically every-day (twice in a day), to wet the surface.
- Over loading of transport equipment's should be avoided to prevent spillage.
- Transportation of sand should be in covered vehicles to prevent fugitive dust emission.
- Regular checking and maintenance of vehicles should be conducted once in every two months and pollution under control certificate be obtained.
- It will be ensured that all transportation vehicles carry a valid PUC certificate.
- Masks will be provided to the workers daily during working hours of the mine.
- Plantation will be taken up along the approach roads and vicinity of river bank. The plantation arrests dust

## 10.3 WATER ENVIRONMENT

Removal/collection of sand in the area will be done well above the water table; therefore impact on water regime is not anticipated. The ground water level of lease area is 9 m to 10 m from the surface level. Removal/collection of sand will be done up to a depth of 2.0 m in the river bed, which will be replenished during monsoon season, more or less restoring to original position thus not affecting normal drainage in the river channel also. Mining will be done with scientific method only.

**Waste Water Management**

No waste water is generated due to proposed working as project only involves removal/ collection of sand from river bed in dry state.

## 10.4 NOISE ENVIRONMENT

The noise level monitoring carried out in the area has indicated that the present noise levels in applied mine site are generally within limits. No drilling or blasting will be done in the proposed project of sand, bajri, boulder mining.

The environmental management for noise pollution control includes:

- Proper maintenance of hand equipment's will be carried out every month, which will help in reducing generation of noise during operations.
- Regular checking and maintenance of vehicles should be conducted once in every two month to avoid noise pollution.
- Ear plugs will be provided to workers during the operational hours of mine.
- Periodical monitoring of noise will be done to adopt corrective actions wherever needed.
- Plantation will be taken up along the approach roads and vicinity of river bank. The plantation minimizes propagation of noise and also arrests dust.

## 10.5 BIOLOGICAL ENVIRONMENT INCLUDING PLANTATION DEVELOPMENT

Although, there are no significant adverse impacts from the project, the following measures are proposed to minimize anticipated impacts:

- The project area shall be strictly used for only the activities permitted.

- **Boundary demarcation:** The boundary of the leased area will be marked prior to start of work at the site. All workers shall be informed of the boundary of the project and the forest. No trespassing of the workers into the adjoining forest land shall be permitted.
- **Greenery development:** The project will not lead to any tree cutting. However, as social responsibility, greenery will be developed within two km of the project area. River banks, both side of haul roads and Panchayat land in consultation with the local panchayats will be used for plantation. Community services will be deployed in raising these plantations. Trees of economic importance and native origin such as fruit trees shall be planted.

**Table 10.1: List of Species for Greenbelt Development**

| S/n | Botanical Name | Family | Common Name | Height | Flowering Season | Crown Shape | Crown surface area ($M^2$) |
|---|---|---|---|---|---|---|---|
| 1 | *Alstoniascholaris*( linn.)R. Br. | Apocynaceae | Chattiyan | 15m | Dec - Mar. | Round | 241,680.50 |
| 2 | *Anonaswuamosa*L inn. | Anonaceae | Custard apple | 10m | March - July extended uptosept. | Round | 2178.21 |
| 3 | *Anona reticulate* Linn. | Anonaceae | Bullock's Heart | 10m | June. | Round | 2017.44 |
| 4 | *Azadirachtaindica* A. juss. | Meliaceae | Indian Lilac | 20m | Jan - March, Aug. - Sept. | Spreading | 300,445.30 |
| 5 | *Cassia pumila*Lamk | Caesalpinaceae | Yellow Cassia | 10-12m | | Round | 13,273.70 |
| 6 | *Derris indica*(Lam.)Bennett. | Fabaceae | Pongam-Oil Tree, Karanj | 10m | April - June | Round | 6278.1 |
| 7 | *Eucalyptus citridora Hook.* | Myrtaceae | lemon scented | 20m | Feb. - April, | Conical | 52447.63 |

| S/n | Botanical Name | Family | Common Name | Height | Flowering Season | Crown Shape | Crown surface area ($M^2$) |
|---|---|---|---|---|---|---|---|
| | | | gum | | Oct.- Dec. | | |
| 8 | *Ficusgibbosa*Blume | Moraceae | Korotosani (Orisa) | 10m | April - May | Spreading | 223,45.4 |
| 9 | *Guazmaulmifolia* Lamk | Sterculiaceae | Rudraki | 10m | Mar - August. | Round/ Spreading | 30279.8 |
| 10 | *Heterophragmaroxburghii*DC | Bignoniaceae | | 18m | Feb. - April. | Round/ Oblong | 155217.7 |

Source: Guidelines for development of greenbelt CPCB-2007

## 10.6 OCCUPATIONAL SAFETY AND HEALTH

Occupational Health and Safety professionals develop and coordinate safety and health systems and strategies within organizations. They identify workplace hazards, assess risks to employee health and safety, and recommend solutions. Increasingly, Health and Safety Professionals are also responsible for many of the environmental aspects of their workplace. As this profession matures there is an increased emphasis on risk management strategy and on the development of workplace culture.

**Occupational Health and Safety professionals in the minerals industry may perform the Following tasks-**

I. The collection of minor minerals from the Sand mine does not cause any occupational ill effects.
II. Except fugitive dust generation there is no source which can show a probability for health related diseases and proper dust suppression will control dust generation and dispersion.
III. Dust masks will be provided to the workers working in the dust prone areas as additional personal protective equipment.
IV. The occupational health hazards have so far not been reported.
V. Awareness program will be conducted about likely occupational health hazards so as to have preventive action in place.

VI. Any workers health related problem will be properly addressed.

VII. Periodical medical checkup will be conducted.

VIII. Promote occupational health and safety within their organization and develop safer and healthier ways of working;

IX. Help supervise the investigation of accidents and unsafe working conditions, study possible causes and recommend remedial action;

X. Develop and implement training sessions for management, supervisors and workers on health and safety practices and legislation;

XI. Coordinate emergency procedures, mine rescues, firefighting and first aid crews;

XII. Communicate frequently with management to report on the status of the health and safety strategy and risk management strategy, and Develop occupational health and safety strategies and systems, including policies, procedures and manuals.

**Table-10.2-Budget for occupational health**

| S. No. | Activities recommended for communities level services | Tentative cost (Lakh Rs) |
|---|---|---|
| 1 | Awareness campaigns regarding health issues among workers working on the site | **1.0** |
| 2 | Provide free health checkups & medicines to the workers | **3.0** |
| 3 | Assistance to set up a temporary health center during the lease tenure. | **2.0** |

Budget for occupation health and safety will be approx. 6.0 Lakhs for the proposed project.

## 10.7 SOCIO-ECONOMIC AND CULTURAL ENVIRONMENT

Study on socio economic status has already been carried out using primary socio economic survey for generating the base line data of socio economic status.

**HUMAN SETTLEMENT**

The villages and their inhabitants in the buffer zone will not be disturbed from their settlements due to the mining operations. There is no inhabitation within the lease area being on riverbed. Therefore neither villages nor any part of village or any hamlet will be disturbed during the entire life of the mine. As the mining operations will not disturb or relocate any village or settlement, no adverse impact is anticipated on any human settlement.

**EMPLOYMENT**

The area is considered as industrially backward in the absence of any high employment potential activates, the people are economically backward. The mining operation will provide employment to local people various indirect employment opportunities, will also we generated. Such as employment through contractors, running of trucks, tractors and buses on hire different kind of shop and transport related business avenues.

## 10.8 EMP BUDGET

Following provisions are proposed to be taken for improving, control and monitoring of environment protection measures. EMP budget and their breakup are as:-

**Table-10.3-Environment Management Plan Cost**

| Sl. No | Description | Capital Cost (lakh) | Recurring Cost (lakh) |
|---|---|---|---|
| 1 | Pollution Control & Dust Suppression | **Nil** | **6.0** |
| 2 | Pollution Monitoring<br>i) Air pollution<br>ii) Water pollution<br>iv) Noise Pollution | -- | 2.0 |
| 3 | Plantation and salary for one gardener (part-time basis). | 13.4 | 0.5 |
| 4 | Haul road Maintenance Cost | 5.0 | 1.5 |
| **TOTAL** | | **18.4** | **10.0** |
| | | **28.4** | |

## 10.9 SUMMARY

As per Above discussion there is no measure impact on the environment due to mining except fugitive mission in the form of dust generated during handling of mineral. The adequate preventive measures will be adopted to contain the various pollutants within permissible limits. Plantation development will be carried out in the mine premises, along the approach roads, around Govt. buildings, schools approx**. 670 trees during** plan period**.** It will prove an effective pollution mitigate technique, and help avoid soil erosion during monsoon season. Employment opportunities will be provided to the locals only as providing extraction of minerals from the mine site is the only prevailing occupation for them for their livelihood. The total EMP of the proposed project will be 28.4 Lakhs.

# CHAPTER 11
# SUMMARY & CONCLUSION

## 11.0 INTRODUCTION

As per MoEF&CC, New Delhi Gazette dated 14th September 2006 and amended thereof, the proposed mining project is categorized as category B-1 due to project area is more than 5.0 Ha. The LOI was granted for the period of 5 years (A copy of LOI is attached as Annexure-II.)

The Proposed Sand Mining Project is on Cheer river of Cheer Unit no-2 are as:- Sand Block 03 (Area- 24.0 Ha) at Thana no- 373, 375& 376 Khata no- 243,42,43,376 , Khasra no- 1.223.224,586 & 105 at Mauza-Mohani Chandidia & Danki, Sand Block-4 (Area- 21.0 Ha) at Thana- 376, Khata no-77 Khasra no- 01 & 105 at Mauza- Danki, & Sand Block-5 (Area- 24.0 Ha) at Khata no-376 at Mauza- Danki, Block- Barahat , District. - Banka, Bihar (Total Area- 67.0 Ha).

**Table 11.1: Details of the Project**

| S. No. | Particulars | Details |
|---|---|---|
| **1.** | **Nature and Size of the Project** | Mining of Sand as Minor Minerals with Production Capacity of 804000 cum. per annum or 1447200 MTPA. (M.L. Area- 67.0 ha). |
| **3** | **Toposheet (OSM) No.** | 72P/1 |
| **4.** | **Lease Area Details** | |
| | Lease Area | 67.0 Ha. |
| | Type of Land | River bed of Cheer |
| | Topography | Undulated (Riverbed) |
| | Site Elevation Range | 81.0 m RL to 94.0 m RL |
| **5.** | **Production in TPA** | 804000 cum. per annum or 1447200 MTPA |
| **5.** | **Cost Details** | |
| | Cost of the project | Rs. 1833.10 Lakhs (Including Auction Cost) |
| | Cost for EMP | Rs. 28.4 Lakhs |
| | Cost for CER | Rs. 36.6 Lakhs |
| **6.** | **Environmental & Infrastructural settlings of the area** | |
| | Ecological Sensitive Areas (National Park, Wild Life Sanctuary, Biosphere Reserve, | Mandar giri parvat PF- Approx. 3.8 km in west<br>Protected forest near Mahuawa- Approx. 4.0 km in North |

| | | |
|---|---|---|
| | Reserve/ Protected Forest etc.) within 10 Km radius | |
| | District Headquarter | Banka, approx. 16 km towards NW. |
| | Nearest Town | Bounsi- 2.5 km towards West |
| | Nearest Railway Station | Mandar hill Railway Station, approx. 3.5 Km towards West. |
| | Nearest National/State Highway | NH-133E- Approx. 4.4 km towards West<br>NH-333A- Approx. 600 m towards North |
| | Nearest Airport | Deoghar Airport, approx. 56 Km towards SW. |
| **7** | Medical Facilities | Referal Hospital, Approx. 4.5 km towards West. |
| **8** | Education Facilities | Middle School, Bikha & Durgapur, Approx. 2.2 KM towards West . |
| **9** | Seismic Zone | Zone IV (High damage risk zone) |
| **10** | Water Body | Cheer River (Riverbed) |
| **11** | Ground water Table: | 9-10 m bgl in study area |

## 11.1 PROJECT DESCRIPTION

The proposed project is for mining of Sand (Minor Mineral) by open cast semi-mechanized method in over an area of **67.0 Ha.** of sand block, The district experiences severe cold during winter whereas on the other hand in summer it is very hot. The project site falls under seismic zone IV which is a moderate damage risk zone (MSK VIII-IX). About 73.63 percent of the geographical area of North Bihar is considered to be prone to floods. Bihar often faces drought situation of different scales/levels that intrinsically lead to famine situations. The total geological and minable reserve of the sand block will be 520000 cum. per annum and **.** Mine lease area will be worked in benches and the digging depth will be restricted to 2.0 m only. This will be further replenished during rainy season. Mineral Sand will be transported by trucks. The deposit is moderate to good quality sand. It is widely used in construction, buildings, bridges and other infrastructure. It is free from clay and non-sticky in nature. Total water requirement for the proposed project will be **16.6 KLD**. Total man power requirement for the project is **106.** The site facilities like temporary, rest-shelter, first aid facility, drinking water facility etc. will be provided as per requirement. There is no litigation pending against this project.

## 11.2 DESCRIPTION OF ENVIRONMENT

The generation of primary data as well as collection of secondary data and information from the site and surroundings was carried out during winter Season i.e. October 2023 to December 2023 The EIA study has been done for the Mine Lease (core zone) and area within 10 Km distance from mine lease boundary (buffer zone), both of which together comprise the study area. Baseline environment was determined within the study area, which represents 10 km radius of the surrounding area to the project site. This collected data was further used to identify potential impacts of the mining activity on the surrounding environment and formulate mitigation measures.

**Summary of the baseline data collected is detailed in Table 11.2**

**Table 11.2: Baseline Environmental Status**

| Attribute | Baseline status |
|---|---|
| **Ambient Air Quality** | The ambient air quality study for the 11 AAQ monitoring stations shows that the maximum and minimum ground level concentration for PM10 is respectively 86.7 µg/m3at AAQ9 and 62.6 µg/m3at AAQ5. Whereas the maximum and minimum ground level concentration for PM2.5 ranges between 57.3 µg/m3 at AAQ10 and 31.9 µg/m3 at AAQ1 respectively. Similarly for SO2, the maximum and minimum ground level concentration varies between 12.9 µg/m3 and 6.6 µg/m3 for respectively AAQ10 and AAQ1 respectively. For NO2 the maximum and minimum ground level concentration varies between 25.3 µg/m3 at AAQ8 & 14.6 µg/m3 at AAQ9 respectively. |
| **Noise Levels** | Noise monitoring study reveals that the minimum & maximum noise levels at day time were recorded as 42.7 dB (A) at NQ3 & 55.7 dB (A) at NQ10. The minimum & maximum noise levels at night time were found to be 30.6 dB (A) at NQ6 & 42.4 dB (A) at NQ7. |
| **Water Quality** | 6 Groundwater samples were analyzed and concluded that:<br>The ground water from all sources remains suitable for drinking purposes as all the constituents are within the limits prescribed by drinking water standards by Indian Standards IS: 10500. Overall the surface water quality collected is meeting the Class D of DBU Criteria of CPCB for its suitability for wild life and fisheries. |
| **Soil Quality** | The analysis results show that soil is basic in nature as pH value ranges |

| | |
|---|---|
| | from 7.4 to 8.1 with organic matter 0.41 % to 0.53 %. The concentration of Nitrogen, Phosphorus and Potassium has been found to be in good amount in the soil samples. Soil texture is silty clay loam. |
| **Environmental sensitivity** | Mandar giri parvat PF- Approx. 3.8 km in west<br>Protected forest near Mahuawa- Approx. 4.0 km in North |

### 11.2.0 Anticipated Impacts And Mitigation Measures

Based on the Baseline Environment, as determined in Chapter 3, environmental impacts of the mining activity on the surrounding environment are described in following sub-sections.

### 11.2.1 Impact on Land Use Pattern

Presently there is no activity on the land. The project site is located on bank of river. There is no human settlement in the near vicinity of the project. Restoration of mine lease area is a natural process. There would not be cutting & felling of trees.

### 11.2.2 Impact on Air Quality

Information on air quality was studied and predicted that the mining activity will not affect the air quality in a significant manner. In mining operations, loading, and transportation operations may cause deterioration in air quality. In the present case, only wet materials will be handled. The collection and lifting of minerals will be done Semi mechanized mining method shall be adopted for the mining of sand. Therefore the dust generated is insignificant. Water sprinkling will be done in regular manner for dust suppression.

### 11.2.3 Impact of Noise Levels

Noise level will increase due to transportation. The project site away from the villages no major impact of the noise level will be there. Vehicle with low noise level will be preferred for the project.

### 11.2.4 Impact on Water Quality

More over due to small scale of mining operation using minimum machineries, dust suppression is by water spraying through water sprinkler limited to haulage road. Rainwater flowing through the exposed mine cuts would carry some sediment of soil and rock. These are found to be

nontoxic in nature. Surface runoff water from mines has only high turbidity during monsoon. As discussed, the mining activity will require very less quantity of water in comparison to the recharging. Hence, it will not affect the water regime of the area.

### 11.2.5 Impact on Soil Quality

The soil textures a yellowish, light-coloured variety of red soil. The basin land of the rivers is mostly sandy soil, and the land adjacent to the rivers is sandy loam. It is due to settling of air borne dust or due to wash off of solid particulates by surface or ground water. This may lead to change in porosity, permeability & other such physical characteristics of soil of the area.

### 11.2.6 Flora & Fauna

**Flora**

Floral environment is affected by mining activities due to:

- Air Pollution i.e. both dust & gaseous pollution
- Water pollution
- Land Pollution

Pollutant like dust, gaseous emanations, solid & liquid effluents will be minimized at the generation point itself and adequate measures will be taken to prevent their impact on environment.

ii) There is no forest in the core zone of mining lease area. So, there will be no deforestation due to mining.

iii) The mining lease area is devoid of vegetation. So, the greenery to be developed under green belt development programme will improve the floral environment of the area.

**Fauna**

There is no likelihood of any adverse impact on the faunal environment too due to mining activities.

### 11.2.7 Socio-Economic Profile

The social demographic profile of the area is not likely to be much affected, as there is not much displacement of people due to the project. The mining in the area has created rural employment. The mining activity in the region has positive impact on the social economic condition of the area by providing employment to the local in habitants; wages paid increase the per capita income.

## 11.3 ANALYSIS OF ALTERNATIVES (TECHNOLOGY AND SITE)

We have analyzed all the option for alternatives of the proposed mine site. This project is sand specific project and existing land use of mine lease classified as River Body which will continue to be so even after the current mining project is over, hence no alternate site is suggested for this project.

## 11.4 ENVIRONMENTAL MONITORING PROGRAM

This chapter includes the technical aspects of monitoring the effectiveness of mitigation measures (including measurement methodologies, data analysis, reporting schedules, emergency procedures, detailed budget & procurement schedules). In order to maintain the environmental quality within the stipulated standards, regular monitoring of various environmental components is necessary which will complied as per conditions. For this lessee has taken decision to formulate an Environment Policy of the mine and constitute an Environmental Management Cell and committed to operate the proposed mine with the objectives mentioned in approved Environment Policy. EMP may also require measurement of ambient environmental quality in the vicinity of a sit using ecological/biological, physical and chemical indicators. Monitoring may include socio-economic interaction, through local liaison activities or even assessment of complaints. Regular Monitoring of all the environmental parameters *viz.*, air, water, noise and soil as per the formulated program based on CPCB and MoEF&CC guidelines will be carried out every year. The location of the monitoring stations was selected on the basis of prevailing micro meteorological conditions of the area like; wind direction and wind speed, relative humidity, temperature. A budget for monitoring of Air, water, Noise will be approx. **Rs. 6.0 Lakhs** to be incurred by the project proponent for undertaking pollution prevention measures during the mining activity.

## 11.5 ADDITIONAL STUDIES

Risk assessments will help to priorities the risks and provide information on the need to safely control the risks. In this way, mine owners and operators will be able to implement safety improvements. Mining and allied activities are associated with several potential hazards to both the employees and the public at large. A worker in a mine will be able to work under conditions,

which are adequately safe and healthy. At the same time the environmental conditions also will not impair his working efficiency. This is possible only when there is adequate safety in mines. Hence mine safety is one of the most essential aspects of any working mine. It is very important to conserve the scheduled fauna in the area by the local authority as well as by the forest officials. People are not aware about the wildlife and protection of wild animals. There is an urgent need of education and awareness to local people about the wild life and their importance. A green belt will be developed around the core zone. Green belt plantation will be done upto completion of plan period. This mining project has positive impact on social and economic well-being of the community because this project provides employment opportunities to local people and many social welfare works done by project proponent. There is no displacement of the population within the project area and adjacent nearby area.

## 11.6 PROJECT BENEFITS

The management will recruit the semi-skilled and unskilled workers from the nearby villages. The project activity and the management will definitely support the local Panchayat and provide other form of assistance for the development of public amenities in this region. The company management will contribute to the local schools, dispensaries for the welfare of the villagers. A suitable combination of trees that can grow fast and also have good leaf cover will be adopted to develop the green belt. It is proposed to **plant 670 Nos.** of native species will be planted during the mining plan period. The project proponent has allocated 2 % of total project cost annum for CER Activities. Other than this social development of village will be considered as per social activities Socio-economic environment will have positive impact due to the mining project in the area. The mining activity will create employment opportunities to local communities. The project will not only improve the living standard of local people but also create an aesthetic value to the river banks where green belt will be developed.

## 11.7 ENVIRONMENT MANAGEMENT PLAN

As per Above discussion there is no measure impact on the environment due to mining except fugitive emission in the form of dust generated during handling of mineral. The adequate preventive measures will be adopted to contain the various pollutants within permissible limits. Plantation development will be carried out nearby the mine site, along the approach roads, around Govt. buildings, schools **approx. 670 trees** during plan period. It will prove an effective

pollution mitigate technique, and he provided to the locals only as providing extraction of minerals from the mine site is the only prevailing occupation for them for their livelihood. A combined EMP budget of this sand block will be Rs. 28.4 Lakhs for EMP is incurred by Project Proponent.

### 11.7.1 Air Quality Management

The only air pollution sources are the road transport network of the trucks. The dust suppression measures like water spraying will be done on the roads. Utmost care will be taken to prevent spillage from the trucks. Overloading will be prevented. Plantation activities along the roads will also reduce the impact of dust in the nearby villages.

### 11.7.2 Management for Noise Pollution

As the only impact is due to transportation of sand to the construction though village roads, emphasis will be given on the following points.

- Minimum use of Horns at the village area.
- Timely maintenance of vehicles and their silencers to minimize vibration and sound.
- Phasing out of old and worn out trucks.
- Provision of green belts along the road networks.
- Care will be taken to produce minimum sound during loading.

It was found that the sand mining activity will not have any significant impact on the biological environment of the region. Since mining activity is carried out only during the day time, the movement of animals during the night will not be hindered.

### 11.7.3 Water Management

The deposits occur in the middle/bottom of the river. During the entire lease period, the deposit will be worked from the top surface to 2.0 m bgl. The ultimate depth of the open cast pits will be 2.0 m below ground level.

### 11.7.4 Soil Management

No top soil has been found within mine site. Green belt development around the area minimizes the impact of mining on soil characteristics like its texture, chemistry & even Soil Erosion in the

area. Transportation of the trucks carrying mined material will be covered to avoid dust pollution on soil.

### 11.7.5 Green Belt Development

The green belts will be designed to control PM 10, gaseous pollutants, noise, surface run off and soil erosion etc. **Approx. 670 local** and fast growing plant species will be planted in nearby the mine site, along the approach roads, around Govt. buildings, schools for green belt development for this sand block.

## 11.8 CONCLUSION

This Project will provide several benefits to the nearby Villages by a proper planning and management. This project will employ most of the worker from nearby villages. Only supervisor Staff will be hired from outside. There will not be any increase in population due to the project. However, few people from other area may migrate in this area for business opportunities. During the operation of this project no adverse impact on the surrounding environment. So project is beneficiary for the surrounding village. From the baseline study and various discussion on probable impacts of all the operational activity, it has been concluded that this project will more positive impact and will generate the revenue and employment in the area. On the above facts and baseline study, the proposed activity is recommended for the commencement with proper mitigation measure as suggested.

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ANNEXURE A-14

सत्यमेव जयते

**Government of India**
**Ministry of Environment, Forest and Climate Change**
(Issued by the State Level Expert Appraisal Committee(SEAC), BIHAR)
***

**Minutes of 44th Meeting of the SEAC, Bihar constituted on 12.08.2021 State Level Expert Appraisal Committee meeting held from 03/08/2024 to 03/08/2024**

**Date:** 03/08/2024

**MoM ID:** EC/MOM/SEAC/218200/8/2024

**Agenda ID:** EC/AGENDA/SEAC/218200/8/2024

**Meeting Venue:** Meeting hall of State Environment Impact Assessment Authority (SEIAA), Bihar, 2nd Floor, BELTRON Bhawan, Shastri Nagar, Patna, Bihar - 800 023

**Meeting Mode:** Hybrid

**Date & Time:**

| | | |
|---|---|---|
| 03/08/2024 | 11:00 AM | 04:00 PM |

**1. Opening remarks**

**2. Confirmation of the minutes of previous meeting**

**3. Details of proposals considered by the committee**

**Day 1 -03/08/2024**

**3.1. Agenda Item No 1:**

**3.1.1. Details of the proposal**

| **Sand Mining Project, Jamui Barnar-10 Sand Ghat of District- Jamui, State-Bihar.** by **SANJAY SINGH** located at **JAMUI,BIHAR** | | | |
|---|---|---|---|
| **Proposal For** | | Fresh EC | |
| **Proposal No** | **File No** | **Submission Date** | **Activity (Schedule Item)** |
| SIA/BR/MIN/471173/2024 | SIA/1(a)/2398/2023 | 09/07/2024 | Mining of minerals (1(a)) |

**3.1.2. Project Salient Features**

account and should not be diverted for other purpose. Year-wise expenditure should be reported to the SEIAA, Bihar.

11. The Project proponent shall provide all necessary logistic support to the authorized officer of this authority as and when required. They will facilitate and assist the authority in site inspection and monitoring.

12. All the provisions made and restrictions imposed as envisaged in the Bihar Minor Mineral Rule, shall be complied with; particularly regarding Environment Management and payment of compensation to the affected land owner(s).

13. No change in mining technology and scope of working should be made without prior approval of the SEIAA, Bihar.

14. The Ministry / SEIAA may alter / modify the above conditions or stipulate any additional condition(s) in the interest of environment.

15. Concealing of factual data or submission of false / fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal/suspension of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.

16. The instruction contained herein above regarding air and noise pollution and details of mining proposals shall be displayed on Signboard in Hindi for the public information.

17. The SEIAA may impose additional conditions in the interest of Environment& Ecology whenever it becomes necessary to do so.

18. Any appeal against this environmental clearance shall lie with the Hon'ble National Green Tribunal, if preferred, within a period of 30 days as prescribed under section 16 of the National Green Tribunal Act, 2010.

**3.12. Agenda Item No 12:**

**3.12.1. Details of the proposal**

| **Sand Mining Project of Area 67.0 Ha at Cheer Unit-II ( Sand Block 3,4 & 5) on Cheer River of District-Banka of State-Bihar** by **SANDEEP CHANDAK** located at **BANKA,BIHAR** | | | |
|---|---|---|---|
| **Proposal For** | | Fresh EC | |
| **Proposal No** | **File No** | **Submission Date** | **Activity (Schedule Item)** |
| SIA/BR/MIN/489647/2024 | SIA/1(a)/2390/2023 | 01/08/2024 | Mining of minerals (1(a)) |

**3.12.2. Project Salient Features**

Sand Mining Project on Cheer River at Cheer Unit – II (Block No. – 3, 4 and 5) Sand Ghat of District – Banka, Area – 67 Ha., (File No.- SIA/1(a)/2390/2023), Online Proposal No.:- SIA/BR/MIN/489647/2024).

**3.12.3. Deliberations by the committee in previous meetings**

N/A

**3.12.4. Deliberations by the SEAC in current meetings**

Application along with filled up 'Form – I, Pre-feasibility report in the prescribed format and scrutiny fee was submitted to SEIAA, Bihar on 10th May, 2023 for obtaining Terms of Reference (ToR). SEIAA, Bihar issued System Generated ToR Vide SIA/1(a)/2390/2023, dated 11.05.2023 and public hearing for the proposed project was conducted by Bihar State Pollution Control Board on 19.06.2024. Online Final EIA report was submitted by Project Proponent in the prescribed format to SEIAA, Bihar on 01.08.2024 for obtaining Environmental Clarence (EC).

The sand ghat under the proposal has been mentioned in the District Survey Report (DSR) approved by the State Environment Impact Assessment Authority (SEIAA), Bihar vide letter no. 251, dated 23.05.2022.

Project Proponent was absent neither any persons were authorized by him to present his case before the Committee. The Committee made a call on the cell phone of the project proponent but somebody else received the call but he could not properly explain the absence of proponent neither he gave any reply to the question as to why no person was authorized on his behalf to present his case before the committee.

The Committee, thereafter, made appraisal of the proposal on the basis of documents uploaded on the portal and various other environmental parameters and found that there is plenty of minable sand at the ghat. At the public consultation meeting, people have also given their opinion in favour of mining.

In the facts and circumstance of the matter, the committee decided to recommend the proposed proposal for grant of Environmental Clearance subject to the following additional conditions along with standard conditions as mentioned in Annexure **"B"**.

1. The proposed plantation consisting of mixture of indigenous and fast growing species of trees must be done and proper care must be taken. Plantation of a minimum of 5 feet tall plants must be done in the 1st year of lease period itself and properly maintained till the validity of Environmental Clearance and preserve the existing trees at the proposed site.
2. The Project Proponent shall execute and conduct measurable CER activities like facilities for drinking water supply, infrastructure creation, solar power, Rain Water Harvesting, Solid Waste Management Facilities, sanitation, essential furniture's for the local government schools and Anganwadi Kendra. A display board of the CER activities must be fixed for the information to the public. The Project Proponent has to intimate the concerned District Magistrate and the concerned district level officers of the concerned departments for record and information, with copy marked

the Bihar State Pollution Control Board (BSPCB), Patna.

3. Under the Corporate Environment Responsibilities the modalities of all expenditure on skill development programme need to be done in consultation with and guidance of Bihar Skill Devolvement Mission, with intimation to the concerned District Magistrate, State Environment Impact Assessment Authority and Bihar State Pollution Control Board, Patna.
4. Project Proponent has to fix display board on each mining site mentioning thereupon various activities to be done under Environment Management Plan (EMP).
5. The project proponent shall limit the sand mining upto 2 meters (two meters) depth. Mining should be done by semi-mechanised method without using any heavy machine, preferably by manual excavation.
6. The Project Proponent must maintain nearby existing ponds if any.
7. Proper care should to be taken during transportation of sand from the sand mining site by covering the loaded sand. There should be a freeboard of atleast 3 inches from the body level of the vehicle, so that the sand doesn't get spilled over on the road and doesn't affect the air quality as well.
8. Proponent should submit high resolution satellite images with stereoscopic 3D view from the National Remote Sensing Center (NRSC), Hyderabad for any day in the month of June and December of every year, along with the respective half-yearly compliance report in hard and soft copy [as received from the National Remote Sensing Center (NRSC)].
9. Temporary Extraction path (Iron bridge / Hume pipe) constructed for local transport from the mining site should be compulsorily dismantled before the onset of rainy season (1st July). So that natural flow of water through the active river channel may not get disturbed.

**3.12.5. Recommendation of SEAC**

| |
|---|
| Recommended |

**3.12.6. Details of Environment Conditions**

**3.12.6.1. Specific**

| |
|---|
| N/A |

**3.12.6.2. Standard**

| | |
|---|---|
| 1(a) | **Mining of minerals** |
| **Statutory compliance** | |
| 1. | 1. The Project Proponent shall obtain all necessary clearance/ permission from all concerned departments before commencement of mining works.<br>2. The Environmental Clearance will be valid for mine lease period subject to a ceiling of 5 years.<br>3. The project proponent before starting any activity /preparation of ground, on the leased area |

shall demarcate his lease hold by RCC pillars erected at the cost of lease holder after certification of the mining officer. On each pillar Geo-Coordinate and fore bearing/ back bearing shall be written with permanent paint mark as described in the mining plan. All the pillars should remain intact at same geo–coordinate. Establishment/ labeling of Benchmark at each pillars or ground control points.

4. Extraction of sand beyond annual production capacity is not permitted.

5. The Project Proponent should undertake the sand mining limited to 02 meters (two meters) depth by semi-mechanised method (without using any heavy machine), preferably by manual excavation.

6. Extraction will be carried out up to a maximum depth of 02 meter from surface of mineral deposit and not less than one meter from the water level of the River channel whichever is earlier.

7. No mining shall be carried out in the areas prominently used by wild animals (birds and reptiles) for nesting. Restricted working hours-Sand mining operation has to be carried out between 6 am to 7 pm.

8. No mining shall be carried out in 3 meter wide strip from the river bank in a River flood plain and within flowing/live water channel.

9. To maintain the safety and stability of Riverbanks, 3 meter or 10% of the width of the River whichever is more will be left intact as "No Mining Zone".

10. No stream shall be diverted for the purpose of sand mining. No natural water course and / or water reservoirs shall be obstructed due to mining operations.

11. The pollution due to transportation load on the environment will be effectively controlled & water sprinkling will also be done regularly. Vehicles with PUCC only will be allowed to ply. The mineral transportation shall be carried out through covered vehicles / trucks only and the vehicle shall not be overloaded. Project should obtain 'PUC' certificate for all the vehicles from authorized pollution testing centre.

12. The stacking area of mined-out sand which shall be situated near the mining site within a fenced area from all sides to avoid being spread in the nearby areas by high winds and the height of stacking should not exceed 2 meter. Transportation shall be confined to day time only that is from sunrise to sunset, to avoid inconvenience to local population in anyway.

13. Rubbish burial shall not be done in the Rivers.

14. Adequate steps shall be taken to check soil erosion and control of debris flow etc. by constructing engineering structures.

15. Mining activity shall not be done for mine lease where mining can cause danger to site of flood protection works, places of cultural, religious, historical, and archaeological importance.

16. The approach road from loading point upto main road shall be properly developed with proper width and geometry required for safe movement of traffic by lease holder at his own cost.

17. Main haulage road in the mine shall be provided with permanent water sprinklers and other roads shall be regularly wetted with water tankers fitted with sprinklers.

18. Transportation of the Minerals by road passing through the village shall not be allowed. A 'bypass' road should be constructed (say, leaving a gap of at least 200 meters) for the purpose of transportation of the minerals so that the impact of sound, dust and accidents could be mitigated. The Project Proponent shall bear the cost towards the widening and strengthening of existing public road-network in case the same is proposed to be used for the Project. No road movement should be allowed on existing village road network without appropriately increasing the carrying capacity of such roads.

19. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.

20. Project Proponent shall appoint a Monitoring committee to monitor the replenishment study, traffic management, levels of production, river Bank erosion and maintenance of Road etc.

21. Project Proponent shall submit the annual replenishment report certified by an authorized agency. In case the replenishment is lower than the approved rate of production, then the mining activity / production levels shall be decreased / stopped accordingly till the replenishment is completed.

22. Regular monitoring of the flow rate of the springs and seasonal stream flowing in and around the mine lease shall be carried out and records maintained. Regular monitoring of water quality upstream and downstream of water bodies shall be carried out and record of monitoring data should be maintained and submitted to the SEIAA, Bihar, Regional office, Ranchi, Central Ground water Authority, Regional Director, Central Ground water Board, State Pollution Control Board and Central Pollution Control Board.

23. The project proponent shall abide by the Hon'ble Supreme Court order dated 08.01.2020 [Writ Petition 9 (s) (Civil No. (s) 114/2014]. Proposal of re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. In compliance to the direction dated 8$^{th}$ January, 2020 of Hon'ble Supreme Court in Writ Petitioner(s) Civil No. 114/2014, Common Cause Vs Union of India &Ors.

24. The individual sand ghat-miner will take appropriate measures to avoid parking of empty / loaded vehicles on nearest highway/ public roads to avoid traffic congestion.

25. Project Proponent will adhere to all applicable provisions of Sustainable Sand Mining Management Guidelines 2016 and Enforcement & Monitoring Guidelines for Sand Mining, 2020 (EMGSM – 2020) issued by Ministry of Environment, Forest and Climate Change, Government of India. In case, any ambiguity or variation between the provision of both these document arises, the provision made in "Enforcement and Monitoring Guidelines for Sand Mining – 2020" shall prevail.

26. All specific and general conditions which are of public concern at large shall be permanently displayed at a prominent place for public along with address and contact details of authority where the violation of EC conditions can be reported.

27. Project proponent shall erect a signboard on his project site and display information regarding name of the project, No. & date of validity period of EC, annual production capacity of the mineral and other relevant information for the general public.

**B. General condition**

1. No stacking of sand is allowed on road side of any public road including national highways/ State highways.

2. No labour camp shall be allowed in riverbed.

3. Provision shall be made for housing labour with all necessary infrastructure and facilities (outside mining Block and river-bed) such as fuel for cooking, toilets / mobile toilets, safe drinking water, First-Aid facilities, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

4. Labour& Personnel working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers shall be undertaken periodically to observe any adverse health impact due to exposure to dust and take corrective measures, if needed.

5. The Project Proponent shall make arrangements for safe drinking water, first aid facility along With anti-venom injection, in case of emergency for the workers.

6. The project proponent shall maintain register for production and dispatch of mineral and submit periodic return (six-monthly) to the SEIAA, Bihar / Regional Office of Ministry of Environment, Forest and Climate Change, Government of India, Ranchi. If the remaining period of lease is for less than a year, the Project Proponent shall submit a monthly return of production.

7. The EC holder shall keep a correct account of quantity of mineral mined out, dispatched from the mine, mode of transport, registration number of vehicle and mine plan. This should be produced before officers of Central and State Government for inspection whenever asked for.

8. Regular monitoring of ground water table shall be carried out at the upstream and depth of water available in the adjoining dug-well.

9. Monitoring of Ambient Air Quality, Water Quality & Noise Quality shall be carried out as per the Notification, as amended from time to time by the Central Pollution Control Board. Water sprinkling should be increased at places of loading and unloading points & transfer points to reduce all sorts of fugitive emissions.

10. The funds earmarked for environmental protection measures should be kept in a separate bank account and should not be diverted for other purpose. Year-wise expenditure should be reported to the SEIAA, Bihar.

11. The Project proponent shall provide all necessary logistic support to the authorized officer of this authority as and when required. They will facilitate and assist the authority in site inspection and monitoring.

12. All the provisions made and restrictions imposed as envisaged in the Bihar Minor Mineral Rule, shall be complied with; particularly regarding Environment Management and payment of compensation to the affected land owner(s).

13. No change in mining technology and scope of working should be made without prior approval of the SEIAA, Bihar.

14. The Ministry / SEIAA may alter / modify the above conditions or stipulate any additional condition(s) in the interest of environment.

15. Concealing of factual data or submission of false / fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal/suspension of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.

16. The instruction contained herein above regarding air and noise pollution and details of mining proposals shall be displayed on Signboard in Hindi for the public information.

17. The SEIAA may impose additional conditions in the interest of Environment& Ecology whenever it becomes necessary to do so.

18. Any appeal against this environmental clearance shall lie with the Hon’ble National Green Tribunal, if preferred, within a period of 30 days as prescribed under section 16 of the National

| | |
|---|---|
| | Green Tribunal Act, 2010.<br><br>- |

**3.13. Agenda Item No 13:**

**3.13.1. Details of the proposal**

| **Proposed Sand Mining Project BHOJ SON- 27 C on Sone River of District- Bhojpur, State- Bihar** by **HARE RA M YADAV** located at **BHOJPUR,BIHAR** | | | |
|---|---|---|---|
| **Proposal For** | | Fresh EC | |
| **Proposal No** | **File No** | **Submission Date** | **Activity (Schedule Item)** |
| SIA/BR/MIN/490819/2024 | SIA/1(a)/2539/2024 | 01/08/2024 | Mining of minerals (1(a)) |

**3.13.2. Project Salient Features**

**Sand Mining Project on Sone River at Bhoj Sone – 27 C Sand Ghat of District – Bhojpur, Area – 22 Ha., (File No.- SIA/1(a)/2539/2024), Online Proposal No.:- SIA/BR/MIN/490819/2024).**

**3.13.3. Deliberations by the committee in previous meetings**

N/A

**3.13.4. Deliberations by the SEAC in current meetings**

Application along with filled up 'Form – I, Pre-feasibility report in the prescribed format and scrutiny fee was submitted to SEIAA, Bihar on 20th May, 2024 for obtaining Terms of Reference (ToR). SEIAA, Bihar issued System Generated ToR Vide SIA/1(a)/2539/2024, dated 24.05.2024 and public hearing for the proposed project was conducted by Bihar State Pollution Control Board on 24.07.2024. Online Final EIA report was submitted by Project Proponent in the prescribed format to SEIAA, Bihar on 01.08.2024 for obtaining Environmental Clarence (EC).

The sand ghat under the proposal has been mentioned in the District Survey Report (DSR) approved by the State Environment Impact Assessment Authority (SEIAA), Bihar vide letter no. 266, dated 23.05.2022.

Project Proponent was absent neither any persons were authorized by him to present his case before the Committee. The Committee made a call on the cell phone of the project proponent but somebody else received the call but he could not properly explain the absence of proponent neither he gave any reply to the question as to why no person was authorized on his behalf to present his case before the committee.

The Committee, thereafter, made appraisal of the proposal on the basis of documents uploaded on the portal and various other environmental parameters and found that there is plenty of minable sand at



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ANNEXURE A-15

सत्यमेव जयते

**Government of India**
**Ministry of Environment, Forest and Climate Change**
(Issued by the State Level Expert Appraisal Committee(SEAC), BIHAR)
***

**Minutes of 40th Meeting of the SEAC, Bihar constituted on 12.08.2021 State Level Expert Appraisal Committee meeting held from 29/05/2024 to 29/05/2024** **Date:** 06/06/2024

**MoM ID:** EC/MOM/SEAC/230972/5/2024

**Agenda ID:** EC/AGENDA/SEAC/230972/5/2024

**Meeting Venue:** Meeting Hall, SEIAA, Bihar 2nd floor Beltron Bhawan, Shastri Nagar, Patna – 23

**Meeting Mode:** Hybrid

**Date & Time:**

| | | |
|---|---|---|
| 29/05/2024 | 12:01 PM | 06:30 PM |

**1. Opening remarks**

N/A

**2. Confirmation of the minutes of previous meeting**

N/A

**3. Details of proposals considered by the committee**

**Day 1 -29/05/2024**

**3.1. Agenda Item No 1:**

**3.1.1. Details of the proposal**

**Proposed Industrial Area Mahwal at Mahwal, Block Motipur (Baruraj), Dist. Muzaffarpur by Bihar Industrial Area Development Authority (28.66 Acres / 11.598 Ha. / 1,248,430 Sqft.) dedicated for establishment of 6 Million TPA Standalone Cement Grinding Unit** by **BIHAR INDUSTRIAL AREA DEVELOPMENT AUTHORITY** located at **MUZAFFARPUR,BIHAR**

| **Proposal For** | | Fresh ToR | |
|---|---|---|---|
| **Proposal No** | **File No** | **Submission Date** | **Activity (Schedule Item)** |
| SIA/BR/INFRA1/464997/2024 | SIA/7(c)/2531/2024 | 06/05/2024 | Industrial estates/ parks/ complexes/ areas, export processing Zones (EPZs), Special Eco |

environmental issues and for ensuring compliance with the environmental clearance conditions? Details of this system may be given.

Does the company have system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the company and / or shareholders or stakeholders at large. This reporting mechanism shall be detailed in the EIA report.

Details regarding infrastructure facilities such as sanitation, fuel, restroom etc. to be provided to the labour force during construction as well as to the casual workers including truck drivers during operation phase.

Adequate funds (at least 2 % of the project cost) shall be earmarked towards the Enterprise Social Commitment based on Public Hearing issues and item-wise details along with time bound action plan shall be included. Socio-economic development activities need to be elaborated upon.

**(9)** Any litigation pending against the project and/or any direction/order passed by any Court of Law against the project, if so, details thereof shall also be included. Has the unit received any notice under the Section 5 of Environment (Protection) Act, 1986 or relevant Sections of Air and Water Acts? If so, details thereof and compliance/ATR to the notice(s) and present status of the case.

**(10)** A tabular chart with index for point's wise compliance of above TOR.

**B) <u>Specific Terms of Reference:</u>**

Present land use shall be prepared based on satellite imagery. High-resolution satellite image data having 1m-5m spatial resolution like quick bird, Ikonos, IRS P-6 pan sharpened etc. for the 10 Km radius area from proposed site. The same shall be used for land used/land-cover mapping of the area.

If the raw materials used have trace elements, an environment management plan shall also be included.

Plan for the implementation of the recommendations made for the cement grinding unit as per the CREP guidelines must be prepared.

Energy consumption per ton of clinker and cement grinding.

Arrangement for use of hazardous waste.

**3.2. Agenda Item No 2:**

**3.2.1. Details of the proposal**

| **Sri SAI INDUSTRIES** by **LAXMI PRASAD** located at **AURANGABAD,BIHAR** | | | |
|---|---|---|---|
| **Proposal For** | | Fresh EC | |
| **Proposal No** | **File No** | **Submission Da** | **Activity** |

| | | te | (Schedule Item) |
|---|---|---|---|
| SIA/BR/IND1/447146/2023 | SIA/3(a)/2244/2023 | 29/01/2024 | Metallurgical Industries (ferrous and non ferrous) (3(a)) |

**3.2.2. Project Salient Features**

null

**3.2.3. Deliberations by the committee in previous meetings**

**Date of SEAC 1 :**17/02/2024

**Deliberations of SEAC 1 :**

Project Proponent was absent. Therefore the committee deferred the proposal for next meeting.

**3.2.4. Deliberations by the SEAC in current meetings**

In this meeting the Project Proponent submitted a letter (Email) stating that due to health issues he is unable to attend the meeting. Therefore the committee decided to defer this proposal for the next meeting.

**3.2.5. Recommendation of SEAC**

Deferred for PP not attending the meeting

**3.3. Agenda Item No 3:**

**3.3.1. Details of the proposal**

**S.L.C. Medical College & S.P.N.M.S. Hospital (Existing Built-up Area 18133.34 Sqm. , Proposed Built-up Area 50767.53 Sqm., Total Built up Area 68900.87 Sqm.) at Parmanandpur, Block - Khagaria, Dist. Khagaria, State Bihar, A Project of Madhuri Seva Nyas ( Registered Public Charitable Trust )** by **SWAMI NAND** located at **KHAGARIA,BIHAR**

| **Proposal For** | | Fresh EC | |
|---|---|---|---|
| **Proposal No** | **File No** | **Submission Date** | **Activity (Schedule Item)** |
| SIA/BR/INFRA2/466292/2024 | SIA/8(a)/2522/2024 | 20/03/2024 | Building / Construction (8(a)) |

**3.3.2. Project Salient Features**

Proposed S.L.C. Medical College and S.P.N.M.S Hospital at Block – Khagaria, District – Khagaria, Bihar (File No.- SIA/8(a)/2522/2024), Online Proposal No.:-SIA/BR/INFRA2/466292/2024).

**3.3.3. Deliberations by the committee in previous meetings**

| | |
|---|---|
| | |

**3.10. Agenda Item No 10:**

**3.10.1. Details of the proposal**

| **Sand Mining Project of Bikku balu ghat and Nardiganj balu ghat Sand Block- 26 on Tillaiya River of Area 9.70 Ha. of District-Nawada of State-Bihar** by **MANIRANI CONSTRUCTION PRIVATE LIMITED** located at **NAWADA,BIHAR** | | | |
|---|---|---|---|
| **Proposal For** | | Fresh EC | |
| **Proposal No** | **File No** | **Submission Date** | **Activity (Schedule Item)** |
| SIA/BR/MIN/472770/2024 | SIA/1(a)/2456/2023 | 15/05/2024 | Mining of minerals (1(a)) |

**3.10.2. Project Salient Features**

Sand Mining Project on Tilaiya River at Block No. – 26 (Bikku Sand Ghat and Nardiganj Sand Ghat) of District – Nawada, Area – 9.70 Ha. (File No. - SIA/1(a)/2456/2023), Online Proposal No.:- SIA/BR/MIN/472770/2024).

**3.10.3. Deliberations by the committee in previous meetings**

N/A

**3.10.4. Deliberations by the SEAC in current meetings**

In this meeting the project proponent has sent a letter stating that due to health problems he is unable to attend the m

Therefore, the committee has decided to defer this proposal to the next meeting for the appearance/submission of the Project Proponent for further necessary action.

**3.10.5. Recommendation of SEAC**

Deferred for PP not attending the meeting

**3.11. Agenda Item No 11:**

**3.11.1. Details of the proposal**

| **Sand Mining Project of Area 11.60 Ha at Pasai balu ghat Sand Block-10 Ghat on Dhadhar River of District-Nawada of State-Bihar** by **MANIRANI CONSTRUCTION PRIVATE LIMITED** located at **NAWADA,BIHAR** | |
|---|---|
| **Proposal For** | Fresh EC |

| Proposal No | File No | Submission Date | Activity (Schedule Item) |
|---|---|---|---|
| SIA/BR/MIN/472764/2024 | SIA/1(a)/2455/2023 | 15/05/2024 | Mining of minerals (1(a)) |

**3.11.2. Project Salient Features**

Sand Mining Project on Dhadhar River at Block No. – 10 (Pasai Sand Ghat) of District – Nawada, Area – 11.60 Ha. (File No. - SIA/1(a)/2455/2023), Online Proposal No.:- SIA/BR/MIN/472764/2024).

**3.11.3. Deliberations by the committee in previous meetings**

N/A

**3.11.4. Deliberations by the SEAC in current meetings**

In this meeting the project proponent has sent a letter stating that due to health problems he is unable to attend the m

Therefore, the committee has decided to defer this proposal to the next meeting for the appearance/submission of the Project Proponent for further necessary action

**3.11.5. Recommendation of SEAC**

Deferred for PP not attending the meeting

**3.12. Agenda Item No 12:**

**3.12.1. Details of the proposal**

| **Sand Mining Project of Sahora balu ghat of Area 5.58 Ha on Badua River of District-Munger of State-Bihar** by **KUNDAN KUMAR** located at **MUNGER,BIHAR** | | | |
|---|---|---|---|
| **Proposal For** | | Fresh EC | |
| **Proposal No** | **File No** | **Submission Date** | **Activity (Schedule Item)** |
| SIA/BR/MIN/468861/2024 | SIA/1(a)/2472/2023 | 20/05/2024 | Mining of minerals (1(a)) |

**3.12.2. Project Salient Features**

Sand Mining Project on Badua River at Sahora Sand Ghat of District – Munger, Area – 5.58 Ha. (File No. - SIA/1(a)/2472/2023), Online Proposal No.:- SIA/BR/MIN/468861/2024).

**3.12.3. Deliberations by the committee in previous meetings**

N/A

**3.12.4. Deliberations by the SEAC in current meetings**

In this meeting the Project Proponent submitted a letter (Email) stating that due to health issues he is unable to attend the meeting. Therefore the committee decided to defer this proposal for the next meeting.

**3.12.5. Recommendation of SEAC**

Deferred for PP not attending the meeting

**3.13. Agenda Item No 13:**

**3.13.1. Details of the proposal**

| **Sand Mining Project, Block- 06 (Milky/Chilaungiya) Sand Ghat of District- Nawada, State-Bihar** by **RAJU RAJ** l ocated at **NAWADA,BIHAR** | | | |
|---|---|---|---|
| **Proposal For** | | Fresh EC | |
| **Proposal No** | **File No** | **Submission Date** | **Activity (Schedule Item)** |
| SIA/BR/MIN/453542/2023 | SIA/1(a)/2340/2023 | 01/02/2024 | Mining of minerals (1(a)) |

**3.13.2. Project Salient Features**

Sand Mining Project, Block- 06 (Milky / Chilaungiya) Sand Ghat of District- Nawada, State- Bihar, (File No.- SIA/1(a)/2340/2023), Online Proposal No.:-SIA/BR/MIN/453542/2023).

**3.13.3. Deliberations by the committee in previous meetings**

**Date of SEAC 1 :**17/02/2024
**Deliberations of SEAC 1 :**

The Project Proponent along with their environmental consultant Cognizance Research India Private Limited, made a presentation on the key parameters and salient features of the project. Based on the discussion, the Committee observed that during public consultation meeting local people in the area have raised objection to this project.

The Committee after discussion decided to keep the screening of this proposal on hold and refer the matter to the Mines and Geology Dept., Govt. of Bihar for its opinion regarding the issues raised in the public consultation.

**3.13.4. Deliberations by the SEAC in current meetings**

the Committee decided to recommend the proposed proposal for grant of Environmental Clearance subject to the following additional conditions along with standard conditions mentioned in

12. All the provisions made and restrictions imposed as envisaged in the Bihar Minor Mineral Rule, shall be complied with; particularly regarding Environment Management and payment of compensation to the affected land owner(s).

13. No change in mining technology and scope of working should be made without prior approval of the SEIAA, Bihar.

14. The Ministry / SEIAA may alter / modify the above conditions or stipulate any additional condition(s) in the interest of environment.

15. Concealing of factual data or submission of false / fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal/suspension of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.

16. The instruction contained herein above regarding air and noise pollution and details of mining proposals shall be displayed on Signboard in Hindi for the public information.

17. The SEIAA may impose additional conditions in the interest of Environment& Ecology whenever it becomes necessary to do so.

18. Any appeal against this environmental clearance shall lie with the Hon'ble National Green Tribunal, if preferred, within a period of 30 days as prescribed under section 16 of the National Green Tribunal Act, 2010.

**3.14. Agenda Item No 14:**

**3.14.1. Details of the proposal**

| **Sand Mining Project of Area 40.6 Ha at Sand Block-07 Ghat on Barnar River of District-Jamui of State-Bihar** by **GOPAL KUMAR** located at **JAMUI,BIHAR** | | | |
|---|---|---|---|
| **Proposal For** | | Fresh EC | |
| **Proposal No** | **File No** | **Submission Date** | **Activity (Schedule Item)** |
| SIA/BR/MIN/469283/2024 | SIA/1(a)/2378/2023 | 20/05/2024 | Mining of minerals (1(a)) |

**3.14.2. Project Salient Features**

Sand Mining Project on Barnar River at Block No. – 07 Sand Ghat of District – Jamui, Area – 40.60 Ha. (File No. - SIA/1(a)/2378/2023), Online Proposal No.:- SIA/BR/MIN/469283/2024).

**3.14.3. Deliberations by the committee in previous meetings**

N/A

**3.14.4. Deliberations by the SEAC in current meetings**

In this meeting the Project Proponent submitted a letter (Email) stating that due to health issues he is unable to attend the meeting. Therefore the committee decided to defer this proposal for the next meeting.

**3.14.5. Recommendation of SEAC**

Deferred for PP not attending the meeting

**4. Any Other Item(s)**

N/A

**5. List of Attendees**

| Sr. No. | Name | Designation | Email ID | Remarks |
|---|---|---|---|---|
| 1 | Gopal sharma | Chairman, SEAC | gop**********@rediffmail.com | present |
| 2 | Mr S Chandrasekar | Member Secretary, SEAC | sea*******@gmail.com | present |
| 3 | Dr ramkar Jha | SEAC MEMBER | mem**********@mailinator.com | present |
| 4 | Dr Bibha Kumari | SEAC MEMBER | mem*******@mailinator.com | present |
| 5 | Dr Anshumali | SEAC MEMBER | mem*******@mailinator.com | absent |
| 6 | Dr Aditya Mohanty | SEAC MEMBER | mem*******@mailinator.com | absent |
| 7 | Shri Mokhtarul Haque | SEAC MEMBER | mem*******@mailinator.com | present |
| 8 | Shri Ajit Kumar Samaiyar | SEAC MEMBER | aji*********@gmail.com | present |
| 9 | Shri Ranjan Kumar | Member | ran*********@gmail.com | absent |

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**Government of India**
**Ministry of Environment, Forest and Climate Change**
(Issued by the State Level Expert Appraisal Committee(SEAC), BIHAR)
***

**Minutes of 41th Meeting of the SEAC, Bihar constituted on 12.08.2021 State Level Expert Appraisal Committee meeting held from 15/06/2024 to 15/06/2024** **Date:** 21/06/2024

**MoM ID:** EC/MOM/SEAC/225692/6/2024

**Agenda ID:** EC/AGENDA/SEAC/225692/6/2024

**Meeting Venue:** Meeting Hall, SEIAA, Bihar 2nd floor Beltron Bhawan, Shastri Nagar, Patna – 23

**Meeting Mode:** Hybrid

**Date & Time:**

| | | |
|---|---|---|
| 15/06/2024 | 12:45 PM | 06:00 PM |

**1. Opening remarks**

| |
|---|
| N/A |

**2. Confirmation of the minutes of previous meeting**

| |
|---|
| N/A |

**3. Details of proposals considered by the committee**

**Day 1 -15/06/2024**

**3.1. Agenda Item No 1:**

**3.1.1. Details of the proposal**

| **Sand Mining Project, Block 32 (Gaya Morhar 19) Sand Ghat of District- Gaya, State-Bihar.** by **YFC PROJECTS PRIVATE LIMITED** located at **GAYA,BIHAR** | | | |
|---|---|---|---|
| **Proposal For** | | Fresh EC | |
| **Proposal No** | **File No** | **Submission Date** | **Activity (Schedule Item)** |
| SIA/BR/MIN/456744/2023 | SIA/1(a)/2460/2023 | 20/02/2024 | Mining of minerals (1(a)) |

**3.1.2. Project Salient Features**

for the Consultants issued by MoEF vide O.M. No. J-11013/41/2006-IA.II(I) dated 4th August, 2009,which are available on the website of this Ministry, should be followed.

g) Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF&CC with reasons for such changes and permission should be sought, as the TOR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation.

h) As per the circular no. J-11011/618/2010-IA.II(I) dated 30.5.2012, certified report of the status of compliance of the conditions stipulated in the Environment Clearance for the existing operations of the project, should be obtained from the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable.

i) The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections and (iii) sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area.

**3.17. Agenda Item No 17:**

**3.17.1. Details of the proposal**

| **Sand Mining Project, Block 31 (Gaya Morhar 18) Sand Ghat of District- Gaya, State-Bihar.** by **M/S RANJAN K UMAR** located at **GAYA,BIHAR** | | | |
|---|---|---|---|
| **Proposal For** | | Fresh EC | |
| **Proposal No** | **File No** | **Submission Date** | **Activity (Schedule Item)** |
| SIA/BR/MIN/479324/2024 | SIA/1(a)/2415/2023 | 06/06/2024 | Mining of minerals (1(a)) |

**3.17.2. Project Salient Features**

Sand Mining Project on Morhar River at Block No. – 31 (Gaya Morhar 18) Sand Ghat of District – Gaya, Area – 9.5 Ha. (File No. - SIA/1(a)/2415/2023), Online Proposal No.:- SIA/BR/MIN/479324/2024).

**3.17.3. Deliberations by the committee in previous meetings**

N/A

**3.17.4. Deliberations by the SEAC in current meetings**

The Project Proponent was absent in the meeting. Therefore this proposal was deferred for the next meeting.

**3.17.5. Recommendation of SEAC**

Deferred for PP not attending the meeting

**3.18. Agenda Item No 18:**

**3.18.1. Details of the proposal**

| **Sand Mining Project of Prithvichak balu ghat of Area 10.0 Ha on Badua River of District-Munger of State-Biha r.** by **KUNDAN KUMAR** located at **MUNGER,BIHAR** | | | |
|---|---|---|---|
| **Proposal For** | | Fresh EC | |
| **Proposal No** | **File No** | **Submission Date** | **Activity (Schedule Item)** |
| SIA/BR/MIN/468864/2024 | SIA/1(a)/2446/2023 | 06/06/2024 | Mining of minerals (1(a)) |

**3.18.2. Project Salient Features**

Sand Mining Project on Badua River at Prithvichak Balu Ghat of District – Munger, Area – 10 Ha. (File No. - SIA/1(a)/2446/2023), Online Proposal No.:- SIA/BR/MIN/468864/2024).

**3.18.3. Deliberations by the committee in previous meetings**

N/A

**3.18.4. Deliberations by the SEAC in current meetings**

1. The proposed plantation consisting of mixture of indigenous and fast growing species of trees must be done and proper care must be taken. Plantation of a minimum of 5 feet tall plants must be done in the 1st year of lease period itself and properly maintained till the validity of Environmental Clearance and preserve the existing trees at the proposed site.
2. The Project Proponent shall execute and conduct measurable CER activities like facilities for drinking water supply, infrastructure creation, solar power, Rain Water Harvesting, Solid Waste Management Facilities, sanitation, essential furniture's for the local government schools and Anganwadi Kendra. A display board of the CER activities must be fixed for the information to the public. The Project Proponent has to intimate the concerned District Magistrate and the concerned district level officers of the concerned departments for record and information, with copy marked

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**Minutes of 42nd Meeting of the SEAC, Bihar constituted on 12.08.2021 State Level Expert Appraisal Committee meeting held from 13/07/2024 to 13/07/2024**

**Date:** 16/07/2024

**MoM ID:** EC/MOM/SEAC/106417/7/2024

**Agenda ID:** EC/AGENDA/SEAC/106417/7/2024

**Meeting Venue:** Meeting hall of State Environment Impact Assessment Authority (SEIAA), Bihar, 2nd Floor, BELTRON Bhawan, Shastri Nagar, Patna, Bihar - 800 023

**Meeting Mode:** Hybrid

**Date & Time:**

| | | |
|---|---|---|
| 13/07/2024 | 11:30 AM | 06:30 PM |

**1. Opening remarks**

The Chairman and Members extended a warm welcome to each other and among participants of the meeting. Thereafter, the meeting was opened for the proceedings as per the agenda adopted for the meeting.

**2. Confirmation of the minutes of previous meeting**

Confirmations of Minutes of 41 st Meeting (41/2024) vide Ref. No.- 359, dated:- 21.06.2024 of State Expert Appraisal Committee held on 15 th June, 2024. The State Expert Appraisal Committee, hereinafter referred to as SEAC, was informed that no representation has been received regarding projects considered in the meeting held on 15th June, 2024, but a typo errors were observed in the said Minutes of meeting. So, in the said minutes, EC condition no. 5 in "Annexure – A" of agenda item no. (1), (2) & (3) in the place of "sand mining limited to 1 meter (one meter) depth by semi-mechanised method (without using any heavy machine), preferably by manual excavation" may be read as “the sand mining limited to 1 meter (one meter) depth only by manual excavation”. The minutes of the said SEAC meeting was confirmed by the Committee.

**3. Details of proposals considered by the committee**

**Day 1 -13/07/2024**

**3.1. Agenda Item No 1:**

**3.1.1. Details of the proposal**

**Sand Mining Project, Gerua Unit- 03 (Gerua Block- 16, 17, 18, 19 & 20) Sand Ghat of District- Bhagalpur , Stat e-Bihar** by **SAVITRI DEVI** located at **BHAGALPUR,BIHAR**

13. No change in mining technology and scope of working should be made without prior approval of the SEIAA, Bihar.

14. The Ministry / SEIAA may alter / modify the above conditions or stipulate any additional condition(s) in the interest of environment.

15. Concealing of factual data or submission of false / fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal/suspension of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.

16. The instruction contained herein above regarding air and noise pollution and details of mining proposals shall be displayed on Signboard in Hindi for the public information.

17. The SEIAA may impose additional conditions in the interest of Environment& Ecology whenever it becomes necessary to do so.

18. Any appeal against this environmental clearance shall lie with the Hon'ble National Green Tribunal, if preferred, within a period of 30 days as prescribed under section 16 of the National Green Tribunal Act, 2010.

**3.5. Agenda Item No 5:**

**3.5.1. Details of the proposal**

| **Sand Mining Project, Jamui Barnar-10 Sand Ghat of District- Jamui, State-Bihar.** by **SANJAY SINGH** located at **JAMUI,BIHAR** | | | |
|---|---|---|---|
| **Proposal For** | | Fresh EC | |
| **Proposal No** | **File No** | **Submission Date** | **Activity (Schedule Item)** |
| SIA/BR/MIN/471173/2024 | SIA/1(a)/2398/2023 | 09/07/2024 | Mining of minerals (1(a)) |

**3.5.2. Project Salient Features**

Sand Mining Project on Barnar River at Jamui Barnar Block No. – 10 Sand Ghat of District – Jamui, Area – 19.5 Ha., (File No.- SIA/1(a)/2398/2023), Online Proposal No.:- SIA/BR/MIN/471173/2024).

**3.5.3. Deliberations by the committee in previous meetings**

N/A

**3.5.4. Deliberations by the SEAC in current meetings**

The Project Proponent was absent. Therefore, the committee defer the proposal for next meeting.

**3.5.5. Recommendation of SEAC**

Deferred for PP not attending the meeting

**3.6. Agenda Item No 6:**

**3.6.1. Details of the proposal**

| **Sand Mining Project, Jamui Barnar-09 Sand Ghat of District- Jamui, State-Bihar.** by **DEOGHAR TRACTORS** l ocated at **JAMUI,BIHAR** | | | |
|---|---|---|---|
| **Proposal For** | | Fresh EC | |
| **Proposal No** | **File No** | **Submission Date** | **Activity (Schedule Item)** |
| SIA/BR/MIN/451260/2023 | SIA/1(a)/2347/2023 | 01/07/2024 | Mining of minerals (1(a)) |

**3.6.2. Project Salient Features**

Sand Mining Project on Barnar River at Jamui Barnar Block No. – 09 Sand Ghat of District – Jamui, Area – 42.2 Ha., (File No.- SIA/1(a)/2347/2023), Online Proposal No.:- SIA/BR/MIN/451260/2023).

**3.6.3. Deliberations by the committee in previous meetings**

N/A

**3.6.4. Deliberations by the SEAC in current meetings**

the Committee decided to recommend the proposed proposal for grant of Environmental Clearance subject to the following additional conditions along with standard conditions mentioned in Annexure **"B"**.

1. The proposed plantation consisting of mixture of indigenous and fast growing species of trees must be done and proper care must be taken. Plantation of a minimum of 5 feet tall plants must be done in the 1st year of lease period itself and properly maintained till the validity of Environmental Clearance and preserve the existing trees at the proposed site.
2. The Project Proponent shall execute and conduct measurable CER activities like facilities for drinking water supply, infrastructure creation, solar power, Rain Water Harvesting, Solid Waste Management Facilities, sanitation, essential furniture's for the local government schools and Anganwadi Kendra. A display board of the CER activities must be fixed for the information to the public. The Project Proponent has to intimate the concerned District Magistrate and the concerned district level officers of the concerned departments for record and information, with copy marked

sprinkling should be increased at places of loading and unloading points & transfer points to reduce all sorts of fugitive emissions.

10. The funds earmarked for environmental protection measures should be kept in a separate bank account and should not be diverted for other purpose. Year-wise expenditure should be reported to the SEIAA, Bihar.

11. The Project proponent shall provide all necessary logistic support to the authorized officer of this authority as and when required. They will facilitate and assist the authority in site inspection and monitoring.

12. All the provisions made and restrictions imposed as envisaged in the Bihar Minor Mineral Rule, shall be complied with; particularly regarding Environment Management and payment of compensation to the affected land owner(s).

13. No change in mining technology and scope of working should be made without prior approval of the SEIAA, Bihar.

14. The Ministry / SEIAA may alter / modify the above conditions or stipulate any additional condition(s) in the interest of environment.

15. Concealing of factual data or submission of false / fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal/suspension of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.

16. The instruction contained herein above regarding air and noise pollution and details of mining proposals shall be displayed on Signboard in Hindi for the public information.

17. The SEIAA may impose additional conditions in the interest of Environment& Ecology whenever it becomes necessary to do so.

18. Any appeal against this environmental clearance shall lie with the Hon'ble National Green Tribunal, if preferred, within a period of 30 days as prescribed under section 16 of the National Green Tribunal Act, 2010.

**3.18. Agenda Item No 18:**

**3.18.1. Details of the proposal**

| **Proposed Sand Mining Project of Area 33 Ha at Chanan Block -09 on Chanan River of District- Banka, State - B** |
|---|

| ihar. by AD AGRO FOODS PRIVATE LIMITED located at BANKA,BIHAR | | | |
|---|---|---|---|
| **Proposal For** | | Fresh EC | |
| **Proposal No** | **File No** | **Submission Date** | **Activity (Schedule Item)** |
| SIA/BR/MIN/484468/2024 | SIA/1(a)/2392/2023 | 29/06/2024 | Mining of minerals (1(a)) |

**3.18.2. Project Salient Features**

**Sand Mining Project on Chanan River at Chanan Block No. – 09 Sand Ghat of District – Banka, Area – 33 Ha., (File No.- SIA/1(a)/2392/2023), Online Proposal No.:- SIA/BR/MIN/484468/2024).**

**3.18.3. Deliberations by the committee in previous meetings**

N/A

**3.18.4. Deliberations by the SEAC in current meetings**

The Project Proponent was absent. Therefore, the Committee defer the proposal for next meeting.

**3.18.5. Recommendation of SEAC**

Deferred for PP not attending the meeting

**3.19. Agenda Item No 19:**

**3.19.1. Details of the proposal**

| Proposed Sand Mining Project of Area 27 Ha at Chanan Block -03 on Chanan River of District- Banka, State - Bihar. by AD AGRO FOODS PRIVATE LIMITED located at BANKA,BIHAR | | | |
|---|---|---|---|
| **Proposal For** | | Fresh EC | |
| **Proposal No** | **File No** | **Submission Date** | **Activity (Schedule Item)** |
| SIA/BR/MIN/484218/2024 | SIA/1(a)/2405/2023 | 29/06/2024 | Mining of minerals (1(a)) |

**3.19.2. Project Salient Features**

**Sand Mining Project on Chanan River at Chanan Block No. – 03 Sand Ghat of District – Banka, Area – 27 Ha., (File No.- SIA/1(a)/2405/2023), Online Proposal No.:- SIA/BR/MIN/484218/2024).**

**3.19.3. Deliberations by the committee in previous meetings**

N/A

**3.19.4. Deliberations by the SEAC in current meetings**

The Project Proponent was absent. Therefore, the Committee defer the proposal for next meeting.

**3.19.5. Recommendation of SEAC**

Deferred for PP not attending the meeting

**3.20. Agenda Item No 20:**

**3.20.1. Details of the proposal**

| **Sand Mining Project of Bikku balu ghat and Nardiganj balu ghat Sand Block- 26 on Tillaiya River of Area 9.70 Ha. of District-Nawada of State-Bihar** by **MANIRANI CONSTRUCTION PRIVATE LIMITED** located at **NAWADA,BIHAR** | | | |
|---|---|---|---|
| **Proposal For** | | Fresh EC | |
| **Proposal No** | **File No** | **Submission Date** | **Activity (Schedule Item)** |
| SIA/BR/MIN/472770/2024 | SIA/1(a)/2456/2023 | 15/05/2024 | Mining of minerals (1(a)) |

**3.20.2. Project Salient Features**

**Sand Mining Project on Tilaiya River at Block No. – 26 (Bikku Sand Ghat and Nardiganj Sand Ghat) of District – Nawada, Area – 9.70 Ha. (File No. - SIA/1(a)/2456/2023), Online Proposal No.:- SIA/BR/MIN/472770/2024).**

**3.20.3. Deliberations by the committee in previous meetings**

**Date of SEAC 1 :**29/05/2024
**Deliberations of SEAC 1 :**

In this meeting the project proponent has sent a letter stating that due to health problems he is unable to at

Therefore, the committee has decided to defer this proposal to the next meeting for the appearance/submission of the Project Proponent for further necessary action.

**3.20.4. Deliberations by the SEAC in current meetings**

The Project Proponent along with their environmental consultant M/s Oceao Enviro Management Solution (India) Private Limited, made a presentation on the key parameters and salient features of the project. On the basis of technical evaluation, the committee found that this sand mining ghat is located in the active stream of the Tilaiya river, during the public consultation meeting, the local people have also raised objections and many times complaints have also been received in SEIAA that no mining activity

| | |
|---|---|
| | Control Board/ Committee.<br>**f)** The project proponent shall obtain the necessary permission for drawl of ground water / surface water required for the project from the competent authority.<br>**g)** A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project should be obtained.<br>**h)** All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department shall be obtained, as applicable, by project proponents from the respective competent authorities.<br>**i)** The provisions of the Solid Waste Management Rules, 2016, e-Waste (Management) Rules, 2016, and the Plastics Waste Management Rules, 2016, shall be followed.<br>**j)** The project proponent shall follow the ECBC/ECBC-R prescribed by Bureau of Energy Efficiency, Ministry of Power strictly. |

**3.29. Agenda Item No 29:**

**3.29.1. Details of the proposal**

| **PROPOSED RESIDENTIAL GROUP HOUSING PROJECT - VENUS CAPITAL HEIGHTS AT SANDALPUR, USARI ROAD, NEAR AQUA CITY, DANAPUR, PATNA - 801105 (BIHAR) By VENUS STAR CONSTRUCTION PVT. LTD., Total Land Area 4.9712 Ha. (49712.64 Sqm.) TOTAL BUILT UP AREA : 276531.01 Sqm. ((173992.29 Sq. M. + 25349.89 Sqm. (EWS/LIG) + 73249.62 Sqm. Covered Parking + 3939.21 Refuge Area)))** by **VENUS STAR CONSTRUCTION PRIVATE LIMITED** located at **PATNA,BIHAR** | | | |
|---|---|---|---|
| **Proposal For** | | Fresh ToR | |
| **Proposal No** | **File No** | **Submission Date** | **Activity (Schedule Item)** |
| SIA/BR/INFRA2/482305/2024 | SIA/8(b)/2562/2024 | 19/06/2024 | Townships/ Area Development Projects / Rehabilitation Centres (8(b)) |

**3.29.2. Project Salient Features**

**Proposed Residential Group Housing Project “VENUS CAPITAL HEIGHTS” at Village:- Sandalpur, Tehsil:- Danapur-cum-Khagaul, District:- Patna, Bihar by M/s Venus Star Construction Private Limited (File No.- SIA/8(b)/2562/2024), Online Proposal No.:- SIA/BR/INFRA2/482305/2024).**

**3.29.3. Deliberations by the committee in previous meetings**

N/A

**3.29.4. Deliberations by the SEAC in current meetings**

The Project Proponent was absent. Therefore, the committee defer the proposal for next meeting.

**3.29.5. Recommendation of SEAC**

Deferred for PP not attending the meeting

**4. Any Other Item(s)**

N/A

**5. List of Attendees**

| Sr. No. | Name | Designation | Email ID | Remarks |
|---|---|---|---|---|
| 1 | Gopal sharma | Chairman, SEAC | gop**********@rediffmail.com | present |
| 2 | Mr S Chandrasekar | Member Secretary, SEAC | sea*******@gmail.com | present |
| 3 | Shri Ajit Kumar Samaiyar | SEAC MEMBER | aji*********@gmail.com | present |
| 4 | Shri Mokhtarul Haque | SEAC MEMBER | mok**********@gmail.com | present |
| 5 | Dr Bibha kumari | SEAC MEMBER | bib******@gmail.com | present |
| 6 | Dr Ramakar Jha | SEAC MEMBER | rjh***@gmail.com | present |
| 7 | Dr Anshumali | SEAC MEMBER | ans******@iitism.ac.in | absent |
| 8 | Mr Aditya Mohanty | SEIAA Member | amo*****@cub.ac.in | absent |
| 9 | Shri Ranjan Kumar | SEAC MEMBER | ran*********@gmail.com | absent |

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**Government of India**
**Ministry of Environment, Forest and Climate Change**
(Issued by the State Level Expert Appraisal Committee(SEAC), BIHAR)
***

**Minutes of 43rd Meeting of the SEAC, Bihar constituted on 12.08.2021 State Level Expert Appraisal Committee meeting held from 29/07/2024 to 30/07/2024** **Date:** 01/08/2024

| | |
|---|---|
| **MoM ID:** | EC/MOM/SEAC/278264/7/2024 |
| **Agenda ID:** | EC/AGENDA/SEAC/278264/7/2024 |
| **Meeting Venue:** | Meeting hall of State Environment Impact Assessment Authority (SEIAA), Bihar, 2nd Floor, BELTRON Bhawan, Shastri Nagar, Patna, Bihar - 800 023 |
| **Meeting Mode:** | Hybrid |
| **Date & Time:** | |

| | | |
|---|---|---|
| 29/07/2024 | 11:00 AM | 06:00 PM |
| 30/07/2024 | 10:30 AM | 06:00 PM |

**1. Opening remarks**

N/A

**2. Confirmation of the minutes of previous meeting**

N/A

**3. Details of proposals considered by the committee**

**Day 1 -29/07/2024**

**3.1. Agenda Item No 1:**

**3.1.1. Details of the proposal**

| | | | |
|---|---|---|---|
| **Sand Mining Project, Block-44 (Gaya Lilajan-04/Gaya Lilajan-05/Gaya Lilajan-06/) Sand Ghat of District- Gaya, State-Bihar.** by **SKS RCPL JV** located at **GAYA,BIHAR** | | | |
| **Proposal For** | | Fresh EC | |
| **Proposal No** | **File No** | **Submission Date** | **Activity (Schedule Item)** |

**3.11.1. Details of the proposal**

| **Sand Ghat Mining Project (Chanan Block No. - 05) at Chanan River bed** by **M/S SHREE GANESH MEDICAL AGENCY** located at **BANKA,BIHAR** | | | |
|---|---|---|---|
| **Proposal For** | | Fresh EC | |
| **Proposal No** | **File No** | **Submission Date** | **Activity (Schedule Item)** |
| SIA/BR/MIN/487957/2024 | SIA/1(a)/2317/2023 | 16/07/2024 | Mining of minerals (1(a)) |

**3.11.2. Project Salient Features**

Sand Mining Project on Chanan River at Chanan Block No. – 05 Sand Ghat of District – Banka, Area – 50 Ha., (File No.- SIA/1(a)/2317/2023), Online Proposal No.:- SIA/BR/MIN/487957/2024).

**3.11.3. Deliberations by the committee in previous meetings**

N/A

**3.11.4. Deliberations by the SEAC in current meetings**

Application along with filled up 'Form – I, Pre-feasibility report in the prescribed format and scrutiny fee was submitted to SEIAA, Bihar on 10th February, 2023 for obtaining Terms of Reference (ToR). SEIAA, Bihar issued System Generated ToR Vide SIA/1(a)/2317/2023, dated 10.08.2023 and public hearing for the proposed project was conducted by Bihar State Pollution Control Board on 20.06.2024. Online Final EIA report was submitted by Project Proponent in the prescribed format to SEIAA, Bihar on 16.07.2024 for obtaining Environmental Clarence (EC).

The sand ghat under the proposal has been mentioned in the District Survey Report (DSR) approved by the State Environment Impact Assessment Authority (SEIAA), Bihar vide letter no. 251, dated 23.05.2022.

The Project Proponent was absent. Therefore, the committee defers the proposal for next meeting.

**3.11.5. Recommendation of SEAC**

Deferred for PP not attending the meeting

**3.12. Agenda Item No 12:**

**3.12.1. Details of the proposal**

| **Sand Mining Project, Rohtas Son Block- 3B Sand Ghat of District- Rohtas, State-Bihar** by **RAKESH CHAUBEY** located at **ROHTAS,BIHAR** | | | |
|---|---|---|---|
| **Proposal For** | | Fresh EC | |
| **Proposal No** | **File No** | **Submission Date** | **Activity** |

15. Concealing of factual data or submission of false / fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal/suspension of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.

16. The instruction contained herein above regarding air and noise pollution and details of mining proposals shall be displayed on Signboard in Hindi for the public information.

17. The SEIAA may impose additional conditions in the interest of Environment& Ecology whenever it becomes necessary to do so.

18. Any appeal against this environmental clearance shall lie with the Hon'ble National Green Tribunal, if preferred, within a period of 30 days as prescribed under section 16 of the National Green Tribunal Act, 2010.

**3.16. Agenda Item No 16:**

**3.16.1. Details of the proposal**

| **Sand Mining Project, Block- 01 (Govindpur) Sand Ghat of District- Nawada, State-Bihar.** by **ARVIND MISHRA** located at **NAWADA,BIHAR** | | | |
|---|---|---|---|
| **Proposal For** | | Fresh EC | |
| **Proposal No** | **File No** | **Submission Date** | **Activity (Schedule Item)** |
| SIA/BR/MIN/488563/2024 | SIA/1(a)/2359/2023 | 19/07/2024 | Mining of minerals (1(a)) |

**3.16.2. Project Salient Features**

Sand Mining Project on Sakri River at Block No. – 01 (Govindpur) Sand Ghat of District – Nawada, Area – 30 Ha., (File No.- SIA/1(a)/2359/2023), Online Proposal No.:- SIA/BR/MIN/488563/2024).

**3.16.3. Deliberations by the committee in previous meetings**

N/A

**3.16.4. Deliberations by the SEAC in current meetings**

Application along with filled up 'Form – I, Pre-feasibility report in the prescribed format and scrutiny fee was submitted to SEIAA, Bihar on 17th April, 2023 for obtaining Terms of Reference (ToR). SEIAA, Bihar issued System Generated ToR Vide SIA/1(a)/2359/2023, dated 08.05.2024 and public hearing for the proposed project was conducted by Bihar State Pollution Control Board on 03.07.2024. Online Final EIA report was submitted by Project Proponent in the prescribed format to

SEIAA, Bihar on 19.07.2024 for obtaining Environmental Clarence (EC).

The sand ghat under the proposal has been mentioned in the District Survey Report (DSR) approved by the State Environment Impact Assessment Authority (SEIAA), Bihar vide letter no. 255, dated 23.05.2022.

The Project Proponent was absent. Therefore, the committee defer the proposal for next meeting.

**3.16.5. Recommendation of SEAC**

Deferred for PP not attending the meeting

**3.17. Agenda Item No 17:**

**3.17.1. Details of the proposal**

| **Sand Mining Project, Gopalganj Rajwahi- 01, Sand Ghat No. 02 of District- Gopalganj, State-Bihar.** by **JAYA J YOTI INFRACON PRIVATE LIMITED** located at **GOPALGANJ,BIHAR** | | | |
|---|---|---|---|
| **Proposal For** | | Fresh EC | |
| **Proposal No** | **File No** | **Submission Date** | **Activity (Schedule Item)** |
| SIA/BR/MIN/488465/2024 | SIA/1(a)/2532/2024 | 19/07/2024 | Mining of minerals (1(a)) |

**3.17.2. Project Salient Features**

Sand Mining Project on Gandak River at (Sand Block No. – 02) Rajwahi – 01 Sand Ghat of District – Gopalganj, Area – 8.97 Ha., (File No.- SIA/1(a)/2532/2024), Online Proposal No.:- SIA/BR/MIN/488465/2024).

**3.17.3. Deliberations by the committee in previous meetings**

N/A

**3.17.4. Deliberations by the SEAC in current meetings**

Application along with filled up 'Form – I, Pre-feasibility report in the prescribed format and scrutiny fee was submitted to SEIAA, Bihar on 10th May, 2024 for obtaining Terms of Reference (ToR). SEIAA, Bihar issued System Generated ToR Vide SIA/1(a)/2532/2024, dated 13.05.2024 and public hearing for the proposed project was conducted by Bihar State Pollution Control Board on 15.07.2024. Online Final EIA report was submitted by Project Proponent in the prescribed format to SEIAA, Bihar on 19.07.2024 for obtaining Environmental Clarence (EC).

The sand ghat under the proposal has been mentioned in the District Survey Report (DSR) approved by the State Environment Impact Assessment Authority (SEIAA), Bihar vide letter no. 247, dated 23.05.2022.

The Project Proponent along with their environmental consultant M/s P & M Solution, made a

15. Concealing of factual data or submission of false / fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal/suspension of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.

16. The instruction contained herein above regarding air and noise pollution and details of mining proposals shall be displayed on Signboard in Hindi for the public information.

17. The SEIAA may impose additional conditions in the interest of Environment& Ecology whenever it becomes necessary to do so.

18. Any appeal against this environmental clearance shall lie with the Hon'ble National Green Tribunal, if preferred, within a period of 30 days as prescribed under section 16 of the National Green Tribunal Act, 2010.

**3.21. Agenda Item No 21:**

**3.21.1. Details of the proposal**

| **Sand Mining Project, Jamui Barnar Block- 11 Sand Ghat of District- Jamui, State-Bihar.** by **GAGAN KUMAR** l ocated at **JAMUI,BIHAR** | | | |
|---|---|---|---|
| **Proposal For** | | Fresh EC | |
| **Proposal No** | **File No** | **Submission Date** | **Activity (Schedule Item)** |
| SIA/BR/MIN/488755/2024 | SIA/1(a)/2536/2024 | 22/07/2024 | Mining of minerals (1(a)) |

**3.21.2. Project Salient Features**

Sand Mining Project on Barnar River at Jamui Barnar Block No. – 11 Sand Ghat of District – Jamui, Area – 38.10 Ha. (File No. - SIA/1(a)/2536/2024), Online Proposal No.:- SIA/BR/MIN/488755/2024).

**3.21.3. Deliberations by the committee in previous meetings**

N/A

**3.21.4. Deliberations by the SEAC in current meetings**

Application along with filled up 'Form – I, Pre-feasibility report in the prescribed format and scrutiny fee was submitted to SEIAA, Bihar on 16th May, 2024 for obtaining Terms of Reference (ToR). SEIAA, Bihar issued System Generated ToR Vide SIA/1(a)/2536/2024, dated 24.05.2024 and public

hearing for the proposed project was conducted by Bihar State Pollution Control Board on 15.07.2024. Online Final EIA report was submitted by Project Proponent in the prescribed format to SEIAA, Bihar on 22.07.2024 for obtaining Environmental Clarence (EC).

The sand ghat under the proposal has been mentioned in the District Survey Report (DSR) approved by the State Environment Impact Assessment Authority (SEIAA), Bihar vide letter no. 268, dated 23.05.2022.

The Project Proponent was absent. Therefore, the committee defers the proposal for next meeting.

**3.21.5. Recommendation of SEAC**

Deferred for PP not attending the meeting

**3.22. Agenda Item No 22:**

**3.22.1. Details of the proposal**

| **Sand Mining Project of Area 33.00 Ha at Sand Block-41A Ghat on Son River of District-Bhojpur of State-Bihar** by **MUKESH KUMAR** located at **BHOJPUR,BIHAR** | | | |
|---|---|---|---|
| **Proposal For** | | Fresh EC | |
| **Proposal No** | **File No** | **Submission Date** | **Activity (Schedule Item)** |
| SIA/BR/MIN/489430/2024 | SIA/1(a)/2528/2024 | 24/07/2024 | Mining of minerals (1(a)) |

**3.22.2. Project Salient Features**

Sand Mining Project on Sone River at Bhoj Sone – 41 A Sand Ghat of District – Bhojpur, Area – 33 Ha., (File No.- SIA/1(a)/2528/2024), Online Proposal No.:- SIA/BR/MIN/489430/2024).

**3.22.3. Deliberations by the committee in previous meetings**

N/A

**3.22.4. Deliberations by the SEAC in current meetings**

Application along with filled up 'Form – I, Pre-feasibility report in the prescribed format and scrutiny fee was submitted to SEIAA, Bihar on 30th April, 2024 for obtaining Terms of Reference (ToR). SEIAA, Bihar issued System Generated ToR Vide SIA/1(a)/2528/2024, dated 07.05.2024 and public hearing for the proposed project was conducted by Bihar State Pollution Control Board on 20.07.2024. Online Final EIA report was submitted by Project Proponent in the prescribed format to SEIAA, Bihar on 24.07.2024 for obtaining Environmental Clarence (EC).

The sand ghat under the proposal has been mentioned in the District Survey Report (DSR) approved by the State Environment Impact Assessment Authority (SEIAA), Bihar vide letter no. 266, dated 23.05.2022.



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ANNEXURE A-16



2-Judge Bench
2020
March 17

**(2020) 15 Supreme Court Cases 63**

(BEFORE DR D.Y. CHANDRACHUD AND HEMANT GUPTA, JJ.)

BENGALURU DEVELOPMENT AUTHORITY .. Appellant;

*Versus*

SUDHAKAR HEGDE AND OTHERS .. Respondents.

Civil Appeal No. 2566 of 2019†, decided on March 17, 2020

A. **Environment Law — Environment (Protection) Act, 1986 — S. 3(2)(v)(1) r/w R. 5(3)(d) of 1986 Rules — Development project — Obligation to seek prior EC under Noti. dt. 14-11-2006 (2006 Notification) — Environmental Impact Assessment (EIA) process leading up to the grant of the EC — Compliance with the procedure stipulated under the 2006 Notification**

— Quashment of Environmental Clearance (EC) by NGT under purview of the 2006 Notification on ground that primary data on which EIA report was based was collected 3 yrs prior to its submission to State Environment Impact Assessment Authority (SEIAA) — Therefore, NGT ordering the conduct of a fresh rapid EIA — Legality

— Held, terms of reference (TOR) was issued on 21-11-2009, prior to the issue of the Notification dt. 22-3-2010 under which an outer limit of three years prescribed for the validity of the TORs with effect from 1-4-2010 — By virtue of the aforesaid notification, the appellant Bangalore Development Authority (BDA) was required to submit the EIA report within four years from the date of the issuance of the TOR i.e. before 21-11-2013 — State Expert Appraisal Committee (SEAC) was under a corresponding obligation to refuse the consideration of any EIA report prepared after the expiry of the TOR — Public hearing was conducted belatedly and the EIA report prepared thereafter was placed before the SEAC one year after the TOR had expired — Project proponent is under an obligation to comply with the OMs issued by MoEFCC prescribing a time-limit for the validity of the TOR — Decision of SEAC to proceed with the EIA report as well as seek additional information from the project proponent despite the expiry of the TOR suffers from a non-application of mind and is unsustainable

— Further EIA reports have prepared by relying on primary data which was collected between the months of December 2009 and February 2010 — EIA report was prepared prior to the coming into force of the OM dt. 7-11-2014 by which MoEFCC extended the validity of primary data collected from a period of three years to four years — Even if the benefit under the notification were extended to the appellant, it was duty-bound to collect fresh primary data upon the expiry of four years from the date of issuance of the TOR — This was not done

— Thus, held, the final EIA report prepared on the basis of an expired TOR and primary data was in contravention of the OMs dt. 22-3-2010, 22-8-2014 and 7-11-2014 issued by MoEFCC thus, could not form the basis of a validly issued

† Arising from the Judgment and Order in APP No. 27 of 2015 (National Green Tribunal, Principal Bench at Delhi, dt. 8-2-2019)

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EC — Merely because some additional information was sought which required the furnishing of additional details and the collection of fresh samples, it cannot be said that such an exercise cures the defect arising from the preparation of an EIA report outside the time period prescribed by MoEFCC — Even at the relevant time when information was sought from the project proponent, both the TOR as well as the primary data upon which the EIA report was prepared was beyond the period of their validity — In such a case, the SEAC, by seeking additional information, traversed beyond the power conferred upon it under the 2006 Notification — Hence quashment of EC by NGT under the purview of the 2006 Notification cannot be said to be illegal — Environment (Protection) Rules, 1986, R. 5(3)(d)

B. **Environment Law — Environment (Protection) Act, 1986 — S. 3(2)(v)(1) r/w R. 5(3)(d) of 1986 Rules — Noti. dt. 14-11-2006 — Development project — Peripheral ring road project, being an "expressway", held, falls within the ambit of Schedule to the 2006 Notification and thus project proponent was under an obligation to seek a prior EC to implement the project**

— Amending Noti. dt. 1-12-2009 issued amending Para 7(f) of Schedule to the 2006 Notification to clarify that highways include expressways — EIA report stipulates that the PRR project was conceptualised with the salient purpose of decongesting the traffic in the city and catering to intercity connectivity and intercity traffic — This would significantly reduce pollution intensity and travel time — EIA report clarifies that the project is designed to cater to high speed vehicular traffic with vehicles plying at speeds of 100 km/hr, where possible, and 80 km/hr in other places — Further the report stipulates that the project also comprises of ten interchanges and sixteen toll booths — Access to the road is restricted only to national highways, State highways and major district roads

— In this view of the matter, there is no doubt that the PRR project is an expressway falling within the ambit of Para 7(f) of the Schedule to the 2006 Notification — PRR project commenced on the issuance of the final notification under S. 19(1) of the BDA Act on 29-6-2007 — On facts, held, the appellant as project proponent was under an obligation under Para 7(f) of the Schedule to the 2006 Notification to seek a prior EC to implement the project — Development vis-à-vis Ecology: National, Urban and Rural Development — Development Projects — Airports, Highways and expressways

C. **Environment Law — Environment (Protection) Act, 1986 — S. 3(2)(v)(1) r/w R. 5(3)(d) of 1986 Rules — EIA Noti. dt. 14-11-2006 — Interpretation of, in view of Ss. 17 and 19 of BDA Act**

— Basic postulate of the 2006 Notification is that the path which is prescribed for disclosures, studies, gathering data, consultation and appraisal is designed in a manner that would secure decision-making which is transparent, responsive and inclusive — The 2006 Notification embodies the notion that the development agenda of the nation must be carried out in compliance with norms stipulated for the protection of the environment and its complexities —

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The BDA Act and 2006 Notification operate in different fields — It cannot be said that a site is deemed identified for the purpose of triggering the obligations under the 2006 Notification only upon the issuance of a preliminary Noti. under S. 17 of the BDA Act (*see* Shortnote *D*) — Local Government, Municipalities and Panchayats — Town Planning — Bangalore Development Authority Act, 1976 (12 of 1976), Ss. 17 and 19

D. **Environment Law — Environmental Clearance/NOC/Environment Impact Assessment (EIA) — EIA Notification 2006 — Whether it is the issuance of a preliminary notification under S. 17 of the BDA Act, 1976 or a final notification under S. 19 of the BDA Act, 1976 that constitutes the identification of the proposed site for the project concerned and marks its commencement for the purposes of the EIA Notification 2006**

— Held, the action by the project proponent that is relevant to the obligation to seek a prior EC under the 2006 Notification is the identification of the prospective site for the execution of the proposed project — As per the scheme of the BDA Act, 1976, the prospective site is deemed to be identified only upon the issuance of the final notification under S. 19 of the BDA Act after the proposed scheme has received government sanction under S. 18(3) of the BDA Act

— 2006 Notification stipulates an obligation to commence the EIA process once a prospective site is identified and before the commencement of any construction or preparation of the land — Ss. 17, 18 and 19 of the BDA Act stipulate the mechanism that must be followed by the appellant leading up to the grant of government sanction for a scheme formulated under S. 15 — It is only upon the grant of sanction by the Government under S. 18(3) of the BDA Act, that a final notification under S. 19 is issued

E. **Environment Law — Environmental Clearance/NOC/Environment Impact Assessment (EIA) — Diversion of forest land for the purpose of development project — Environmental clearance — Post facto explanation — Providing alternative site for afforestation — Propriety**

— Held, post facto explanations are inadequate to deal with a failure of due process in the field of environmental governance — Project proponent sought to substitute the requisite forest clearance with an agreement with the Forest Department to provide an alternative site for afforestation — This is not sustainable in law — Compliance with the 2006 Notification and other statutory enactments envisaged in the EIA process cannot be reduced to an ad hoc mechanism where the project proponent seeks to remedy its abject failure to disclose material information and seek the requisite clearances at a belated stage

F. **Environment Law — Environmental Clearance/NOC/Environment Impact Assessment (EIA) — Diversion of forest land for the purpose of development project — Environmental clearance — Power of EAC or SEAC to re-examine the project and decide whether there is a need for the reappraisal of the project, where the project proponent fails to submit the requisite forest clearance within the prescribed time**

— If the competent authority has granted the EC for a project, the project proponent is then duty-bound to obtain and submit to the competent authority the requisite Stage I forest clearance for the proposed project within 12 months

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or 18 months, as the case may be — Where the project proponent fails to submit the requisite forest clearance within the prescribed time, the EAC or the SEAC are authorised to re-examine the project and decide whether there is a need for the reappraisal of the project — If there is requirement of additional document upon the failure of the project proponent to submit the requisite forest clearance within the prescribed time, the EAC or the SEAC may direct that a fresh public hearing be conducted

G. **Environment Law — Environmental Clearance/NOC/Environment Impact Assessment (EIA) — Duty of SEAC — Explained**

— SEAC is under an obligation to record the specific reasons upon which it recommends the grant of an EC — SEAC, as an expert body, must speak in the manner of an expert — Its remit is to apply itself to every relevant aspect of the project bearing upon the environment and scrutinise the document submitted to it — SEAC is duty-bound to analyse the EIA report — In the absence of cogent reasons by the SEAC for the recommendation of the grant of EC, the process by its very nature, together with the outcome, stands vitiated

H. **Statute Law — Amendatory/Repeal/Suspension or Clarificatory Provision — Clarificatory amendment — Retrospective or prospective — Held, an amendment which is clarificatory in nature is deemed to be retrospective in its application — The position of the retrospective application of clarificatory amendments to notifications is analogous to the position under statutory enactments — Administrative Law — Subordinate/Delegated Legislation — Amendment/Repeal/Supersession or Clarification**

I. **Roads and Highways — Generally — "Expressway" — What is — Expressway is defined as an arterial highway for motorised traffic, with divided carriageways for high speed travel, with full control of access and provided with grade separators at location of intersections — The assessment of whether a road project is an expressway is to be determined on a case-by-case basis — Words and Phrases — "Expressway"**

In a bid to address the growing need for efficient commutation, address traffic congestion and connect the Bangalore-Mysore Infrastructure Corridor (NICE road) with more access points, the appellant Bengaluru Development Authority ("BDA") formulated the peripheral ring road ("PRR") project scheme in 2005. A preliminary Notification was issued on 27-5-2005 under Sections 17(1) and (3) of the Bangalore Development Authority Act, 1976 to acquire certain land for the execution of the project. A final Notification under Section 19(1) of the BDA Act was issued on 29-6-2007 for the acquisition of the proposed land.

The appellant, as project proponent, submitted an application to the SEIAA on 10-11-2009 under the EIA Notification, 2006 seeking an EC for the PRR. The terms of reference ("TOR") were prepared by the State Expert Appraisal Committee on 21-11-2009. Primary data was collected between December 2009 and February 2010. The final EIA report was placed before the SEAC and the SEIAA in October 2014. An EC was granted by the SEIAA on 20-11-2014. The first and second respondents filed an appeal to the NGT challenging the grant of the EC. The NGT noted the discrepancy between the submission of the appellant and the existence of a reserved forest through which the proposed road was to pass. By its final order

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dated 8-2-2019, the NGT stayed the operation of the EC granted by the SEIAA. The NGT directed the appellant to conduct a fresh rapid EIA.

Aggrieved with the order of the NGT, the appellant challenged it before the Supreme Court.

Assailing the order of the NGT, the appellant BDA contended that the 2006 Notification obliges a project proponent to seek prior EC only for projects that are listed in the Schedule to the Notification. Para 7(*f*) of the Schedule includes only those projects that are either National or State Highways. The PRR project does not fall within the ambit of either the National Highways Act, 1956 or the Karnataka Highways Act, 1964. Consequently, the appellant was under no obligation under the 2006 Notification to seek a prior EC for the PRR project. The 2006 Notification came into effect from the date of its publication in the Official Gazette on 14-9-2006. It is prospective in its application. The PRR project commenced on 23-9-2005 upon the issuance of the preliminary notification under the BDA Act and as such, on the date of the coming into force of the 2006 Notification, no obligation existed on the appellant to seek a prior EC for the PRR project. The appellant executed the EIA process and applied for the grant of an EC out of abundant caution. The SEAC acceded to the request of the appellant to not forward to the SEIAA a recommendation for the closure of the proposal. The SEAC recommended to the SEIAA the grant of the EC to the project in question after due consideration of the EIA report in its meeting to be held between 11-11-2014 and 18-11-2014. All objections raised by the first respondent concerning forests, the cutting of trees and the protection of the reservoir were adequately addressed in the EIA report submitted in 2014, on which basis an EC was granted to the PRR project.

The respondent (applicant before NGT) contended that the term "highway" or "expressway" used in the 2006 Notification must be given a wide interpretation and not be restricted to the issuance of a notification under Central or State enactments. Both the National Highways Act, 1956 and the Karnataka State Highways Act, 1964 concern the acquisition of land, its development and permissions concerning the collection of toll/fee. The statutory framework does not envisage the wide definition to be attributed to the term "highway" in matters concerning the protection of the environment. The appellant itself admitted in its EIA report that the PRR project is a Category 'B' project falling under the purview of Para 7(*f*) of the Schedule under the 2006 Notification. The primary data for the PRR project was collected between December 2009 and February 2010. The EAC conducted the appraisal process after a substantial delay of over four years in the year 2014. This defeats the purpose for which TORs are issued as the state of the environment is constantly changing. An OM dated 22-3-2010 issued by the Ministry of Environment and Forests stipulates that EIA reports for projects where the TORs have been granted prior to the date of the coming into force of the OM must be based on primary data that is not older than three years. The OM further stipulates that a TOR is valid only for a period of four years. The EIA report was prepared after the expiry of the TOR and is legally unsustainable. The SEIAA decided to close the file for the PRR project on 17-5-2013, which decision was communicated to the appellant on 25-7-2013. A party aggrieved by the action of the SEIAA may only file an appeal under Section 16 of the NGT Act and the SEIAA was not authorised to reopen the file on the request of the appellant. There was no collection of additional data in the year 2014. The report which is styled as a

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rapid EIA report in the year 2014 is nothing but the final EIA report under the 2006 Notification which was prepared after the public consultation process was conducted in February 2014. There are significant omissions in the EIA report concerning forest land, green cover, number of trees required to be cut, etc. Material concealment by the project proponent invalidates the EC which was granted by the SEIAA.

The MoEF, in exercise of the powers conferred by sub-section (1) and clause (*v*) of sub-section (2) of Section 3 of the Environment (Protection) Act read with clause (*d*) of sub-rule (3) of Rule 5 of the Environment (Protection) Rules, 1986 on 14-9-2006 released the 2006 Notification in supersession of the previous notification. The 2006 Notification came into force on the date of its publication and obliges every project proponent to seek prior EC for the projects and activities which are listed in the Schedule to the Notification. According to Para 2 of the 2006 Notification, all new projects or activities listed in the Schedule to the 2006 Notification shall require a prior EC from the regulatory authority concerned.

The BDA Act was enacted with the purpose of establishing a development authority for the development of the city of Bangalore and adjacent areas. Sections 17, 18 and 19 of the BDA Act stipulate the mechanism that must be followed by the appellant leading up to the grant of government sanction for a scheme formulated under Section 15 of the BDA Act. The purpose underlying Section 17 of the BDA Act is to grant to both the Corporation and the persons whose lands are proposed to be acquired, an opportunity to file their objections to the proposed scheme and the acquisition of land required for the execution of the project. Though the land proposed to be acquired for the scheme is stipulated in the preliminary notification under Section 17, the provision to forward to the Corporation a copy as well as serve notices to persons whose lands are proposed to be acquired subserves the principles of natural justice where an affected party is extended the right to object to a proposed scheme. Upon the receipt of suggestions and objections, if any, the appellant may modify the scheme in accordance with the suggestions received and thereafter forward to the Government the scheme for the grant of sanction. However, it is only upon the grant of sanction by the Government under Section 18(3), that a final notification under Section 19 is issued. It is only upon the grant of sanction by the Government that a proposed scheme is deemed to be finalised and carried into effect.

The issues for determination before the Supreme Court were:

(*i*) Whether quashment of environmental clearance (EC) under purview of the 2006 Notification on ground that primary data on which EIA report was based was collected 3 years prior to its submission to State Environment Impact Assessment Authority (SEIAA) and further order to conduct a fresh rapid EIA is illegal?;

(*ii*) Whether it is the issuance of a preliminary notification under Section 17 of the BDA Act or a final notification under Section 19 of the BDA Act that constituted the identification of the proposed site for the project and marked its commencement for the purposes of the 2006 Notification?;

(*iii*) Applicability of the EIA Notification 2006;

(*iv*) Whether a peripheral ring road project could not fall within the ambit of the Schedule to the 2006 Notification and thus project proponent was not under an obligation to seek a prior EC to implement the project?;

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(*v*) Whether the project proponent has complied with the conditions stipulated in the 2006 Notification and the OMs issued by MoEFCC from time to time?

Dismissing the appeal, the Supreme Court

*Held* :

The 2006 Notification stipulates an obligation to commence the EIA process once a prospective site is identified and before the commencement of any construction or preparation of land. It may be possible that following the formulation of a scheme under Section 15 of the BDA Act and the issuance of a preliminary notification under Section 17 of the BDA Act, government sanction is denied or the appellant drops the proposed scheme prior to the grant of sanction or the issuance of the final notification. In such situations, if it were held that it is the issuance of the preliminary notification identifying the proposed site for the project that marked the commencement of the project for the purposes of the 2006 Notification, the appellant would be under an obligation to carry out the EIA process for a proposed scheme which may not eventually materialise. (Para 20)

The EIA process under the 2006 Notification serves as a balance between development and protection of the environment; there is no trade-off between the two. In laying down a detailed procedure for the grant of an EC, the 2006 Notification attempts to bridge the perceived gap between the protection of the environment and development. The basic postulate of the 2006 Notification is that the path which is prescribed for disclosures, studies, gathering data, consultation and appraisal is designed in a manner that would secure decision-making which is transparent, responsive and inclusive. While the BDA Act was enacted with the purpose of establishing a development authority for the development of the city of Bangalore and adjacent areas, the 2006 Notification embodies the notion that the development agenda of the nation must be carried out in compliance with norms stipulated for the protection of the environment and its complexities. The BDA Act and the 2006 Notification operate in different fields. It cannot be said that a site is deemed identified for the purpose of triggering the obligations under the 2006 Notification upon the issuance of a preliminary notification under Section 17 of the BDA Act. Adopting a contrary interpretation would lead to the absurd result where a project proponent is obligated to carry out the EIA process for a scheme even prior to the grant of government sanction and a final notification carrying into effect the proposed scheme. In this view of the matter, the prospective site is deemed to be identified only upon the issuance of the final notification under Section 19 of the BDA Act after the proposed scheme has received Government sanction under Section 18(3) of the BDA Act. (Para 21)

In the instant case, the final notification under Section 19(1) of the BDA Act was issued on 29-6-2007 following the grant of government sanction for the acquisition of the land. This being after the coming into force of the 2006 Notification, the contention urged by the appellant that the project commenced prior to the coming into force of the 2006 Notification cannot be accepted. (Para 22)

Para 7(*f*) of the Schedule to the 2006 Notification has been amended since the coming into force of the 2006 Notification. In the draft notification, Para 7(*f*) to the Schedule included the term "expressway" under Category 'A' projects. However, in the final 2006 Notification, the word "expressway" was deleted. Absent any

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conclusive reason for the deletion from the draft notification prior to it coming into force, such deletion cannot be used to construe the terms of the 2006 Notification or subsequent amendments thereto. (Paras 27 and 28)

In exercise of the powers conferred by sub-section (1) and clause (*v*) of sub-section (2) of Section 3 of the Environment (Protection) Act, 1986 read with clause (*d*) of sub-rule (3) of Rule 5 of the Environment (Protection) Rule, 1986, the Central Government issued a Notification dated 1-12-2009 amending, inter alia, Para 7(*f*) of the Schedule to the 2006 Notification. Following the 2009 Amendment, Column (5) of Para 7(*f*) to the Schedule which read "General Conditions shall apply" was substituted to stipulate that in addition to the application of the general conditions, highways include expressways. (Para 29)

Prior to the amendment, a draft notification was published seeking comments and objections thereto. MoEFCC constituted a Committee. The analysis of the Committee recorded that the main suggestions related to the expansion of the scope of the Notification by including within its ambit expressways, bypasses, major district roads, tunnelling for roads within city limits and peripheral roads around municipal corporation limits. Significantly, the Committee took note of the perception that highways and expressways differed from each other. Though it appeared from the comments that an expansion was sought in the scope of the 2006 Notification, the Committee explicitly clarified that the term "highways" includes "expressways". For other items, the Committee stated that they may be considered separately. The clarification issued for highways and expressways did not amount to an expansion in the scope of the 2006 Notification but only made clear that the term highways always included expressways. Where an amendment is clarificatory in nature, such amendment is deemed to be retrospective in its application. (Paras 29, 30 and 32)

*SBI* v. *V. Ramakrishnan*, (2018) 17 SCC 394 : (2019) 2 SCC (Civ) 458, *relied on*

*SBI* v. *V. Ramakrishnan*, 2018 SCC OnLine NCLAT 384, *held, reversed*

G.P Singh: Principles of Statutory Interpretation, *referred to*

The position of the retrospective application of clarificatory amendments to notifications is analogous to the position under statutory enactments. In the present case, the Committee appointed by MoEFCC clarified that the term "highways" included expressways and suggested that a suitable amendment be issued to that effect. Based on the report of the Committee, a clarificatory amendment was issued in Column (5) of Para 7(*f*) to stipulate that highways include expressways. (Para 35)

Neither the National Highways Act, 1956 nor the Karnataka Highways Act, 1964 define the term "highway". The 2009 Amendment to the 2006 Notification is silent on the definition of the term "expressway". The Indian Road Congress ("IRC") defined an "expressway" in the Manual of Specifications and Standards for expressways as an arterial highway for motorised traffic, with divided carriageways for high speed travel, with full control of access and provided with grade separators at location of intersections. Generally, only fast-moving vehicles are allowed access on expressways. The assessment of whether a road project is an expressway is to be determined on a case-by-case basis. (Paras 36 and 37)

The primary purpose of the PRR project is to ease vehicular traffic congestion in the city. The main road and the service road are to be separated by access-controlled facilities. The engineering designs are to be carried out in accordance with the standards laid down by the IRC. The PRR project is expected to be an

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8 lane main carriageway highway (4 + 4 bi-directional), along with a 6 lane road service road (3 + 3 bi-directional) having a right of way of 75 meters and total length of 63.5 km. The EIA report stipulates that the PRR project was conceptualised with the salient purpose of decongesting the traffic in the city and catering to intercity connectivity and intercity traffic. This, it was stated, would significantly reduce pollution intensity and travel time. The EIA report clarifies that the project is designed to cater to high speed vehicular traffic with vehicles plying at speeds of 100 km/hr, where possible, and 80 km/hr in other places. Moreover, the report stipulates that the project also comprises of ten interchanges and sixteen toll booths. It is stated that access to the road is restricted only to national highways, State highways and major district roads. In this view of the matter, there is no doubt that the PRR project is an expressway falling within the ambit of Para 7(*f*) of the Schedule to the 2006 Notification. The PRR project commenced on the issuance of the final notification under Section 19(1) of the BDA Act on 29-6-2007. Having concluded that the PRR project is an expressway, the appellant as project proponent was under an obligation under Para 7(*f*) of the Schedule to the 2006 Notification to seek a prior EC to implement the project. (Paras 38 to 42)

Under the 2006 Notification, the process to obtain an EC for new projects comprises a maximum of four stages, all of which may not apply depending on the specific case stipulated under the Notification: screening, scoping, public consultation and appraisal. The process of obtaining an EC commences from the production of the information stipulated in Form 1/Form 1A. Information submitted in Form 1 relies on data and information on an "as is" basis at the relevant time of submitting information. Material information regarding the particulars of the proposed project as well as the potential impact on the environment is sought to enable the EAC or the SEAC to prepare a comprehensive TOR on which basis the applicant proceeds to prepare the EIA report. As the information in Form 1 is submitted on the basis of prevailing environmental conditions as on the date of its preparation, it is necessary to ensure that the EIA process is contemporary to the submission of information in Form 1 and the issuance of the TOR. MoEFCC, noting situations where some EIA reports were prepared belatedly on the basis of outdated TORs, issued a Notification on 22-3-2010 prescribing an outer limit of three years for the validity of the TORs with effect from 1-4-2010. The Notification dated 22-3-2010 stipulates that where TORs were granted prior to the issue of the OM, the EIA report must be submitted within four years from the date on which the TOR was issued, with primary data not being older than three years. (Paras 47 to 49)

Another Notification dated 7-11-2014 issued by MoEFCC stipulated that the "authority concerned" shall consider EIA reports for the grant of EC even where the primary data relied upon was collected beyond three years from the preparation of the EIA report. However, the stipulation that a fresh EIA process must be undertaken where the TOR has expired was retained. (Paras 50 to 52)

The EIA reports prepared in August and October 2014 relied on primary data which was collected between the months of December 2009 and February 2010. The EIA report was prepared prior to the coming into force of the OM dated 7-11-2014 by which MoEFCC extended the validity of primary data collected from a period of three years to four years. Even if the benefit under the notification were extended to the appellant, it was duty-bound to collect fresh primary data upon the expiry of four years from the date of issuance of the TOR i.e. 21-11-2013.

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This was evidently not done. This being the case, there is no manner of doubt that the final EIA report prepared on the basis of an expired TOR and primary data was in contravention of the OMs dated 22-3-2010, 22-8-2014 and 7-11-2014 issued by MoEFCC and could not form the basis of a validly issued EC. (Para 55)

The submission of additional fresh data on a few points raised in the form of a query on behalf of the SEAC does not remedy the general obligation to ensure that the EIA report was prepared within a time period of four years from the date of the issuance of the TOR, relying on primary data that was not older than four years. Merely because some additional information was sought which required the furnishing of additional details and the collection of fresh samples, it cannot be said that such an exercise cures the defect arising from the preparation of an EIA report outside the time period prescribed by MoEFCC. Significantly, even at the relevant time when information was sought from the project proponent, both the TOR as well as the primary data upon which the EIA report was prepared was beyond the period of their validity. In such a case, the SEAC, by seeking additional information, has traversed beyond the power conferred upon it under the 2006 Notification. (Para 60)

The SEAC proceeded to recommend to the SEIAA the grant of the EC to the PRR project in contravention of the obligations stipulated under the OMs issued by MoEFCC. Significantly, the SEAC considered the final EIA report only at its 121st meeting between 11-11-2014/18-11-2014 when the OM dated 22-8-2014 issued by MoEFCC was in force. The SEAC was under an obligation to direct the appellant to conduct the EIA process de novo. The SEAC and the project proponent cannot circumvent the obligation to ensure reliance on contemporary data by seeking additional information beyond the prescribed validity of the TOR and primary data. The SEAC has clearly erred in recommending to the SEIAA the grant of EC despite the non-compliance by the appellant with the prescribed time-limit for the preparation of the EIA report. (Para 61)

There was a patent and abject failure on the part of the appellant BDA as project proponent to disclose the diversion of forest land for the proposed PRR project. The appellant concealed material information concerning the diversion of forest land and absent the requisite forest clearance, the EC granted for the PRR project stands vitiated. The EIA report affirms at numerous places that 1.5 hectares of forest land will be affected by a part of the project. Despite this, the EIA report proceeds on the assumption that no forest clearance is required despite the diversion of 1.5 hectares of forest land. No explanation has been provided by the appellant BDA either in the EIA report or in the written submissions before the Supreme Court as to why it was exempt from seeking the requisite forest clearance. (Paras 66 to 68)

The appellant BDA confirmed that 1.5 hectares of forest land is proposed to be diverted. It was stated that in lieu of the 25 acres of forest land required, the appellant shall make available to the Forest Department 25 acres of land available with it. However it cannot be glossed over the patent contradiction of the appellant as the project proponent in disclosing the existence of forest land to be diverted for the purposes of the PRR project. Despite a clear indication that a total 1.5 hectares of forest land is to be diverted for the purpose of the PRR project, the appellant sought to remedy its failure in seeking the requisite clearances in a post facto manner by stipulating that 25 acres of land available with it is to be given to the Forest Department in lieu of the forest cover proposed to be diverted for the project. Post facto explanations are inadequate to deal with a failure of due

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process in the field of environmental governance. The contention of the appellant BDA to substitute the requisite forest clearance with an agreement with the Forest Department to provide an alternative site for afforestation is not sustainable in law. Compliance with the 2006 Notification and other statutory enactments envisaged in the EIA process cannot be reduced to an ad-hoc mechanism where the project proponent seeks to remedy its abject failure to disclose material information and seek the requisite clearances at a belated stage. (Paras 70 to 73)

Project proponents are duty-bound to disclose the existence of forest land and inform the SEAC of the status of their application for forest clearance at the time of submitting the EIA report for the grant of the EC. Where the competent authority has granted the EC for a project, the project proponent is then duty-bound to obtain and submit to the competent authority the requisite Stage I forest clearance for the proposed project within 12 months or 18 months, as the case may be. Where the project proponent fails to submit the requisite forest clearance within the prescribed time, the EAC or the SEAC are authorised to re-examine the project and decide whether there is a need for the reappraisal of the project. Where the EAC or the SEAC is of the opinion that additional documents are required upon the failure of the project proponent to submit the requisite forest clearance within the prescribed time, it may direct that a fresh public hearing be conducted. (Para 78)

The analysis by the SEAC is both perfunctory and fails to disclose the reasons upon which it recommended to the SEIAA the grant of EC for the PRR project. The SEAC is under an obligation to record the specific reasons upon which it recommends the grant of an EC. The requirement that the SEAC must record reasons, besides being mandatory under the 2006 Notification, is of significance for two reasons: (*i*) The SEAC makes a recommendation to the SEIAA in terms of the 2006 Notification. The regulatory authority has to consider the recommendation and convey its decision to the project proponent. The regulatory authority, as Para 8(*ii*) of the 2006 Notification provides, shall normally accept the recommendations of the EAC. Thus, the role of the SEAC in the grant of the EC for a proposed project is crucial; and (*ii*) The grant of an EC is subject to an appeal before the NGT under Section 16 of the NGT Act, 2010. The reasons furnished by the SEAC constitute the link upon which the SEIAA either grants or rejects the EC. The reasons form the material which will be considered by the NGT when it considers a challenge to the grant of an EC. (Paras 88 and 89)

*Lafarge Umiam Mining (P) Ltd.* v. *Union of India*, (2011) 7 SCC 338, *relied on*

*Sreeranganathan K.P.* v. *Union of India*, 2014 SCC OnLine NGT 15 : 2014 All (l) NGT Reporter (1) SZ 1, *approved*

The SEAC, as an expert body, must speak in the manner of an expert. Its remit is to apply itself to every relevant aspect of the project bearing upon the environment and scrutinise the document submitted to it. The SEAC is duty-bound to analyse the EIA report. Apart from its failure to repudiate a process conducted beyond the prescribed time period stipulated by MoEFCC, the SEAC failed to apply its mind to the abject failure of the appellant in conducting the EIA process leading up to the submission of the EIA report for the grant of EC. The SEAC is not required to accept either the EIA report or any clarification sent to it by the project proponent. In the absence of cogent reasons by the SEAC for the recommendation of the grant of EC, the process by its very nature, together with the outcome, stands vitiated. (Para 92)

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In this view of the matter, neither the process of decision-making nor the decision itself can pass legal muster. For balancing the development of infrastructure and the environment, while the need for a road project is factored into the decision-making calculus, equal emphasis should be placed on the prevailing state of the environment. (Para 98)

Thus, it is directed that:

(*i*) the appellant is directed to conduct a fresh rapid EIA for the proposed PRR project;

(*ii*) The appellant shall, for the purpose of conducting the rapid EIA, hire a sector-specific accredited EIA consultant;

(*iii*) The appellant shall have due regard to the various deficiencies noted in the present judgment as well as ensure that additional precautions are taken to account for the prevailing state of the environment;

(*iv*) The appellant shall ensure that the requisite clearances under various enactments have been obtained and submitted to the SEAC prior to the consideration by it of the information submitted by the appellant in accordance with the OMs issued by the MoEFCC from time to time;

(*v*) The SEAC shall thereafter assess the rapid EIA report and other information submitted to it by the appellant in accordance with the role assigned to it under the 2006 Notification. If it is of the opinion that the appellant has complied with the 2006 Notification as well as the directions issued by this Court, only then shall it recommend to the SEIAA the grant of EC for the proposed project. The SEAC and the SEIAA would lay down appropriate conditions concerning air, water, noise, land, biological and socio-economic environment and other conditions it deems fit; and

(*vi*) The appellant shall consult the requisite authority to ensure that no potential damage is caused by the project to the petroleum pipelines over which the proposed road may be constructed. (Para 99)

*Sudhakar Hegde* v. *State of Karnataka*, 2014 SCC OnLine Kar 8851 : ILR 2014 Kar 4995; *Sudhakar Hegde* v. *State of Karnataka*, 2017 SCC OnLine Kar 590; *BDA* v. *Sudhakar Hegde*, 2019 SCC OnLine SC 1818, *referred to*

RM-D/64250/S

Advocates who appeared in this case :
Shyam Divan, Senior Advocate, for the Appellant;
Nikhil Nayyar, Senior Advocate, for the Respondents.

***Chronological list of cases cited*** ***on page(s)***

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The Judgment of the Court was delivered by

**DR D.Y. CHANDRACHUD, J.—**

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## A. *Introduction*

**1.** The present appeal arises from a judgment of the Principal Bench of the National Green Tribunal ("NGT") dated 8-2-2019 quashing the Environmental Clearance ("EC") granted to the appellant for the development of an eight lane peripheral ring road ("PRR") connecting Tumkur Road to Hosur Road and totalling a length of 65 km. The NGT was of the view that the primary data upon which the Environment Impact Assessment ("EIA") report was based was collected more than three years prior to its submission to the State Environment Impact Assessment Authority ("SEIAA"). The NGT was of the view that it was not necessary to adjudicate upon the other contentions that were urged in support of quashing the EC as there was a substantial delay in the preparation of the EIA report. Accordingly, the NGT directed the appellant to conduct a fresh rapid EIA and clarified that the "project proponent will not proceed on the basis of the impugned Environmental Clearance". Assailing the order of the NGT, the appellant, as project proponent, is in appeal before this Court.

**2.** In a bid to address the growing need for efficient commutation, address traffic congestion and connect the Bangalore-Mysore Infrastructure Corridor (NICE road) with more access points, the appellant formulated the PRR project scheme in 2005. A preliminary Notification was issued on 27-5-2005 under Sections 17(1) and (3) of the Bangalore Development Authority Act, 1976 ("the BDA Act") to acquire certain land for the execution of the project. The stated purpose of the project was:

> "(1) To decongest the traffic in Bangalore City;
> (2) To cater intercity connectivity and intercity traffic;
> (3) To reduce pollution in the city;
> (4) To reduce heavy vehicles traffic i.e. lorry and trucks; and
> (5) To decongest the traffic on outer ring road."

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**3.** Another preliminary Notification was issued on 23-9-2005 which concerned the realignment of the proposed road project. A final Notification under Section 19(1) of the BDA Act was issued on 29-6-2007 for the acquisition of the proposed land. The notifications were challenged before the High Court of Karnataka in writ proceedings[1] on the ground that the appellant had no authority to issue the notifications and acquire land for the proposed PRR project. By a judgment dated 22-7-2014[2], the High Court dismissed the writ petition on the ground that the appellant was authorised under the BDA Act to acquire the land for the project in question. The writ appeal against this was dismissed on the ground of default on 9-2-2017[3].

**4.** The appellant, as project proponent, submitted an application[4] to the SEIAA on 10-9-2009 under the EIA Notification, 2006 ("the 2006 Notification") seeking an EC for the PRR. The terms of reference ("TOR") were prepared by the State Expert Appraisal Committee ("SEAC") on 21-11-2009. Primary data was collected between December 2009 and February 2010. The final EIA report was placed before the SEAC and the SEIAA in October 2014. An EC was granted by the SEIAA on 20-11-2014. The first and second respondents filed an appeal to the NGT challenging the grant of the EC. The NGT, by an interim order dated 15-4-2015 granted an interim stay of the EC. The relevant portion of the order reads:

> "Pointing to the EIA report which was placed before the 1st respondent, the counsel for the appellant would submit that the first part of the report would clearly indicate that if the road was constructed, it would pass through the reserve forest and the later part it would submit that the forest clearance is not necessary which by itself would suffice to reject the recommendation. The EIA report would clearly indicate that if the proposed road has got to be constructed approximately 200 trees were to be cut which is thoroughly inconsistent to the report given by the Horticulture and Forest Department. According to their report, it would require felling of 16,685 trees. Added further by the counsel for the appellant that if the proposed road is allowed to be constructed it would be above the underground pipeline already laid for transporting petroleum from Mangalore to Bangalore and if any leakages happen in future it would bring forth serious consequence…
>
> There exists a prima facie case in favour of the appellant for granting an interim order of stay…."

**5.** The NGT noted the discrepancy between the submission of the appellant and the existence of a reserved forest through which the proposed road was to pass. The NGT recorded that while the EIA report stated that only 200 trees would be cut for the proposed project, the report given by the Horticulture and Forest Department indicated that about 16,685 trees would be required to be felled for the proposed project. By its final order dated 8-2-2019, the NGT

1 WP No. 4550 of 2008
2 *Sudhakar Hegde* v. *State of Karnataka*, 2014 SCC OnLine Kar 8851 : ILR 2014 Kar 4995
3 *Sudhakar Hegde* v. *State of Karnataka*, 2017 SCC OnLine Kar 590
4 No. BDA/EM/TA3/PRR/EIA/T333/09-10

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stayed the operation of the EC granted by the SEIAA. The relevant portion of the order reads:

> "The environmental clearance was granted on 20-11-2014. Thus, the primary data was more than three years prior to the EIA report. There are omissions in the EIA report with regard to data of forest land as well as the provisions of revised Master Plan, 2015 prepared by the BDA. Thippagondanahalli Reservoir (TGR) catchment area has been suppressed in the EIA report. Green cover particulars have been overlooked. Further objection is that there is proximity of the area to the petroleum pipelines and land earmarked for petroleum pipelines overlaps the project. According to the appellant, Stage I Forest Clearance was not obtained as required…
>
> It is not necessary to adjudicate on the contentions raised, having regard to the patent fact that there was substantial delay in EIA and a period of almost five years passed even thereafter. This Tribunal, vide order dated 15-4-2015, considered the issue…It will, thus, be in the interest of justice that a fresh rapid EIA is conducted. If the project is found viable after incorporating due abatement measures, including the suggestions of the appellant, the same can be taken up without further delay…."

The NGT directed the appellant to conduct a rapid EIA. It was further directed that if the project is found to be viable after incorporating abatement measures, "the same can be taken up without delay". Notice was issued by this Court on 15-3-2019[5].

**B.** ***Submissions***

**6.** Assailing the order of the NGT, Mr Shyam Divan, learned Senior Counsel appearing on behalf of the appellant contended that:

**6.1.** The 2006 Notification obliges a project proponent to seek prior EC only for projects that are listed in the Schedule to the Notification. Para 7(*f*) of the Schedule includes only those projects that are either National or State Highways. The PRR project does not fall within the ambit of either the National Highways Act, 1956 or the Karnataka Highways Act, 1964. Consequently, the appellant was under no obligation under the 2006 Notification to seek a prior EC for the PRR project;

**6.2.** The 2006 Notification came into effect from the date of its publication in the Official Gazette on 14-9-2006. It is prospective in its application. The PRR project commenced on 23-9-2005 upon the issuance of the preliminary notification under the BDA Act and as such, on the date of the coming into force of the 2006 Notification, no obligation existed on the appellant to seek a prior EC for the PRR project;

**6.3.** The appellant executed the EIA process and applied for the grant of an EC out of abundant caution;

**6.4.** The first respondent has challenged the grant of the EC by the SEIAA only because his appeal before the Karnataka High Court challenging the acquisition of land for the PRR project was unsuccessful. The present proceedings are merely a method of delaying the acquisition proceedings;

5 *BDA* v. *Sudhakar Hegde*, 2019 SCC OnLine SC 1818

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**6.5.** The SEAC acceded to the request of the appellant to not forward to the SEIAA a recommendation for the closure of the proposal. The SEAC recommended to the SEIAA the grant of the EC to the project in question after due consideration of the EIA report in its 121st meeting between 11 and 18-11-2014; and

**6.6.** All objections raised by the first respondent concerning forests, the cutting of trees and the protection of the reservoir were adequately addressed in the EIA report submitted in 2014, on which basis an EC was granted to the PRR project.

**7.** On the other hand, Mr Nikhil Nayyar, learned Senior Counsel appearing on behalf of the first respondent contended:

**7.1.** The term "highway" or "expressway" used in the 2006 Notification must be given a wide interpretation and not be restricted to the issuance of a notification under Central or State enactments;

**7.2.** Both the National Highways Act, 1956 and the Karnataka State Highways Act, 1964 concern the acquisition of land, its development and permissions concerning the collection of toll/fee. The statutory framework does not envisage the wide definition to be attributed to the term "highway" in matters concerning the protection of the environment;

**7.3.** The appellant itself admitted in its EIA report that the PRR project is a Category 'B' project falling under the purview of Para 7(*f*) of the Schedule under the 2006 Notification;

**7.4.** The primary data for the PRR project was collected between December 2009 and February 2010. The EAC conducted the appraisal process after a substantial delay of over four years in the year 2014. This defeats the purpose for which TORs are issued as the state of the environment is constantly changing;

**7.5.** An OM dated 22-3-2010 issued by the Ministry of Environment and Forests (MoEF, later renamed as MoEFCC in 2014) stipulates that EIA reports for projects where the TORs have been granted prior to the date of the coming into force of the OM must be based on primary data that is not older than three years. The OM further stipulates that a TOR is valid only for a period of four years. The EIA report was prepared after the expiry of the TOR and is legally unsustainable;

**7.6.** The SEIAA decided to close the file for the PRR project on 17-5-2013, which decision was communicated to the appellant on 25-7-2013. A party aggrieved by the action of the SEIAA may only file an appeal under Section 16 of the NGT Act and the SEIAA was not authorised to reopen the file on the request of the appellant;

**7.7.** There was no collection of additional data in the year 2014. The report which is styled as a rapid EIA report in the year 2014 is nothing but the final EIA report under the 2006 Notification which was prepared after the public consultation process was conducted in February 2014; and

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**7.8.** There are significant omissions in the EIA report concerning forest land, green cover, number of trees required to be cut, the catchment area in the Thippagondanahalli Reservoir and proximity of the PRR project to the petroleum pipelines underneath. Material concealment by the project proponent invalidates the EC which was granted by the SEIAA.

**8.** The rival submissions fall for our consideration.

**C.** ***Issues***

**9.** Essentially this Court is required to decide:

**9.1.** (*i*) Whether the PRR project commenced prior to the coming into force of the 2006 Notification;

**9.2.** (*ii*) Whether the PRR project falls within the scope of Para 7(*f*) of the Schedule to the 2006 Notification obliging the project proponent to seek a prior EC; and

**9.3.** (*iii*) Whether the appellant has complied with the conditions stipulated in the 2006 Notification and the OMs issued by MoEFCC from time to time.

**D.** ***Date of commencement of the PRR project***

**10.** This Court is required to adjudicate whether it is the issuance of a preliminary notification under Section 17 of the BDA Act or a final notification under Section 19 of the BDA Act that constituted the identification of the proposed site for the project and marked its commencement for the purposes of the 2006 Notification.

**11.** On 27-1-1994, the MoEF, in exercise of the powers conferred by sub-section (1) and clause (*v*) of sub-section (2) of Section 3 of the Environment (Protection) Act, 1986 read with clause (*d*) of sub-rule (3) of Rule 5 of the Environment (Protection) Rules, 1986, issued a Notification imposing restrictions and prohibitions on the expansion and modernisation of any activity or a new project unless a prior EC was granted in accordance with the procedure stipulated in the notification. On 14-9-2006, the MoEF released the 2006 Notification in supersession of the previous notification. The 2006 Notification directed that:

> "... *on and from the date of its publication* the required construction of new projects or activities or the expansion or modernisation of existing projects or activities *listed in the Schedule to this notification* entailing capacity addition with change in process and or technology *shall be undertaken in any part of India only after the prior environmental clearance* from the Central Government or as the case may be, by the State Level Environment Impact Assessment Authority, duly constituted by the Central Government under sub-section (3) of Section 3 of the said Act, in accordance with the procedure specified hereinafter in this notification." (emphasis supplied)

**12.** The 2006 Notification came into force on the date of its publication and obliges every project proponent to seek *prior* EC for the projects and activities which are listed in the Schedule to the Notification. According to Para 2 of the 2006 Notification, all new projects or activities listed in the Schedule to

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the 2006 Notification shall require a prior EC from the regulatory authority concerned:

> "2. *Application for Prior Environmental Clearance (EC)*: An application seeking prior environmental clearance in all cases shall be made in the prescribed Form 1 annexed herewith and Supplementary Form 1-A, if applicable, as given in Appendix II, *after the identification of prospective site(s) for the project and/or activities to which the application relates, before commencing any construction activity, or preparation of land, at the site by the applicant*. The applicant shall furnish, along with the application, a copy of the pre-feasibility project report except that, in case of construction projects or activities (Item 8 of the Schedule) in addition to Form 1 and the Supplementary Form 1-A, a copy of the conceptual plan shall be provided, instead of the pre-feasibility report." (emphasis supplied)

Once a prospective site has been identified by the applicant for the proposed project, all applications seeking an EC shall be made in the prescribed Form 1 and Supplementary Form 1-A, if applicable which contains a detailed list of the extent and potential impact of the proposed project. The application must be submitted after the identification of the prospective site and prior to the commencement of any construction activity, or preparation of the land. Thus, the action by the project proponent that is relevant to the obligation to seek a prior EC under the 2006 Notification is the identification of the prospective site for the execution of the proposed project.

**13.** Section 2(*a*) of the BDA Act defines "authority" as the Bangalore Development Authority constituted under Section 3 of the Act. Chapter III of the Act deals with development schemes and the procedures that must be complied with in the carrying out of a development scheme. Under Section 15, the appellant may draw up a detailed development scheme for the development of the Bangalore metropolitan area. Section 16(1) mandates that the appellant must also provide, in the formulation of the scheme, the details of the land proposed to be acquired for the development scheme. Section 17 contemplates the issuance of a preliminary notification. It reads:

> "**17.** ***Procedure on completion of scheme***.—(1) When a development scheme has been prepared, the Authority shall draw up a notification stating the fact of a scheme having been made and the limits of the area comprised therein, and naming a place where particulars of the scheme, a map of the area comprised therein, a statement specifying the land which is proposed to be acquired and of the land in regard to which a betterment tax may be levied may be seen at all reasonable hours.
>
> (2) A copy of the said notification shall be sent to the Corporation which shall, within thirty days from the date of receipt thereof, forward to the Authority for transmission to the Government as hereinafter provided, any representation which the Corporation may think fit to make with regard to the scheme.
>
> (3) The Authority shall also cause a copy of the said notification to be published in the Official Gazette and affixed in some conspicuous part of its

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own office, the Deputy Commissioner's Office, the office of the Corporation and in such other places as the Authority may consider necessary.

(4) If no representation is received from the Corporation within the time specified in sub-section (2), the concurrence of the Corporation to the scheme shall be deemed to have been given.

(5) During the thirty days next following the day on which such notification is published in the Official Gazette the Authority shall serve a notice on every person whose name appears in the assessment list of the local authority or in the land revenue register as being primarily liable to pay the property tax or land revenue assessment on any building or land which is proposed to be acquired in executing the scheme or in regard to which the Authority proposes to recover betterment tax requiring such person to show cause within thirty days from the date of the receipt of the notice why such acquisition of the building or land and the recovery of betterment tax should not be made.

(6) The notice shall be signed by or by the order of the Commissioner and shall be served—

(*a*) by personal delivery or if such person is absent or cannot be found, on his agent, or if no agent can be found, then by leaving the same on the land or the building; or

(*b*) by leaving the same at the usual or last known place of abode or business of such person; or

(*c*) by registered post addressed to the usual or last known place of abode or business of such person."

**14.** Section 17 stipulates that the appellant shall, upon the preparation of a scheme under Section 15, notify that a scheme has been prepared along with the specifications of the scheme, a map of the area comprised therein and the details of the land proposed to be acquired. The notification is forwarded to the Corporation of the City of Bangalore, which is granted thirty days to provide its comments to the appellant authority for transmission to the Government along with the scheme for sanction. Section 17(3) stipulates that a copy of the notification shall be published in the Official Gazette and affixed in conspicuous parts of the offices of the appellant and the Corporation. Section 17(5) mandates that the appellant shall serve on every person whose land is proposed to be acquired a notice to show-cause within thirty days on why the acquisition of the building or land must not take place.

**15.** Section 18 stipulates that where the procedure stipulated under Section 17 is complete, the appellant shall submit the scheme with any modifications, to the Government of Karnataka for sanction subject to the conditions stipulated therein. Section 18 reads:

"**18.** ***Sanction of scheme***.—(1) After publication of the scheme and service of notices as provided in Section 17 and after consideration of representations, if any, received in respect thereof, the Authority shall submit the scheme, making such modifications therein as it may think fit, to the Government for sanction, furnishing—

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(*a*) a description with full particulars of the scheme including the reasons for any modifications inserted therein;

(*b*) complete plans and estimates of the cost of executing the scheme;

(*c*) a statement specifying the land proposed to be acquired;

(*d*) any representation received under sub-section (2) of Section 17;

(*e*) a schedule showing the rateable value, as entered in the municipal assessment book on the date of the publication of a notification relating to the land under Section 17 or the land assessment of all land specified in the statement under clause (*c*); and

(*f*) such other particulars, if any, as may be prescribed.

(2) Where any development scheme provides for the construction of houses, the Authority shall also submit to the Government plans and estimates for the construction of the houses.

(3) After considering the proposal submitted to it the Government may, by order, give sanction to the scheme."

Under this provision, the appellant is required to furnish details of the land proposed to be acquired along with a schedule showing the rateable value, as entered in the municipal assessment book on the date of the publication of the notification. The appellant furnishes to the Government a description with full particulars of the scheme including the reasons for any modifications inserted, plans and estimates of costs and a statement specifying the land proposed to be acquired. Significantly, if the Government is satisfied with the proposed scheme, it may accord sanction to the scheme under Section 18(3) of the Act. A scheme formulated under Section 15 may only be carried out where sanction has been accorded to the scheme by the Government under Section 18(3) of the Act.

**16.** Section 19 of the Act reads thus:

"**19.** ***Upon sanction, declaration to be published giving particulars of land to be acquired.***—(1) Upon sanction of the scheme, the Government shall publish in the Official Gazette a declaration stating the fact of such sanction and that the land proposed to be acquired by the Authority for the purposes of the scheme is required for a public purpose.

(2) The declaration shall state the limits within which the land proposed to be acquired is situated, the purpose for which it is needed, its approximate area and the place where a plan of the land may be inspected.

(3) The said declaration shall be conclusive evidence that the land is needed for a public purpose and the Authority shall, upon the publication of the said declaration, proceed to execute the scheme.

(4) If at any time it appears to the Authority that an improvement can be made in any part of the scheme, the Authority may alter the scheme for the said purpose and shall subject to the provisions of sub-sections (5) and (6), forthwith proceed to execute the scheme as altered.

(5) If the estimated cost of executing the scheme as altered exceeds, by a greater sum than five per cent the estimated cost of executing the scheme

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as sanctioned, the Authority shall not, without the previous sanction of the Government, proceed to execute the scheme as altered.

(6) If the scheme as altered involves the acquisition otherwise than by agreement, of any land other than that specified in the schedule referred to in clause (*e*) of sub-section (1) of Section 18, the provisions of Sections 17 and 18 and of sub-section (1) of this section shall apply to the part of the scheme so altered in the same manner as if such altered part were the scheme."

**17.** Under Section 19, once the Government sanctions the appellant's scheme, a final notification is published by the Government in the Official Gazette declaring that sanction has been received and that the land proposed to be acquired is required for a public purpose. The final notification specifies the limits within which the land proposed to be acquired is situated and specifies the place at which people may inspect the plan. The appellant is authorised under Section 19(4) to alter the scheme subject to sub-sections (5) and (6). Section 19(6) stipulates that if acquisition of additional land is required over and above the details that were furnished by the appellant under Section 18, and otherwise than by agreement with the person whose land is proposed to be acquired, the procedure stipulated in Sections 17 and 18 shall be followed.

**18.** The BDA Act was enacted with the purpose of establishing a development authority for the development of the city of Bangalore and adjacent areas. Sections 17, 18 and 19 stipulate the mechanism that must be followed by the appellant leading up to the grant of government sanction for a scheme formulated under Section 15. The purpose underlying Section 17 is to grant to both the Corporation and the persons whose lands are proposed to be acquired an opportunity to file their objections to the proposed scheme and the acquisition of land required for the execution of the project. Though the land proposed to be acquired for the scheme is stipulated in the preliminary notification under Section 17, the provision to forward to the Corporation a copy as well as serve notices to persons whose lands are proposed to be acquired subserves the principles of natural justice where an affected party is extended the right to object to a proposed scheme.

**19.** Upon the receipt of suggestions and objections, if any, the appellant may modify the scheme in accordance with the suggestions received and thereafter forward to the Government the scheme for the grant of sanction. However, it is only upon the grant of sanction by the Government under Section 18(3), that a final notification under Section 19 is issued. It is only upon the grant of sanction by the Government that a proposed scheme is deemed to be finalised and carried into effect.

**20.** The 2006 Notification stipulates an obligation to commence the EIA process once a prospective site is identified and before the commencement of any construction or preparation of land. It may be possible that following the formulation of a scheme under Section 15 and the issuance of a preliminary notification under Section 17, government sanction is denied or the appellant drops the proposed scheme prior to the grant of sanction or the issuance of the final notification. In such situations, if it were held that it is the issuance

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of the preliminary notification identifying the proposed site for the project that marked the commencement of the project for the purposes of the 2006 Notification, the appellant would be under an obligation to carry out the EIA process for a proposed scheme which may not eventually materialise.

**21.** The EIA process under the 2006 Notification serves as a balance between development and protection of the environment: there is no trade-off between the two. In laying down a detailed procedure for the grant of an EC, the 2006 Notification attempts to bridge the perceived gap between the protection of the environment and development. The basic postulate of the 2006 Notification is that the path which is prescribed for disclosures, studies, gathering data, consultation and appraisal is designed in a manner that would secure decision-making which is transparent, responsive and inclusive. While the BDA Act was enacted with the purpose of establishing a development authority for the development of the city of Bangalore and adjacent areas, the 2006 Notification embodies the notion that the development agenda of the nation must be carried out in compliance with norms stipulated for the protection of the environment and its complexities. The BDA Act and the 2006 Notification operate in different fields. It cannot be said that a site is deemed identified for the purpose of triggering the obligations under the 2006 Notification upon the issuance of a preliminary notification under Section 17 of the BDA Act. Adopting a contrary interpretation would lead to the absurd result where a project proponent is obligated to carry out the EIA process for a scheme even prior to the grant of government sanction and a final notification carrying into effect the proposed scheme. In this view of the matter, the prospective site is deemed to be identified only upon the issuance of the final notification under Section 19 after the proposed scheme has received government sanction under Section 18(3).

**22.** The final notification under Section 19(1) of the BDA Act was issued on 29-6-2007 following the grant of government sanction for the acquisition of the land. This being after the coming into force of the 2006 Notification, the contention urged by the appellant that the project commenced prior to the coming into force of the 2006 Notification cannot be accepted.

### E. *Applicability of the EIA Notification, 2006*

**23.** Essentially, this Court is required to address the contention urged by Mr Shyam Divan, learned Senior Counsel appearing on behalf of the appellant that the PRR project, being neither a project falling within Section 2 of the National Highways Act, 1956 or Section 3 of the Karnataka Highways Act, 1964, does not fall within the ambit of the Schedule to the 2006 Notification.

**24.** Para 2 of the 2006 Notification reads thus:

> "**2.** ***Requirements of prior Environmental Clearance (EC)***.—The following projects or activities shall require prior environmental clearance from the regulatory authority concerned, which shall hereinafter be referred to as the Central Government in the Ministry of Environment and Forests for matters falling under Category 'A' in the Schedule and at State level the State Environment Impact Assessment Authority ("SEIAA") for matters falling

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under Category 'B' in the said Schedule, before any construction work, or preparation of land by the project management except for securing the land, is started on the project or activity:

(*i*) All new projects or activities *listed in the Schedule to this notification*;

(*ii*) Expansion and modernisation of existing projects or activities listed in the Schedule to this notification with addition of capacity beyond the limits specified for the sector concerned, that is, projects or activities which cross the threshold limits given in the Schedule, after expansion or modernisation;

(*iii*) Any change in product — mix in an existing manufacturing unit included in Schedule beyond the specified range." (emphasis supplied)

**25.** Para 2(1) of the 2006 Notification stipulates that only projects listed in the Schedule must be granted prior EC. Para 7(*f*) of the Schedule to the 2006 Notification, as originally enacted reads:

| *Project or Activity* | | *Category with threshold limit* | | *Conditions, if any* |
|---|---|---|---|---|
| | | *A* | *B* | |
| (*1*) | (*2*) | (*3*) | (*4*) | (*5*) |
| **7. (*f*)** | Highways | (*i*) New National Highways; and<br><br>(*ii*) Expansion of National Highways greater than 30 km, involving additional right of way greater than 20m involving land acquisition and passing through more than one State. | (*i*) New State Highways; and<br><br>(*ii*) Expansion of National/ State Highways greater than 30 km involving additional right of way greater than 20m involving land acquisition. | General conditions shall apply. |

**26.** The Schedule to the 2006 Notification stipulates that projects listed in Column (3) must be granted prior EC from MoEFCC while projects listed in Column (4) must be granted prior EC from the SEIAA. The general conditions applicable are listed at the end of the Schedule.[6] Column (3) of

6 "Any project or activity specified in Category 'B' will be treated as Category A, if located in whole or in part within 10 km from the boundary of: (*i*) Protected areas notified under the Wildlife (Protection) Act, 1972, (*ii*) Critically polluted areas as notified by the Central Pollution Control Board from time to time, (*iii*) Notified ecosensitive areas, (*iv*) inter-State boundaries and international boundaries."

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Para 7(*f*) includes new national highways and the expansion of existing national highways while Column (4) includes new State highways and the expansion of existing State highways. Admittedly, in the present case, no notification was issued under either the National Highways Act, 1956 or the Karnataka Highways Act, 1964 notifying the PRR project as a highway under those enactments. Initial discussions took place at the Government of Karnataka level regarding the transfer of the PRR project to the National Highways Authority of India ("NHAI"). On 10-1-2018, the Central Road Transport Ministry was informed that the Government of Karnataka had granted its consent to transfer the said project to the NHAI on an "as it is" basis. However, the Government of Karnataka, by its Order dated 24-6-2008, withdrew the proposal to transfer the PRR project to the NHAI.

**27.** There is however another aspect of the matter that warrants the attention of this Court. Para 7(*f*) of the Schedule to the 2006 Notification has been amended[7] since the coming into force of the 2006 Notification.

**28.** Prior to the issuance of the 2006 Notification, a draft notification was published in Official Gazette on 15-9-2005 stipulating that comments may be sent to MoEFCC within sixty days from the date on which the notification was published. Para 7(*f*) of the Schedule to the draft notification reads:

| *Sl. No.* | *Project or Activity* | *NIC code (2004)* | *ISIC code* | *Category* | | | *Conditions if any* |
|---|---|---|---|---|---|---|---|
| | | | | A | A/B | B | |
| **7. (*f*)** | Roads Highways | 45203* | | All new National Highways, expressways and bypasses >= 30 km length<br><br>Or<br><br>All National Highways, Expressway expansion projects<br><br>>= 30 km length and additional right of way of more than 20m | - | All State Highway projects >= 30 km length<br><br>Or<br><br>All State Highway expansion projects<br><br>>= 30 km length and additional rights of way of more than 20m | GC-1 |

7 Notifications dated 11-11-2007, 1-12-2009, 4-4-2011 and 22-8-2013.

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In the draft notification, Para 7(*f*) to the Schedule included the term "expressway" under Category 'A' projects. However, in the final 2006 Notification, the word "expressway" was deleted. Absent any conclusive reason for the deletion from the draft notification prior to it coming into force, such deletion cannot be used to construe the terms of the 2006 Notification or subsequent amendments thereto.

**29.** In exercise of the powers conferred by sub-section (1) and clause (*v*) of sub-section (2) of Section 3 of the Environment (Protection) Act, 1986 read with clause (*d*) of sub-rule (3) of Rule 5 of the Environment (Protection) Rules, 1986, the Central Government issued a Notification dated 1-12-2009 amending, inter alia, Para 7(*f*) of the Schedule to the 2006 Notification. Para (*xv*) of the amending notification reads:

> "**(xv)** *against Item 7(f),*
>
> (*a*) *In Column (4), for the entry, the following entry shall be substituted, namely*:
>
> '(*i*) All State Highway Projects; and
>
> (*ii*) State Highway expansion projects in hilly terrain (above 1000 m AMSL) and or ecologically sensitive areas'
>
> (*b*) *in Column (5) for existing entry, the following entry shall be substituted, namely*:
>
> 'General conditions shall apply.
>
> Note: Highways include expressways.' " (emphasis supplied)

Following the 2009 Amendment, Column (5) of Para 7(*f*) to the Schedule which read "General Conditions shall apply" was substituted to stipulate that in addition to the application of the general conditions, highways include expressways.

**30.** Prior to the amendment, a draft notification was published on 19-1-2009 seeking comments and objections thereto. MoEFCC, by its Order dated 3-7-2009 constituted a Committee under the Chairmanship of Shri J.M. Mauskar, Additional Secretary to consider the comments received on the draft notification, conduct meetings with the various stakeholders and make recommendations for the finalisation of the notification. The Committee held various meetings with stakeholders concerned. MoEFCC published the report of the Committee titled "*Report of the Committee constituted under the Chairmanship of Shri J.M. Mauskar, Additional Secretary to examine the comments/suggestions on the Draft Amendments to EIA Notification, 2006*" in October 2009. Numerous comments were received by the Committee on various aspects of the draft notification including the proposed amendment to Para 7(*f*) of the Schedule. The initial draft notification only sought to modify Column (4) of Para 7(*f*). However, comments were received by the Committee stating that a specific reference to expressways must be made. The Committee formulated its analysis in the following terms:

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"*Analysis*: The main suggestion relates to expansion of the scope of the notification by including expressways, bypasses, major district roads, tunnelling for roads within city limits, peripheral roads around municipal corporation limits. There is also a request for expanding the right of way limit from 20 m to 60 m. BRO has sought exemption of their projects up to 50 km. *From the comments received, it is perceived that expressways are different from highways. However, keeping in view the objective of the Notification, it needs to be explicitly clarified in the Notification that highways include expressways*. In regard to other items these may be considered separately. In regard to the proposal for enhancing the right of way limit from 20 m to 60 m, this may not be accepted as it would involve significant changes in land use and issues of rehabilitation." (emphasis supplied)

**31.** The analysis of the Committee recorded that the main suggestions related to the expansion of the scope of the Notification by including within its ambit expressways, bypasses, major district roads, tunnelling for roads within city limits and peripheral roads around municipal corporation limits. Significantly, the Committee took note of the perception that highways and expressways differed from each other. Though it appeared from the comments that an expansion was sought in the scope of the 2006 Notification, the Committee explicitly clarified that the term "highways" includes "expressways". For other items, the Committee stated that they may be considered separately. The clarification issued for highways and expressways did not amount to an expansion in the scope of the 2006 Notification but only made clear that the term highways always included expressways.

**32.** Where an amendment is clarificatory in nature, such amendment is deemed to be retrospective in its application.

**33.** In *SBI* v. *V. Ramakrishnan*[8], the question before a two-Judge Bench of this Court concerned whether Section 14 of the Insolvency and Bankruptcy Code, 2016 which provides for a moratorium for the limited period mentioned, on admission of an insolvency petition, would apply to a personal guarantor of a corporate debtor. In the judgment[9] of the National Company Law Appellate Tribunal which was under appeal, it was held that as a Resolution Plan binds personal guarantors as well under Section 31, the moratorium under Section 14 would apply to personal guarantors. Assailing this, the appellant relied upon the Insolvency Law Committee proceedings to contend that an amendment to Section 14 which stipulated that the moratorium shall not apply to a surety in a contract of guarantee to a corporate debtor was clarificatory in nature and that personal guarantors were always intended to fall outside the operation of the

8 (2018) 17 SCC 394 : (2019) 2 SCC (Civ) 458
9 *SBI* v. *V. Ramakrishnan*, 2018 SCC OnLine NCLAT 384

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moratorium. Accepting this contention, R.F. Nariman, J. speaking for the Court held: (SCC pp. 417 & 419, paras 31-33)

> "*31*. The Insolvency Law Committee, appointed by the Ministry of Corporate Affairs, by its Report dated 26-3-2018, made certain key recommendations, one of which was:
>
> '(*iv*) to clear the confusion regarding treatment of assets of guarantors of the corporate debtor vis-à-vis the moratorium on the assets of the corporate debtor, *it has been recommended to clarify by way of an explanation that all assets of such guarantors to the corporate debtor shall be outside scope of moratorium imposed under the Code*;'
>
> * * *
>
> *32*. … '5.11. The Committee concluded that Section 14 does not intend to bar actions against assets of guarantors to the debts of the corporate debtor and recommended that an explanation to clarify this may be inserted in Section 14 of the Code. The scope of the moratorium may be restricted to the assets of the corporate debtor only.'
>
> *33*. The Report of the said Committee makes it clear that the object of the amendment was to clarify and set at rest what the Committee thought was an overbroad interpretation of Section 14." (emphasis in original)

**34.** The Court in *V. Ramakrishnan*[8] noted that the Committee clarified that it was never intended that the moratorium under Section 14 applied to personal guarantors of corporate debtors. Accordingly, an amendment was enacted to Section 14. The Court then proceeded to hold, relying on consistent precedent of this Court, that a clarificatory amendment has retrospective application. A similar position is expounded by G.P. Singh in his seminal work *Principles of Statutory Interpretation*. He states:

> "… An amending Act may be purely clarificatory to clear a meaning of a provision of the principal Act which was already implicit. A clarificatory amendment of this nature will have retrospective effect and, therefore, if the principal Act was existing law when the amendment came into force, the amending Act also will be part of the existing law."

**35.** An amending provision which clarifies the position of law which was considered to be implicit, is construed to have retrospective effect. The position of the retrospective application of clarificatory amendments to notifications is analogous to the position under statutory enactments. In the present case, the Committee appointed by MoEFCC clarified that the term "highways" included expressways and suggested that a suitable amendment be issued to that effect. Based on the report of the Committee, a clarificatory amendment was issued in

8 *SBI* v. *V. Ramakrishnan*, (2018) 17 SCC 394 : (2019) 2 SCC (Civ) 458

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Column (5) of Para 7(*f*) to stipulate that highways include expressways. This being the position, this Court is required to analyse whether the PRR project qualifies as an expressway falling within the ambit of Para 7(*f*) of the Schedule.

**36.** Neither the National Highways Act, 1956 nor the Karnataka Highways Act, 1964 define the term "highway". The 2009 Amendment to the 2006 Notification is silent on the definition of the term "expressway". It was submitted by the learned Senior Counsel appearing on behalf of the respondents that the definition by the Indian Road Congress ("IRC") in the Manual of Specifications and Standards for expressways is instructive.

**37.** The IRC was set up in 1934 on the recommendation of the Indian Road Development Committee constituted by the Government of India for the development of roads in the country. An expert group was constituted in 2013 to formulate a Manual of Specifications and Standards for expressways. The report, which was released in the same year, defined an "expressway" in the following terms:

> "… For this purpose, the expressway is defined as an arterial highway for motorised traffic, with divided carriageways for high speed travel, with full control of access and provided with grade separators at location of intersections. Generally, only fast-moving vehicles are allowed access on expressways…."

An "expressway" is defined as an arterial highway designed for high-speed travel with the objective of reducing traffic and generally involving control of access. Other indicators are the provision of toll booths, divided carriageways and grade separators located at intersections. The assessment of whether a road project is an expressway is to be determined on a case-by-case basis.

**38.** In the present case, the stated purpose of the PRR project is thus:

> "(1) To decongest the traffic in Bangalore City;
> (2) To cater intercity connectivity and intercity traffic;
> (3) To reduce pollution in the city;
> (4) To reduce heavy vehicles traffic i.e. lorry and trucks;
> (5) To decongest the traffic on outer ring road."

**39.** The brief note submitted by the appellant to this Court states that:

> "… the PRR proposed to be implemented by the BDA is an 8 lane divided road around Bangalore City is primarily to *ease the vehicular traffic congestion on its city roads*. The proposed cross-section consists of 4 lane main road in each traffic direction and 3 lane service road on either side of the main road for local traffic. The main road and the service road will be *separated by access-controlled facility. The engineering designs will be carried out in accordance with Indian Roads Congress standards*." (emphasis supplied)

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**40.** The primary purpose of the PRR project is to ease vehicular traffic congestion in the city. The main road and the service road are to be separated by access-controlled facilities. The engineering designs are to be carried out in accordance with the standards laid down by the IRC. The EIA report prepared by the appellant describes the PRR project in the following terms:

> "The proposed peripheral ring road (PRR) project alignment starts from — Tumkur Road as CH.17*a* (distance of 16-20 km from Bangalore City Railway Station on NH4 & terminates at Hosur Road near Begur CH.64.65 km (65 km) for a smooth flow of traffic, to reduce the *traffic congestion, pollution intensity and travel time*.
>
> *Highway Design*
>
> The proposed peripheral ring road (PRR) alignment has been designed for a *speed of 100 kmph wherever possible*. However, at a few locations that designs have been carried out for 80 kmph owing to restrictions at site. The vertical curves are designed as per the guidelines of IRC SP:23.
>
> * * *
>
> *Interchanges*
>
> An interchange is a *grade separated intersection with connecting roadways for turning traffic* between highway and approaches. The intersections are designed during the construction of peripheral ring road (PRR) after contemplating the guidelines and schemes given in AASHTO and IRC:92 guidelines.
>
> * * *
>
> *Toll Plaza*
>
> … All the traffic passing through the toll plaza section of road will have to pay toll. The public bus transport will be exempted from paying the toll.
>
> *Accessibility*
>
> The peripheral ring road (PRR) is speculated as a toll road. Provisions are provided for toll booths for tolling the road system. *Accessibility to peripheral ring road (PRR) is restricted* to the following categories of roads:
>
> National Highways;
>
> State Highways;
>
> Major District roads.
>
> The proposed project being a new State highway having 65 km length with right of way of 75 m the project falls under Category "B" in the Schedule of the EIA Notification, 2006 and requires environmental clearance from SEIAA." (emphasis supplied)

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**41.** The PRR project is expected to be an 8 lane main carriageway highway (4 + 4 bi-directional), along with a 6 lane road service road (3 + 3 bi-directional) having a right of way of 75 m and total length of 63.5 km. The EIA report stipulates that the PRR project was conceptualised with the salient purpose of decongesting the traffic in the city and catering to intercity connectivity and intercity traffic. This, it was stated, would significantly reduce pollution intensity and travel time. The EIA report clarifies that the project is designed to cater to high speed vehicular traffic with vehicles plying at speeds of 100 km/hr, where possible, and 80 km/hr in other places.

**42.** Moreover, the report stipulates that the project also comprises of ten interchanges and sixteen toll booths. It is stated that access to the road is restricted only to national highways, State highways and major district roads. In this view of the matter, there is no doubt that the PRR project is an expressway falling within the ambit of Para 7(*f*) of the Schedule to the 2006 Notification. The PRR project commenced on the issuance of the final notification under Section 19(1) of the BDA Act on 29-6-2007. Having concluded that the PRR project is an expressway, the appellant as project proponent was under an obligation under Para 7(*f*) of the Schedule to the 2006 Notification to seek a prior EC to implement the project.

**F. *Compliance with the procedure under the EIA Notification, 2006***

**43.** The next question to be analysed is whether the EIA process followed by the appellant was in compliance with the procedure stipulated under the 2006 Notification. In the written submissions and the rejoinder filed by the appellant before this Court, it was contended that the EIA process leading up to the preparation and submission of the EIA report to the SEAC was in compliance with the procedure stipulated under the 2006 Notification. It was contended that the NGT erred in concluding that there was a substantial delay in the preparation of the EIA report and in suspending the operation of the EC granted to the PRR project. On the other hand, in the written submissions filed by the respondents, it was contended that the delay in the preparation of the EIA report was in contravention of the OM dated 22-3-2010 issued by MoEFCC prescribing a validity period of four years for TORs from the date on which they are issued. In assessing the rival contentions, it becomes necessary to analyse the EIA process followed by the appellant, leading up to the grant of the EC.

**44.** On 10-9-2009, the appellant filed an application with the SEAC seeking a prior EC for the PRR project as a Category 'B' project under the 2006 Notification. In accordance with the 2006 Notification, the SEAC at its 46th meeting held on 21-11-2009 formulated and issued the TOR for the PRR project on which basis the appellant was required to carry out the EIA process. The final EIA report was placed before the SEAC and the SEIAA in November 2014. The SEAC held meetings on 5-4-2013, 9-6-2014, 11-8-2014, 12-8-2014 and 11-11-2014, 18-11-2014. At its final meeting between 11-18 November, the SEAC recommended the grant of an EC for the PRR project to the SEIAA. The EC was granted on 20-11-2014.

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**45.** The SEAC, at its 101st meeting dated 5-4-2013 decided to recommend to the SEIAA the closure of the project file since the TORs were issued over two years prior to the meeting and there was no correspondence by the appellant indicating any progress on the EIA process. Acting upon the letter of the SEAC, the SEIAA, at its 66th meeting dated 17-5-2013 closed the file relating to the grant of EC for the PRR project and communicated its decision to the appellant on 25-7-2013. By a letter dated 24-8-2013, the appellant requested the SEIAA to reopen the file. The SEIAA, at its 71st meeting dated 3-9-2013 decided to reopen the file, subject to the payment of the requisite processing fee. A public hearing was conducted on 6-2-2014. The SEAC, at its 111th meeting dated 9-6-2014, decided to defer the consideration of the appellant's proposal as the EIA report was not made available to the Committee members. By a letter dated 2-8-2014, the appellant placed before the SEAC the EIA report which was prepared after the public hearing was conducted in February 2014. The SEAC, at its 115th meeting dated 11-8-2014 to 12-8-2014 noted numerous deficiencies in the information submitted by the appellant and decided to obtain additional information which was communicated to the appellant on 28-8-2014.

**46.** The appellant provided to the SEAC a point-wise reply to the information sought along with additional samples on groundwater, surface water and soil. A final EIA report was prepared by the appellant in October 2014 and submitted to the SEAC. At its 121st meeting between 11-11-2014 and 18-11-2014, the SEAC recommended to the SEIAA the grant of EC to the PRR project. The SEIAA issued the EC on 20-11-2014.

**47.** Under the 2006 Notification, the process to obtain an EC for new projects comprises a maximum of four stages, all of which may not apply depending on the specific case stipulated under the Notification: screening, scoping, public consultation and appraisal. At the scoping stage, the project proponent submits information in Form 1 to the EAC or the SEAC, as the case may be, for the preparation of a comprehensive TOR. Following this, the project proponent prepares a summary EIA for the purpose of the public consultation process. The summary EIA is presented at the public hearing to invite comments and objections, if any. Based on the comments received and after addressing the objections raised, a final EIA report is prepared and sent to the regulatory authority concerned. At this stage, the regulatory authority must examine the documents "strictly with reference to the TOR" and communicate any inadequacy to the EAC or the SEAC, as the case may be, within 30 days of the receipt of the documents. Within sixty days of the receipt of all the documents, the EAC or the SEAC, as the case may be, shall complete the appraisal process as prescribed in Appendix V. The appraisal stage involves detailed scrutiny by the EAC or the SEAC of all the documents submitted by the applicant for the grant of EC. The EAC and the SEAC are charged with evaluating the information submitted by the applicant in Form 1/Form 1-A with reference to the TOR which was issued for the preparation of the EIA report.

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**48.** Significantly, the process of obtaining an EC commences from the production of the information stipulated in Form 1/Form 1-A. Information submitted in Form 1 relies on data and information on an "as is" basis at the relevant time of submitting information. Material information regarding the particulars of the proposed project as well as the potential impact on the environment is sought to enable the EAC or the SEAC to prepare a comprehensive TOR on which basis the applicant proceeds to prepare the EIA report. As the information in Form 1 is submitted on the basis of prevailing environmental conditions as on the date of its preparation, it is necessary to ensure that the EIA process is contemporary to the submission of information in Form 1 and the issuance of the TOR. MoEFCC, noting situations where some EIA reports were prepared belatedly on the basis of outdated TORs, issued a Notification on 22-3-2010 prescribing a time-limit for the validity of TORs which stated thus:

"Office Memorandum

*Sub.*: Time-limit for validity of terms of reference (TORs) prescribed under EIA Notification, 2006 for undertaking detailed EIA studies for developmental projects requiring environmental clearance — Regarding.

The EIA Notification, 2006 has prescribed a time-limit for validity environmental clearance granted to a project. However, no time-limit has been specifically provided under the EIA Notification for the TORs prescribed for undertaking detailed EIA studies. *As a result, the TORs once prescribed would continue to be valid indefinitely, which is definitely not desirable because the TORs are very much site specific and are dynamic to some extent depending upon the site features, its land use and the nature of development around it.* The matter has been considered in the Ministry of Environment & Forests.

It has been decided that from 1-4-2010, the prescribed TORs would be valid for a period of two years for submission of the EIA/EMP reports, after public consultation where so required. This period will be extendable to the 3rd year, based on proper justification and approval of the EAC/SEAC, as the case may be. Thus, an outer limit of three years has been prescribed for the validity of the TORs with effect from 1-4-2010.

*In case of the proposals which have been granted TORs prior to the issue of this OM, the EIA/EMP reports should be submitted, after public consultation where so required, no later than four years from the date of the grant of the TORs, with primary data not older that three years.*" (emphasis supplied)

**49.** MoEFCC stated that it was clearly undesirable to indefinitely continue a TOR. The environment is, by its very nature, dynamic. Soil quality, air characteristics and surrounding flora and fauna are among the characteristics of the environment which are constantly in a state of flux. A robust framework of environmental governance accounts for the dynamic nature of the environment. It is for this reason that project proponents are also required to ensure the submission of an Environmental Management Plan and compliance with the

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monitoring procedures envisaged under the 2006 Notification. An indefinite TOR defeats the very purpose which underlies the 2006 Notification for it may lead to situations where the state of the environment has changed drastically, yet the EIA process is carried out on the basis of outdated information. For this reason, MoEFCC prescribed a validity period of two years for TORs, which could be extended by the EAC or the SEAC only by another year. Furthermore, extension is to be granted only where the project proponent provides adequate justification in writing. Relevant to the present case, the Notification dated 22-3-2010 stipulates that where TORs were granted prior to the issue of the OM, the EIA report must be submitted within four years from the date on which the TOR was issued, with primary data not being older than three years.

**50.** By another Notification dated 22-8-2014, MoEFCC clarified the validity of the TORs prescribed under the 2006 Notification in the following terms:

> "... 2(*iv*) Extension of validity of TORs beyond the outer limit of three years for all projects or activities and four years for River Valley and HEP projects *shall not be considered by the Regulatory Authority. In such cases, the project proponent will have to start the process de novo and obtain fresh TORs in case the proponent is still interested in pursuing the clearance for the project. Reuse of old baseline data (provided it is not more than 3 years old) for the purpose of preparation of fresh EIA and EMP report will be considered subject to due diligence by the EAC/SEAC which may make appropriate recommendations including the need for revalidation.* Baseline data older than 3 years will not be used for preparation of EIA/EMP report. In any case, the PH shall have to be considered afresh in such cases." (emphasis supplied)

MoEFCC clarified that where the time period prescribed for the TOR has expired, the regulatory authority "shall not" consider any further extension and a project proponent seeking to continue the project must initiate the EIA process *de novo*. This includes the submission of fresh information in Form 1 and the prescription of a new TOR to guide the preparation of the EIA report. The extraordinary prescription of conducting the EIA process afresh was in keeping with the commitment to a framework of environmental governance which accounts for the dynamic nature of the environment.

**51.** By another Notification dated 7-11-2014, MoEFCC issued a notification clarifying the time-limit prescribed for TORs as well as the consideration of EIA reports by the SEAC which relied on primary data older than three years. The notification, insofar as it is relevant reads:

> "2. The matter has been further examined in the Ministry in the light of the decision taken as part of clearance reform and it is felt that it would not be logical to start the process of environment clearance de novo including taking fresh terms of reference (TORs), *if the baseline data collected for preparation of EIA/EMP report and/or public consultation are more than three years old.*

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3. Thus, it has been decided to substitute Para 2(*v*) of the abovereferred Office Memorandum No. J-110113/41/2006-IA.II(I) (part) dated 22-8-2014 with the following:

> '(*v*) (*a*) All the projects which have been recommended by the Expert Appraisal Committee (EAC) shall be considered by the competent authority even if data collected has become more than three years old *as the TORs itself used to have three years' validity and extendable by one more year*.
>
> (*b*) All the projects where the project proponents have already submitted their EIA/EMP Report for consideration by the EAC though the cases have still not been placed before the EAC and meanwhile the data has become more than three years old, shall be considered for the same reasons as given in para (*a*) above.' " (emphasis supplied)

**52.** This notification stipulated that the "authority concerned" shall consider EIA reports for the grant of EC even where the primary data relied upon was collected beyond three years from the preparation of the EIA report. This was because the TOR itself was extendable beyond three years by an additional year. Thus, where the EIA report is prepared within the prescribed time period for the validity of the TOR, the authority concerned may consider an EIA report which relies on primary data which was collected more than three years ago i.e. in the fourth year preceding the preparation of the EIA report. The effect of the notification was to prescribe a uniform validity period of four years for both TORs and the primary data collected. However, the stipulation that a fresh EIA process must be undertaken where the TOR has expired was retained.

**53.** In the present case, the TOR was issued on 21-11-2009, prior to the issue of the OM dated 22-3-2010. Hence, by virtue of the notification, the appellant was required to submit the EIA report within four years from the date of the issuance of the TOR i.e. before 21-11-2013. The SEAC was under a corresponding obligation to refuse the consideration of any EIA report prepared after the expiry of the TOR. Public hearing was conducted belatedly only on 6-2-2014 and the EIA report prepared thereafter was placed before the SEAC only on 2-8-2014, nearly a year after the TOR had expired. We cannot gloss over the failure of the project proponent to comply with the OMs issued by MoEFCC prescribing a time-limit for the validity of the TOR. The decision of the SEAC to proceed with the EIA report as well as seek additional information from the project proponent despite the expiry of the TOR suffers from a non-application of mind and is unsustainable.

**54.** Moreover, primary data was collected in December 2009 and February 2010. The EIA report was prepared after the public hearing was conducted in February 2014, nearly a year after the primary data had expired in terms of the OMs issued by MoEFCC. In the final EIA report prepared in October 2014, it is stated:

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"1.8. Study Period

To prepare the Rapid Environmental Impact Assessment (REIA) report for the proposed project, *the data was collected from December to February (2009-2010)* in the study area. Micro Meteorological parameters were recorded such as wind speed, wind direction and relative humidity on hourly basis during the study period."

"3.5. Monitoring period

Meteorological data was collected for the study area during *the months of winter [December, January and February (2009-2010)]*, wind speed, wind direction, temperature and relative humidity were recorded on hourly basis for the total study period." (emphasis supplied)

**55.** Admittedly, the EIA reports prepared in August and October 2014 relied on primary data which was collected between the months of December 2009 and February 2010. The EIA report was prepared prior to the coming into force of the OM dated 7-11-2014 by which MoEFCC extended the validity of primary data collected from a period of three years to four years. Even if the benefit under the notification were extended to the appellant, it was duty-bound to collect fresh primary data upon the expiry of four years from the date of issuance of the TOR i.e. 21-11-2013. This was evidently not done. This being the case, there is no manner of doubt that the final EIA report prepared on the basis of an expired TOR and primary data was in contravention of the OMs dated 22-3-2010, 22-8-2014 and 7-11-2014 issued by MoEFCC and could not form the basis of a validly issued EC.

**56.** It is also pertinent to note that a rapid EIA along with a socio-economic study was prepared by M/s Ramky Enviro Engineers Ltd., the EIA consultant for the PRR project on behalf of the appellant in November 2010. This EIA report relied on primary data collected between the months of December 2009 and February 2010 and analysed the impact of the proposed PRR project on the environment. A perusal of both the 2010 rapid EIA report and the EIA report prepared in October 2014 reveals that the data as well as the analysis of the impact of the proposed PRR project on the environment in the 2014 report is similar to that in the 2010 rapid EIA report. It appears that the EIA consultant has reproduced verbatim, portions of the rapid EIA report which was prepared in the year 2010. No effort was taken by the appellant to ensure the fresh collection of data in compliance with its obligations under the OMs issued by MoEFCC. In this view of the matter, the contention urged on behalf of the respondents that there was a substantial delay in the carrying out of the EIA process, vitiating the process commends itself for our acceptance.

**57.** In the rejoinder and brief note of submissions filed before this Court by the appellant, it was contended that any delay in the collection of primary data was remedied by the collection of fresh samples in reply to the questions raised by the SEAC in its 115th meeting dated 11-8-2014 to 12-8-2014. The primary data furnished in reply, it was urged, dated to the year 2014 and not 2010. In

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assessing this contention, it is necessary to advert to the questions raised by the SEAC to the appellant. The SEAC, at its 115th meeting noted shortfalls in the information submitted by the appellant and decided to obtain additional information. This was communicated to the appellant on 28-8-2014. The SEAC sought additional information on the following:

"1. EIA accredited consultant for Highway projects was not present.

2. Declaration of experts involved in preparation of EIA report is not furnished in the report.

3. Accessibility to all villages on either sides of the proposed road has to be preferably through underpasses.

4. Baseline data of hardness of borewell water furnished in the report is found to be wrongly analysed.

5. Surface water analysis report is found to be with wrong results.

6. All the parameters required to be tested as per NABET guidelines are to be analysed and furnished with lab reports.

7. Sampling locations are to be marked on maps windrose diagram to be superimposed.

8. In AAQ analysis, CO concentration is reported to be at dangerous level and this has to be checked again.

9. EMP to be revised and has to be site specific.

10. Sensitive location monitoring to be explicitly mentioned in EIA report with details of location.

11. Regarding information on forest land in the EIA report there is contradicting information in the report.

12. Trees to be planted are to be known in advance to grow samplings.

13. Soil analysis to be revalidated.

14. Borrow area of earth to be part of EIA report.

15. Emergency relief operation to be included.

16. As per the proposals submitted in page 10, "No forest land is involved in the proposed project. Hence forest clearance is not required" whereas in the same proposal page 21 "the total forest land to be diverted is estimated to be 1.5 ha in Jarakbande Kaval at Ch. 12.000 to 12.500". The contradictory information to be explained with documents.

17. In the same proposal under the head 10.3 afforestation plan: "Species proposed for afforestation plan are avicennia officinalis, avicennia alba, rhizophora mucronara & rhizophora aciculate, etc. They are mangrove-tropical trees growing in shores i.e. they are endemic in seashores (coastal area in the Kundapur coast), etc.

18. PP is advised to consult the forest wing under BDA to design (1 to 2) rows depending on the availability of the area, the strip plantations on either side of the proposed road with suitable native fruit-yielding shade-bearing & fast-growing species (instead of this consultant), to improve the

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micro climate. Committee decided to obtain additional information sought above and to recall the proposal after receipt of the information."

a By its letter dated 12-11-2014, the appellant provided to the SEAC a point-wise reply to the information sought along with additional samples on groundwater, surface water and soil.

**58.** The questions framed by the SEAC and responses filed by the appellant demonstrate that there existed serious deficiencies in the EIA report which was b submitted to the SEAC. This included outdated data on the AAQ air analysis, soil quality, forest land and the number of trees to be planted. The SEAC noted certain shortfalls which concerned limited aspects of the EIA report including the baseline data of hardness of borewell water, soil analysis and forest land. In addition to this, the SEAC directed that certain samples collected were to be marked on the map submitted to the SEAC in the EIA report. Significantly, c the SEAC noted the discrepancy concerning the disclosure of the existence of forest land. This aspect shall be explored in the course of the judgment.

**59.** The SEAC framed questions and sought information which was clarificatory in nature and covered specific substantive aspects of the data submitted in the EIA report. The EIA report on the other hand covers a wide d range of matters which include terrain, topography, land requirements, terrain classification, wind and noise pattern analysis, air quality analysis, surface and groundwater analysis, soil environment analysis, impact of flora and fauna and environmental monitoring plans.

**60.** The submission of additional fresh data on a few points raised in the form of a query on behalf of the SEAC does not remedy the general obligation e to ensure that the EIA report was prepared within a time period of four years from the date of the issuance of the TOR, relying on primary data that was no older than four years. Merely because some additional information was sought which required the furnishing of additional details and the collection of fresh samples, it cannot be said that such an exercise cures the defect arising from the f preparation of an EIA report outside the time period prescribed by MoEFCC. Significantly, even at the relevant time when information was sought from the project proponent, both the TOR as well as the primary data upon which the EIA report was prepared was beyond the period of their validity. In such a case, the SEAC, by seeking additional information, has traversed beyond the power conferred upon it under the 2006 Notification.

g **61.** The SEAC proceeded to recommend to the SEIAA the grant of the EC to the PRR project in contravention of the obligations stipulated under the OMs issued by MoEFCC. Significantly, the SEAC considered the final EIA report only at its 121st meeting between 11-11-2014—18-11-2014 when the OM dated 22-8-2014 issued by MoEFCC was in force. The SEAC was under an obligation to direct the appellant to conduct the EIA process *de novo*. The h SEAC and the project proponent cannot circumvent the obligation to ensure

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reliance on contemporary data by seeking additional information beyond the prescribed validity of the TOR and primary data. The SEAC has clearly erred in recommending to the SEIAA the grant of EC despite the non-compliance by the appellant with the prescribed time-limit for the preparation of the EIA report.

### G. *Deficiencies in the EIA report*

#### G.1. *Accreditation of the EIA consultant*

**62.** In the written submissions submitted by the appellant, it was contended that the EIA process was undertaken on behalf of the appellant by M/s Ramky Enviro Engineers (P) Ltd., a non-accredited EIA consultant. This, it was submitted, was in contravention of the OM dated 2-12-2009 issued by MoEFCC mandating that only sector-specific accredited EIA consultants should be engaged to carry out the EIA process.

**63.** MoEFCC, by its Notification dated 2-12-2009, mandated the registration of EIA consultants under the scheme of Accreditation and Registration of the National Accreditation Board of Education and Training/ Quality Council of India. The relevant portion of the Notification reads:

> "... It has been felt in the Ministry that there is a need to enhance the quality of EIA reports as the consultants generally undertake preparation of EIA/EMP Reports in many sectors and in some instances without requisite expertise and supporting facilities like laboratories for testing of samples, qualified staff, etc. The good quality EIA Reports are prerequisites for improved decision-making.
>
> * * *
>
> 3. After detailed consideration of the issues relating to the accreditation of the consultants, the following decisions have been taken:
>
> • *All the consultants/public sector undertaking (PSUs) working in the area of Environmental Impact Assessment would be required to get themselves registered under the scheme of Accreditation and Registration of the NABET/QCI.*
>
> • *Consultant would be confined only to the accredited sectors and parameters for bringing in more specificity in the EIA document.*
>
> * * *
>
> 4. It is decided, in the above factual matrix that no EIA/EMP Reports prepared by such consultants who are not registered with NABET/QCI shall be considered by the Ministry after 30-6-2010." (emphasis supplied)

**64.** MoEFCC prescribed that it is mandatory for every consultant or PSU acting as an EIA consultant to get themselves registered under the accreditation scheme of the NABET/QCI. Moreover, a consultant would be confined to the sector for which they receive accreditation to ensure expertise and specificity in the carrying out of the EIA process. This was also to ensure the availability of facilities like laboratories. It was stated that a good quality EIA report is a precondition for improved decision-making. In the written submissions before this Court, the appellant urged that M/s Ramky Enviro Engineers (P) Ltd. was hired in November 2009 upon the issuance of the TORs prior to the coming

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into force of the OM dated 2-12-2009. Consequently, there was no obligation to engage an accredited consultant for the preparation of the EIA report. Be that as it may, Ramky Enviro Engineers (P) Ltd., Hyderabad was granted the status of a "consultant with accreditation" vide OM dated 30-6-2011 issued by MoEFCC. At the time of the preparation of the EIA report which was submitted to the SEAC, the EIA consultant had received accreditation. However, the learned counsel appearing on behalf of the respondents has also placed on record a copy of the minutes of the 4th Accreditation Committee Meeting for Re-Accreditation held on 22-11-2013. Ramky Enviro Engineers (P) Ltd., Hyderabad was considered in the following terms:

> "21. Ramky Enviro Engineers (P) Ltd., Hyderabad
>
> The case of Ramky Enviro Engineers was discussed earlier in RAAC meeting dated 28-10-2013. Inadequacies with respect to (*a*) Variation in names of candidate in list of experts/persons included in EIA (*b*) Implementation of QMS, and (*c*) Quality of EIA were observed. Ramky Enviro was asked to explain the reasons for shortfalls to Accreditation Committee (AC)
>
> * * *
>
> Results of the Re-accreditation (RA) assessment are given below:
>
> Ramky Enviro Engineers have scored more than 60% as an organisation and therefore qualifies for Cat. A EIA projects. However, in respect of completeness and quality of EIA, the marks are less that 60% indicating scope of improvement vide points mentioned below in relevant section.
>
> 2.1.1. Scope of accreditation

| *Sl. No.* | *Sector No. as NABET Scheme* | *Name of Sector* | *Cat.* |
|---|---|---|---|
| *1.* | 1 | Mining | A |
| *2.* | 40 | Thermal power plants | A |
| *3.* | 20 | Petrochemical based processing | A |
| *4.* | 21 | Synthetic organic processing | A |
| *5.* | 1 | Industrial estate/parks/SEZ | A |
| *6.* | 32 | TSDF | A |
| *7.* | 38 | Building and large construction | A |
| *8.* | 39 | Area and township projects | A" |

**65.** The Committee noted the deficiencies in the performance of M/s Ramky Enviro Engineers (P) Ltd. as an EIA consultant and indicated a scope for improvement. The Committee then proceeded to record the sectors for which M/s Ramky is granted accreditation. Conspicuous in its absence is the grant of accreditation for serving as an EIA consultant for highway projects. When the final EIA report for the PRR project was prepared in August/October 2014, M/s Ramky lacked accreditation to serve as an EIA consultant for highway projects. This aspect shall be borne in mind in deciding the eventual directions which this Court seeks to issue.

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**G.2.** ***Forest land***

**66.** Essentially, the contention urged on behalf of the respondents in its written submissions before this Court is that there was a patent and abject failure on the part of the appellant as project proponent, to disclose the diversion of forest land for the proposed PRR project. The appellant, it was contended, concealed material information concerning the diversion of forest land and absent the requisite forest clearance, the EC granted for the PRR project stands vitiated.

**67.** In the draft EIA report prepared for the PRR project, it was stated:

> "The Forest (Conservation) Act, 1980
>
> …No forest land is involved in the proposed project. Hence, forest clearance is not required."

Despite an indication that the proposed PRR project did not involve the diversion of forest land, the draft EIA report stated:

> "…As per the proposed design, the total forest land to be diverted is estimated to be 1.5 ha and the chainage wise details of the same are presented as:
>
> Table 2.2 B. Details of forest area proposed to be diverted for the Project Road

| *Sl. No.* | *Proposed chainage* | *Length (km)* | *Forest* | *Village* | *Survey No.* | *Area of the forest to be diverted in ha* |
|---|---|---|---|---|---|---|
| *1.* | Ch 12.000 to 12.500 | 763 M | Jarakabande kavalu | Yelahanka | 59 | 1.5" |

The draft EIA report noted that 1.5 ha of forest land in Jarakabande kavalu is proposed to be diverted between linkages Ch 12.000 and 12.500 for a portion of the proposed road totalling 763 m. A similar contradiction is noted in the final EIA report prepared in October 2014:

> "Initial portion of the Highway is along protected forest areas. From the site visits and discussion with officials, it is inferred that there are no noticeable habitats or wild or endangered animal habitats along close vicinity of the project road…."

The EIA report affirms at numerous places that 1.5 ha of forest land will be affected by a part of the project. Despite this, the EIA report proceeds to state:

| *"Sl. No.* | *Type of clearance* | *Statutory Authority* | *Applicability* | *Project stage* | *Responsibility* |
|---|---|---|---|---|---|
| *1.* | Prior environmental clearance under EIA Notification, 2006 | SEIAA | Applicable | Pre-construction | BDA |

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| | | | | | |
|---|---|---|---|---|---|
| *2.* | *Forest clearance under Forest Conservation Act, 1980* | *Karnataka State and Forest Dept & MoEF* | *Not applicable* | *Pre construction* | *BDA"* |

**68.** The EIA report proceeds on the assumption that no forest clearance is required despite the diversion of 1.5 ha of forest land. No explanation has been provided by the appellant either in the EIA report or in the written submissions before this Court as to why it was exempt from seeking the requisite forest clearance. The only indication of remedying the loss of forest cover provided in the EIA report is thus:

> "10.4. Afforestation Plan
>
> Affected Area — Around 1.50 ha.
>
> Area proposed to be afforested — 4.5 ha (three times the affected area)
>
> Afforestation programme will be implemented through the Forest Department, BDA and regular monitoring will be ensured.
>
> Land will be identified in consultation with State Forest Department, Bangalore."

**69.** The contradictory stand by the appellant on the forest cover proposed to be diverted for the proposed project was noted by the SEAC in its 115th meeting dated 11-8-2014 to 12-8-2014. The SEAC sought additional information from the appellant on numerous grounds, of which one concerned the potential loss of forest cover. The SEAC, in its letter to the appellant, noted the contradictory stand of the appellant and stated:

> "…16. As per the proposals submitted in p. 10, "No forest land is involved in the proposed project. Hence forest clearance is not required" whereas in the same proposal p. 21 "the total forest land to be diverted is estimated to be 1.5 ha in Jarakbande Kaval at Ch. 12.000 to 12.500". The contradictory information to be explained with documents."

**70.** The appellant furnished a pointwise reply to the question raised by the EAC. It replied to the question concerning forest land by stating:

> "As per the proposed design the total forest land to be diverted is estimated to be 1.5 ha in Jarakbande Kaval at Ch. 12.000 to 12.500.
>
> 25 acres of land available in possession with BDA is proposed to be given to Forest Department in lieu of 25 acres of forest land (PRR chainage between 12th and 13th km in Survey No. 59 of Jarakbande Kaval approved vide by authority Subject No. 80/89 dated 17-3-2009) needed to PRR."

The appellant confirmed that 1.5 ha of forest land is proposed to be diverted. It was stated that in lieu of the 25 acres of forest land required, the appellant shall make available to the Forest Department 25 acres of land available with it.

**71.** We cannot gloss over the patent contradiction of the appellant as the project proponent in disclosing the existence of forest land to be diverted for the purposes of the PRR project. Despite a clear indication that a total 1.5 ha of forest land is to be diverted for the purpose of the PRR project, the appellant

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sought to remedy its failure in seeking the requisite clearances in a post facto manner by stipulating that 25 acres of land available with it is to be given to the Forest Department in lieu of the forest cover proposed to be diverted for the project. Post facto explanations are inadequate to deal with a failure of due process in the field of environmental governance. While the appellant submitted to the EAC that it had already obtained the consent of the Forest Department to divert the proposed forest land, a contradictory stance was taken in the written submissions filed by the appellant:

> "It is stated herein that the PRR passes through 25 acres of forest land situated in Jarakbande Kaval Forest Area, Yelahanka Hobli, Bangalore, North Taluk and since the alignment inevitably passed through this, the Forest Department was requested on 28-8-2018 to handover the forest land to the appellant for the purpose of the PRR project. Thereafter, the Forest Department replied on 12-1-2019 requesting for alternate land of 25 ac."

**72.** It was stated by the appellant that it was only on 28-8-2018 that it sought to remedy its failure in obtaining the requisite forest clearance by requesting the Forest Department to handover the forest area involved in the project. The appellant, in its rejoinder filed before this Court states:

> "…*It is admitted that the PRR does indeed pass through the forest land in Jarakabande Kavalu forest area*. It is also pertinent to point out here that the appellant has also taken necessary steps to ensure that land measuring 25 acres have also been provided as alternate land for the afforestation plan due to the forests to be cleared in the Jarakabande Kavalu forest area as shown in p. 238 of IA No. 53243. *The contradictions mentioned in the EIA report have subsequently stood corrected and clarified before the EAC and the* SEIAA." (emphasis supplied)

**73.** In addition to the admission by the appellant of the contradictions in the EIA report, it sought to substitute the requisite forest clearance with an agreement with the Forest Department to provide an alternative site for afforestation. This is not sustainable in law. Compliance with the 2006 Notification and other statutory enactments envisaged in the EIA process cannot be reduced to an ad-hoc mechanism where the project proponent seeks to remedy its abject failure to disclose material information and seek the requisite clearances at a belated stage.

**74.** The Karnataka SEIAA, in its affidavit before the NGT sought to contend that the EC was granted subject to the appellant obtaining the required forest clearance. It was stated:

> "Forest Area
>
> (*b*) Environmental clearance has been provided by SEIAA is for the present alignment of the road as submitted to SEIAA and any change in the scope of the project requires fresh appraisal. In this regard, it may be noted that details of the forest land involved are covered in the Environment Impact Assessment Report. The proponent has decided to provide 25 acres of land available with them to the Forest Department.

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It may also be noted that as per law, clearances from other statutory authorities is not mandatory for consideration of the application for environment clearance (hereafter, also referred to as "EC") as it is prior environmental clearance. Nonetheless, specific conditions have been imposed in the EC that such permission shall be obtained by the project proponent.

* * *

It is also important to note that the EC is subject to compliance with the conditions requiring obtaining of required clearances from the competent authority in accordance with the applicable law such as prior clearances relating to forests and lakes. Any non-compliance will be construed as a violation of the EC conditions and will be dealt with in accordance with law."

In the view of the Karnataka SEIAA, there was no deficiency in the grant of the EC so long as specific conditions were imposed on the project proponent to seek the requisite clearance.

**75.** Prior to the notification, prior clearance from regulatory bodies or authorities was not required. MoEFCC, by a Notification dated 31-3-2011, prescribed the procedure to be followed for projects which involve forest land in the grant of an EC. The relevant portion reads:

"…In this regard, reference is also invited to Para 8(*v*) of the EIA Notification, 2006 which reads as follows:

'Clearances from other regulatory bodies or authorities shall not be required prior to receipt of applications or prior environmental clearance of projects or activities, or screening, or scoping, or appraisal, or decision by the regulatory authority concerned, unless any of these is sequentially dependent on such clearance either due to a requirement of law, or for necessary technical reasons.

* * *

However, in view of the complexity of the issues involved, the matter has been considered further in the Ministry and in suppression of the earlier instructions, it has now been decided to adopt the following procedure for consideration of such projects.'

* * *

I. (B) *Projects for which TORs have already been prescribed by the proposal for environmental clearance is yet to be submitted*:

In case of the proposals, which involve forest land, in part or in full, and for which TORs have already been prescribed, the project proponents are advised to ensure that the requisite Stage I forestry clearance has been granted and its copy is submitted along with their application/proposal for environmental clearance. Alternatively, the proponent should delete from their land requirement, the forest land involved in the project and the proposal so amended without any forest land may be submitted for appraisal by the EAC.

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In case of projects where forest diversion (Stage I clearance) has been approved for part of the total forest land involved in the project, the proposal will be considered only for the land for which forest diversion has been approved and the non-forest land, if any…"

**76.** MoEFCC stipulated that where TORs have been issued and the EIA report for the grant of EC is yet to be submitted, project proponents must ensure that the requisite forest clearance has been granted. A copy of the grant should be submitted along with their application for the grant of EC. Alternatively, the project proponent may delete from the proposed project any forest land that may be affected by the project. MoEFCC clarified that where forest clearance has been obtained for only a part of the total forest land involved in the project, the proposal will be considered only to the extent of the land for which forest diversion has been approved.

**77.** By two subsequent Notifications dated 9-9-2011 and 18-5-2012, the procedure concerning the grant of EC for projects involving forest land stood amended in the following terms:

"… (*ii*) At the stage of consideration of proposals for EC in respect of projects involving forest land, the project proponent would inform the respective EACs about the status of their application for forestry clearance along with necessary supporting documents from the Forest Authorities concerned. It will clearly be informed to the EAC whether the application is at the State level or at the Central level. The EAC will take cognizance of the involvement of forest land and its status in terms of forestry clearance and make their recommendations on the project on its merits. After the EAC has recommended the project for environmental clearance, it would be processed on file for obtaining decision of the competent authority for grant of environmental clearance. In the cases where the competent authority has approved the grant of environmental clearance, the proponent will be informed of the same and a time-limit of 12 months, which may be extended in exceptional circumstances to 18 months, a decision on which will be taken by the competent authority, will be given to the proponent to submit the requisite Stage I forestry clearance. *The formal environmental clearance will be issued only after the Stage I forestry clearance has been submitted by the proponent.*

(*iii*) In the eventuality that the Stage I forestry clearance is not submitted by the project proponent within the prescribed time-limit mentioned at Para (*ii*) above, as and when the Stage I forestry clearance is submitted thereafter, such projects would be referred to EAC for having *a relook on the proposal on case-by-case basis depending on the environmental merits of the project and the site*. In such a situation the EAC may either reiterate its earlier recommendations or decide on the need for its reappraisal, as the case may be. In the eventuality, a reappraisal is asked for, the Committee will simultaneously decide on the requirement of documents/information for reappraisal as also the need for a fresh public hearing." (emphasis supplied)

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**78.** Project proponents are duty-bound to disclose the existence of forest land and inform the SEAC of the status of their application for forest clearance at the time of submitting the EIA report for the grant of the EC. Where the competent authority has granted the EC for a project, the project proponent is then duty-bound to obtain and submit to the competent authority the requisite Stage I forest clearance for the proposed project within 12 months or 18 months, as the case may be. Where the project proponent fails to submit the requisite forest clearance within the prescribed time, the EAC or the SEAC are authorised to re-examine the project and decide whether there is a need for the reappraisal of the project. The process envisaged for the disclosure of the forest clearance procedure as well as the submission of the grant of forest clearance subserves the purpose of ensuring timely and adequate protection of forest land. Where the EAC or the SEAC is of the opinion that additional documents are required upon the failure of the project proponent to submit the requisite forest clearance within the prescribed time, it may direct that a fresh public hearing be conducted.

**79.** The appellant attempted to remedy its contradictory stand on the forest land proposed to be diverted and its failure to obtain the requisite forest clearance by submitting to the SEAC an undertaking to ensure afforestation in an alternate plot of land owned by it in collaboration with the Forest Department. Such a procedure is neither envisaged under the 2006 Notification nor is in compliance with the notifications issued by MoEFCC from time to time. Similarly, the SEAC was under an obligation to ensure that the project proponent had complied with the stipulated procedure for the grant of forest clearance. Instead, the SEAC proceeded on the clarification issued by the appellant in contravention of the OMs dated 31-3-2011, 9-9-2011 and 18-5-2012. Despite the numerous deficiencies that were noted in the minutes of the SEAC meeting, it proceeded to recommend to the SEIAA the grant of EC for the PRR project. The decision of the SEAC to recommend to the SEIAA the grant of the EC, despite the contradictory stand of the appellant as well as its failure to furnish adequate reasons as to why it was exempt from seeking forest clearance, suffers from a non-application of mind.

### G.3. *Trees*

**80.** In the written submissions filed before this Court, it was contended by the respondents that there was a material concealment by the project proponent of the number of trees proposed to be felled for the PRR project. While the appellant stated that only 200-500 trees were required to be felled, the number was in fact as high as 16,000 trees. The appellant, as project proponent, stated in the 2014 EIA report:

> "Around 519 plants are felled for the project; the minimum of three times the number of felled plants will be replanted in the nearby areas."

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**81.** The Deputy Conservator of Forests, BDA, in a reply dated 24-4-2009 to a right to information query stated:

"With respect to the information sought under the Right to Information Act, 2005, the number of trees that will be cut for the formation of the peripheral ring road — Part I have been provided below:

| *Sl. No.* | *Information sought for* | *Information provided* |
|---|---|---|
| | Here is the information sought regarding cutting of trees for the formation of the peripheral ring road Part I | The below mentioned trees belong to the Horticulture & Forest Department will be cut for the formation of the peripheral ring road Part I<br>*1*. Coconut trees: 3837<br>*2*. Mango trees: 3142<br>*3*. Guava trees: 1361<br>*4*. Sapota trees: 0818<br>*5*. Arecanut trees: 0287<br>*6*. Jamun trees: 0084<br>*7*. Jackfruit trees: 0059<br>*8*. Tamarind trees: 0040<br>*9*. Teak trees: 0201<br>*10*. Silver oak trees: 0028<br>*11*. Neem trees: 0028<br>*12*. Eucalyptus trees: 7000 |
| | *Total* | 16,785" |

**82.** The Deputy Conservator of Forests revealed that around 16,785 trees were proposed to be cut for the purpose of executing the PRR project. The abject failure of the project proponent in disclosing the number of trees required to be felled is also evident from the rejoinder filed by the appellant before this Court. It was submitted:

"13. In reply to Para 6: As had been stated earlier, the clarifications regarding cutting of trees and the corrections have been made subsequently and additionally a further 25 acres of land has been provided for the purpose of afforestation in an alternate piece of land. The same has been shown in p. 184 of IA No. 53243 of 2019."

**83.** The EIA report prevaricated by recording that the area required for the proposed PRR project has only a few trees. Though the development of infrastructure may necessitate the felling of trees, the process stipulated under the 2006 Notification must be transparent, candid and robust. Hiding significant components of the environment from scrutiny cannot be an acceptable method of securing project approvals. There was a serious lacuna in regard to disclosures and appraisal on this aspect of the controversy.

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**G.4.** ***Pipelines***

**84.** The EIA process was challenged on the ground that by virtue of a Notification dated 12-6-1999, the Central Government acquired certain lands for laying a petroleum pipeline between Mangalore and Bangalore. Petronet MHB Ltd., by its letters dated 7-11-2005 and 21-11-2007 sought to inform the appellant of the potential crossover of the PRR project over the pipelines. The same was reiterated in its meeting with the appellant dated 4-2-2008. Petronet MHB Ltd. was of the opinion that as the pipelines contain hazardous material which is highly inflammable, care should be taken to either relocate parts of the project or ensure that adequate safeguards were put in place.

**85.** The respondents have placed on record the minutes of the meeting dated 2-2-2008 between the appellant authority and the representatives of M/s Petronet MHB Limited. It was noted that the proposed PRR project crosses the Petronet pipeline at three locations — PRR CH 7600, PRR CH 29100 to 29500 and CH 31100 to 31800 and PRR CH 39500. It was agreed that a joint inspection would take place for one crossing, while for the other two crossings it was agreed that the PRR project would be raised for clearance height. It was stated:

> "The MD, M/s Petronet MHB Limited agreed that the PRR may be taken over at higher level with a clearance of minimum 5.20 m from the ground level and the crossing shall be preferably at right angles. He also insisted that no supports shall be constructed within their right of user (ROU) of 18.00."

**86.** In this view of the matter, the appellant sought to take adequate precautions to ensure that the proposed PRR project did not cross a pipeline and where it did, it was at a sufficient height without the use of support pillars. The respondent contended that the appellant was constrained to revert to the proposed alignment prior to the meeting by virtue of various orders passed by the High Court of Karnataka. This shall be dealt with in the directions which this Court seeks to issue.

**H.** ***Appraisal by the SEAC***

**87.** In addition to the finding that the SEAC erred in recommending to the SEIAA the grant of EC on the basis of an expired TOR and primary data, there is another aspect of the matter that warrants the attention of this Court. The SEAC, in its 121st meeting between 11-11-2014—18-11-2014 proceeded to recommend to the SEIAA the grant of EC for the PRR project. Appraisal by the SEAC is structured and defined by the 2006 Notification. At this stage, the SEAC is required to conduct "a detailed scrutiny" of the application and other documents including the EIA report submitted by the applicant for the grant of an EC. Upon the completion of the appraisal process, the SEAC makes "categorical recommendations" to the SEIAA either for: (*i*) the grant of a prior EC on stipulated terms and conditions; or (*ii*) the rejection of the application. Significantly, the recommendations made by the SEAC for the grant of EC, are

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normally accepted by the SEIAA and must be based on "reasons". At its 121st meeting, the SEAC recorded the following reasons for its recommendations:

> "PP and environmental consultant were present in the meeting.
>
> PP stated that the project was conceived and the consultant was engaged in 2003 prior to 2006 EIA Notification. Now JICA is insisting for EC.
>
> PP have submitted the compliance for the above queries raised by the committee vide their letter dated 12-11-2014.
>
> After due deliberations the committee decided to recommend the proposal to SEIAA for consideration to issue EC.
>
> PP has submitted an undertaking on the day of the meeting on the following points:
>
> 1. To provide pedestrian crossings in the utility crossings facility taking all the precautions.
> 2. Adequate CD works.
> 3. To maintain Raja Kalave.
> 4. To take up afforestation work separately.
> 5. Major crossings of NH/SH/MDR/VR.
> 6. Accessibility to proposed road from all villages without charging toll.
>
> Action to be taken: Secretary, SEAC to submit the proposal to SEIAA accordingly."

**88.** The reasons furnished by the SEAC must be assessed with reference to the norm that it is required to submit *reasons* for its recommendation. The analysis by the SEAC is, to say the least, both perfunctory and fails to disclose the reasons upon which it recommended to the SEIAA the grant of EC for the PRR project. The SEAC proceeds merely on the reply furnished by the appellant to the queries raised by the SEAC at its 115th meeting dated 11-8-2014 to 12-8-2014. In this view, the procedure followed by the SEAC suffers from a non-application of mind.

**89.** The SEAC is under an obligation to record the specific reasons upon which it recommends the grant of an EC. The requirement that the SEAC must record reasons, besides being mandatory under the 2006 Notification, is of significance for two reasons: (*i*) The SEAC makes a recommendation to the SEIAA in terms of the 2006 Notification. The regulatory authority has to consider the recommendation and convey its decision to the project proponent. The regulatory authority, as Para 8(*ii*) of the 2006 Notification provides[10], shall *normally* accept the recommendations of the EAC. Thus, the role of the SEAC

10 "(*ii*) The regulatory authority shall normally accept the recommendations of the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned…."

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in the grant of the EC for a proposed project is crucial; and (*ii*) The grant of an EC is subject to an appeal before the NGT under Section 16 of the NGT Act, 2010. The reasons furnished by the SEAC constitute the link upon which the SEIAA either grants or rejects the EC. The reasons form the material which will be considered by the NGT when it considers a challenge to the grant of an EC.

**90.** In *Sreeranganathan K.P.* v. *Union of India*[11], the grant of an EC to the KGS Aranmula International Airport Project was challenged. The NGT found fault with the process leading up to the grant of the EC since sector specific issues had not been dealt with. The NGT extensively reviewed the information submitted with regard to the construction of the airport and held thus: (SCC OnLine NGT para 182)

> "*182.* ... a duty is cast upon the EAC or SEAC as the case may be to apply the cardinal principle of Sustainable Development and Principle of Precaution while screening, scoping and appraisal of the projects or activities. While so, it is evident in the instant case that the EAC has miserably failed in the performance of its duty not only as mandated by the EIA Notification, 2006, but has also disappointed the legal expectations from the same. For a huge project as the one in the instant case, *the consideration for approval has been done in such a cursory and arbitrary manner without taking note of the implication and importance of environmental issues. ...Thus, the EAC has not conducted itself as mandated by the EIA Notification, 2006 since it has not made proper appraisal by considering the available materials and objections in order to make proper evaluation of the project before making a recommendation for grant of EC.*" (emphasis supplied)

The Court held that the EAC had not conducted a proper appraisal given its failure to consider the available material and objections before it. The EAC had thus failed to conduct a proper evaluation of the project prior to forwarding to the regulatory authority its recommendation.

**91.** In *Lafarge Umiam Mining (P) Ltd.* v. *Union of India*[12] an application was made under the 1994 Notification for the grant of an EC to a proposed limestone mining project at Nongtrai Village, East Khasi Hills District, Meghalaya. A three-Judge Bench of this Court rejected the challenge and upheld the grant of the EC to the proposed project. Chief Justice S.H. Kapadia noted that the doctrine of proportionality must be applied to matters concerning the environment as part of judicial review. The principles of judicial review in environmental matters have been enunciated thus: (SCC p. 380, para 119)

> "*119.* ... In the circumstances, barring exceptions, decisions relating to utilisation of natural resources have to be tested on the anvil of the well-recognised principles of judicial review. Have all the relevant factors been taken into account? Have any extraneous factors influenced the decision? Is the decision strictly in accordance with the legislative policy underlying the law (if any) that governs the field? Is the decision consistent with the principles of sustainable development in the sense that has the decision-

11 2014 SCC OnLine NGT 15 : 2014 All (1) NGT Reporter (1) SZ 1
12 (2011) 7 SCC 338

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maker taken into account the said principle and, on the basis of relevant considerations, arrived at a balanced decision? Thus, the Court should review the decision-making process to ensure that the decision of MoEF is fair and fully informed, based on the correct principles, and free from any bias or restraint."

**92.** The SEAC, as an expert body, must speak in the manner of an expert. Its remit is to apply itself to every relevant aspect of the project bearing upon the environment and scrutinise the document submitted to it. The SEAC is duty-bound to analyse the EIA report. Apart from its failure to repudiate a process conducted beyond the prescribed time period stipulated by MoEFCC, the SEAC failed to apply its mind to the abject failure of the appellant in conducting the EIA process leading up to the submission of the EIA report for the grant of EC. The SEAC is not required to accept either the EIA report or any clarification sent to it by the project proponent. In the absence of cogent reasons by the SEAC for the recommendation of the grant of EC, the process by its very nature, together with the outcome, stands vitiated.

**I.** ***Courts and the environment***

**93.** Courts today are faced with increasing environmental litigation. A development project that was conceptualised as early as in the year 2005 has surfaced before this Court over 15 years later. The period that has led up to the present litigation has involved a myriad of decisions and processes, each contributing to the delay of a project that was outlined to subserve a salient development policy of decongesting the city. Where project proponents and institutions envisaged under the 2006 Notification abdicate their duty, it is not only the environment that suffers a serious setback, but also the development of the nation. In the eventual analysis, compliance with the deliberative and streamlined process envisaged for the protection of the environment ensures a symbiotic relationship between the development of the nation and the protection of the environment.

**94.** The adversarial system is, by its nature, rights based. In the quest for justice, it is not uncommon to postulate a winning side and a losing side. In matters of the environment and development however, there is no trade-off between the two. The protection of the environment is an inherent component of development and growth. Professor Charles E. Corker of the University of Washington School of Law said in a speech titled "Litigating the Environment — are we overdoing it?"[13]:

> "My answer is yes. We are overdoing our litigation of the environment. I do not mean that there are necessarily too many lawsuits being filed on environmental issues, and that we should somehow cut back — I would not know how, in any case — the number of those suits by ten per cent, twenty per cent, or fifty per cent. I do mean that a disproportionately large share of attention, effort and environmental concern is being focused on

13 Speech to the Thirteenth Annual Meeting of the Interstate Conference on Water Problems, Portland, Oregon delivered on 29-10-1970.

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lawsuits. Lawsuits cannot accomplish, by themselves, solutions to the most pressing of our environmental problems. As a result, we are in some danger of leaving the most pressing environmental problems unsolved — or even made worse — because the commotion of litigation has persuaded us that something has been accomplished."

Professor Corker draws attention to the idea that the environmental protection goes beyond lawsuits. Where the State and statutory bodies fail in their duty to comply with the regulatory framework for the protection of the environment, the courts, acting on actions brought by public-spirited individuals are called to invalidate such actions. Equally important however, is to be cautious that environmental litigation alone is not the panacea in the quest to ensure sustainable development.

**95.** The protection of the environment is premised not only on the active role of courts, but also on robust institutional frameworks within which every stakeholder complies with its duty to ensure sustainable development. A framework of environmental governance committed to the rule of law requires a regime which has effective, accountable and transparent institutions. Equally important is responsive, inclusive, participatory and representative decision-making. Environmental governance is founded on the rule of law and emerges from the values of our Constitution. Where the health of the environment is key to preserving the right to life as a constitutionally recognised value under Article 21 of the Constitution, proper structures for environmental decision-making find expression in the guarantee against arbitrary action and the affirmative duty of fair treatment under Article 14 of the Constitution. Sustainable development is premised not merely on the redressal of the failure of democratic institutions in the protection of the environment, but ensuring that such failures do not take place.

**96.** In the present case, as our analysis has indicated, there has been a failure of due process commencing from issuance of the TOR and leading to the grant of the EC for the PRR project. The appellant, as project proponent sought to rely on an expired TOR and proceeded to prepare the final EIA report on the basis of outdated primary data. At the same time, the process leading to the grant of the EC was replete with contradictions on the existence of forest land to be diverted for the project as well as the number of trees required to be felled.

**97.** The SEAC, as an expert body abdicated its role and function by relying solely on the responses submitted to it by the appellant and failing to comply with its obligations under the OMs issued by MoEFCC from time to time. In failing to provide adequate reasons for its recommendation to the SEIAA for the grant of an EC, it failed in its fundamental duty of ensuring both the application of mind to the materials presented to it as well as the furnishing of reasons which it is mandated to do under the 2006 Notification.

**98.** In this view of the matter, neither the process of decision-making nor the decision itself can pass legal muster. Equally, this Court must bear in mind the need to balance the development of infrastructure and the environment. We are of the view that while the need for a road project is factored into the decision-making calculus, equal emphasis should be placed on the prevailing state of the

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environment. The appeal which was filed before the NGT in 2015, was finally disposed of at a belated stage only in 2019.

**J.** ***Directions***

**99.** Bearing in mind the need to bring about a requisite balance, we propose to issue the following directions under Article 142 of the Constitution:

**99.1.** The appellant is directed to conduct a fresh rapid EIA for the proposed PRR project;

**99.2.** The appellant shall, for the purpose of conducting the rapid EIA, hire a sector-specific accredited EIA consultant;

**99.3.** The appellant shall have due regard to the various deficiencies noted in the present judgment as well as ensure that additional precautions are taken to account for the prevailing state of the environment;

**99.4.** The appellant shall ensure that the requisite clearances under various enactments have been obtained and submitted to the SEAC prior to the consideration by it of the information submitted by the appellant in accordance with the OMs issued by MoEFCC from time to time;

**99.5.** The SEAC shall thereafter assess the rapid EIA report and other information submitted to it by the appellant in accordance with the role assigned to it under the 2006 Notification. If it is of the opinion that the appellant has complied with the 2006 Notification as well as the directions issued by this Court, only then shall it recommend to the SEIAA the grant of EC for the proposed project. The SEAC and the SEIAA would lay down appropriate conditions concerning air, water, noise, land, biological and socio-economic environment and other conditions it deems fit; and

**99.6.** The appellant shall consult the requisite authority to ensure that no potential damage is caused by the project to the petroleum pipelines over which the proposed road may be constructed.

**100.** In moulding the above directions, this Court has factored into its decision-making calculus the fact that the appeal from the judgment of the NGT was filed by the project proponent and no appeal was filed by the respondents. The order of the NGT directing the appellant to conduct a rapid EIA is upheld, though for the reasons which we have indicated above. We clarify that no other court or tribunal shall entertain any challenge to the ultimate decision of the SEAC or the SEIAA. Liberty is granted to the parties to approach this Court upon any grievance from the decision of the SEAC or the SEIAA pursuant to the order of this Court.

**101.** The appeal is disposed of in the above terms. There shall be no order as to costs. Pending application(s), if any, shall stand disposed of.

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ANNEXURE A-17

सत्यमेव जयते

**Government of India**
**Ministry of Environment, Forest and Climate Change**
(Issued by the State Environment Impact Assessment Authority (SEIAA), BIHAR)
***

**Minutes of 59th meeting of the SEIAA, Bihar constituted on 12.08.2021 State Environment Impact Assessment Authority meeting held from 06/08/2024 to 06/08/2024** **Date:** 07/08/2024

**MoM ID:** EC/MOM/SEIAA/347668/8/2024

**Agenda ID:** EC/AGENDA/SEIAA/347668/8/2024

**Meeting Venue:** Meeting hall of State Environment Impact Assessment Authority (SEIAA), Bihar, 2nd Floor, BELTRON Bhawan, Shastri Nagar, Patna, Bihar - 800 023

**Meeting Mode:** Physical

**Date & Time:**

| | | |
|---|---|---|
| 06/08/2024 | 10:30 AM | 05:00 PM |

**1. Opening remarks**

SEIAA MoM

**2. Confirmation of the minutes of previous meeting**

N/A

**3. Details of proposals considered by the committee**

**Day 1 -06/08/2024**

**3.1. Agenda Item No 1:**

**3.1.1. Details of the proposal**

| | | | |
|---|---|---|---|
| **Sand Mining Project, Jamui Barnar-10 Sand Ghat of District- Jamui, State-Bihar.** by **SANJAY SINGH** located at **JAMUI,BIHAR** | | | |
| **Proposal For** | | Fresh EC | |
| **Proposal No** | **File No** | **Submission Date** | **Activity (Schedule Item)** |
| SIA/BR/MIN/471173/2024 | SIA/1(a)/2398/2023 | 09/07/2024 | Mining of minerals (1(a)) |

7. Proper care should to be taken during transportation of sand from the sand mining site by covering the loaded sand. There should be a freeboard of atleast 3 inches from the body level of the vehicle, so that the sand doesn't get spilled over on the road and doesn't affect the air quality as well.
8. Proponent should submit high resolution satellite images with stereoscopic 3D view from the National Remote Sensing Center (NRSC), Hyderabad for any day in the month of June and December of every year, along with the respective half-yearly compliance report in hard and soft copy [as received from the National Remote Sensing Center (NRSC)].
9. Temporary Extraction path (Iron bridge / Hume pipe) constructed for local transport from the mining site should be compulsorily dismantled before the onset of rainy season (1st July). So that natural flow of water through the active river channel may not get disturbed.

**3.13.3. Deliberations by the SEIAA in current meetings**

The Project Proponent was absent in the meeting.

A legal notice have been served to SEAC / SEIAA by several proponents in such cases.

It was resolved that a uniform decision will be taken after the advice of legal expert is received at SEIAA.

**3.13.4. Recommendation of SEIAA**

Discussed (for Any Other Item)

**3.14. Agenda Item No 14:**

**3.14.1. Details of the proposal**

| **Sand Mining Project of Area 67.0 Ha at Cheer Unit-II ( Sand Block 3,4 & 5) on Cheer River of District-Banka of State-Bihar** by **SANDEEP CHANDAK** located at **BANKA,BIHAR** | | | |
|---|---|---|---|
| **Proposal For** | | Fresh EC | |
| **Proposal No** | **File No** | **Submission Date** | **Activity (Schedule Item)** |
| SIA/BR/MIN/489647/2024 | SIA/1(a)/2390/2023 | 01/08/2024 | Mining of minerals (1(a)) |

**3.14.2. Deliberations by the committee in previous meetings**

**Date of SEAC 1 :**03/08/2024

**Deliberations of SEAC 1 :**

Application along with filled up 'Form – I, Pre-feasibility report in the prescribed format and scrutiny fee was submitted to SEIAA, Bihar on 10th May, 2023 for obtaining Terms of Reference (ToR). SEIAA, Bihar issued System Generated ToR Vide SIA/1(a)/2390/2023, dated 11.05.2023 and public hearing for the proposed project was conducted by Bihar State Pollution Control Board on 19.06.2024. Online Final EIA report was submitted by Project Proponent in the prescribed format to SEIAA, Bihar on 01.08.2024 for obtaining Environmental Clarence (EC).

The sand ghat under the proposal has been mentioned in the District Survey Report (DSR) approved by the State Environment Impact Assessment Authority (SEIAA), Bihar vide letter no. 251, dated 23.05.2022.

Project Proponent was absent neither any persons were authorized by him to present his case before the Committee. The Committee made a call on the cell phone of the project proponent but somebody else received the call but he could not properly explain the absence of proponent neither he gave any reply to the question as to why no person was authorized on his behalf to present his case before the committee.

The Committee, thereafter, made appraisal of the proposal on the basis of documents uploaded on the portal and various other environmental parameters and found that there is plenty of minable sand at the ghat. At the public consultation meeting, people have also given their opinion in favour of mining.

In the facts and circumstance of the matter, the committee decided to recommend the proposed proposal for grant of Environmental Clearance subject to the following additional conditions along with standard conditions as mentioned in Annexure **"B"**.

1. The proposed plantation consisting of mixture of indigenous and fast growing species of trees must be done and proper care must be taken. Plantation of a minimum of 5 feet tall plants must be done in the 1st year of lease period itself and properly maintained till the validity of Environmental Clearance and preserve the existing trees at the proposed site.
2. The Project Proponent shall execute and conduct measurable CER activities like facilities for drinking water supply, infrastructure creation, solar power, Rain Water Harvesting, Solid Waste Management Facilities, sanitation, essential furniture's for the local government schools and Anganwadi Kendra. A display board of the CER activities must be fixed for the information to the public. The Project Proponent has to intimate the concerned District Magistrate and the concerned district level officers of the concerned departments for record and information, with copy marked the Bihar State Pollution Control Board (BSPCB), Patna.
3. Under the Corporate Environment Responsibilities the modalities of all expenditure on skill development programme need to be done in consultation with and guidance of Bihar Skill Devolvement Mission, with intimation to the concerned District Magistrate, State Environment Impact Assessment Authority and Bihar State Pollution Control Board, Patna.
4. Project Proponent has to fix display board on each mining site mentioning thereupon various activities to be done under Environment Management Plan (EMP).
5. The project proponent shall limit the sand mining upto 2 meters (two meters) depth. Mining should be done by semi-mechanised method without using any heavy machine, preferably by manual excavation.
6. The Project Proponent must maintain nearby existing ponds if any.

7. Proper care should to be taken during transportation of sand from the sand mining site by covering the loaded sand. There should be a freeboard of atleast 3 inches from the body level of the vehicle, so that the sand doesn't get spilled over on the road and doesn't affect the air quality as well.
8. Proponent should submit high resolution satellite images with stereoscopic 3D view from the National Remote Sensing Center (NRSC), Hyderabad for any day in the month of June and December of every year, along with the respective half-yearly compliance report in hard and soft copy [as received from the National Remote Sensing Center (NRSC)].
9. Temporary Extraction path (Iron bridge / Hume pipe) constructed for local transport from the mining site should be compulsorily dismantled before the onset of rainy season (1st July). So that natural flow of water through the active river channel may not get disturbed.

**3.14.3. Deliberations by the SEIAA in current meetings**

**3.14.4. Recommendation of SEIAA**

Discussed (for Any Other Item)

**3.15. Agenda Item No 15:**

**3.15.1. Details of the proposal**

| **Proposed Sand Mining Project BHOJ SON- 27 C on Sone River of District- Bhojpur, State- Bihar** by **HARE RA M YADAV** located at **BHOJPUR,BIHAR** | | | |
|---|---|---|---|
| **Proposal For** | | Fresh EC | |
| **Proposal No** | **File No** | **Submission Date** | **Activity (Schedule Item)** |
| SIA/BR/MIN/490819/2024 | SIA/1(a)/2539/2024 | 01/08/2024 | Mining of minerals (1(a)) |

**3.15.2. Deliberations by the committee in previous meetings**

**Date of SEAC 1 :**03/08/2024

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# VAKALATNAMA

## BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL, EASTERN ZONE BENCH, KOLKATA

ORIGINAL APPLICATION NO. _____ OF 2024

IN THE MATTER OF:

RAS MOHAN THAKUR ...APPLICANT

Versus

STATE LEVEL EXPERT APPRAISAL COMMITTEE (SEAC), BIHAR & ORS ...RESPONDENTS

KNOW ALL to whom these present shall come that I, Ras Mohan Thakur S/o Shri Narendra Mohan Thakur, do hereby appoint:-

VANSHDEEP DALMIA
Advocate
206, Jor Bagh, New Delhi-110003
E:mail- vanshdeepdalmia@gmail.com M. No.9810077085, Enrl. No. D/1376/2009

(hereinafter called the Advocate) to be my Advocate in the above noted case and authorise him:-

To act, appear and plead in the above noted case in this Court or in any other Court in which the same may be tried or heard and also in the appellant Court including High Court subject to payment of fees separately for court by me/us.

To sign, file, verify and present pleadings, appeals cross-objections or petition for executions review, revision, withdrawal, compromise or other petitions or affidavits or other documents as may be deemed necessary proper for the prosecution of the said in all its stages subjects to payment of fees for each stage.

To file and take back documents, to admit and /or deny the document of opposite party.

To withdraw or compromise the said case or subject to arbitration any differences of disputes that may arise touching or in any manner relating to the said case. To take execution proceedings.

The deposit, draw and receive money, cheques, cash and grant receipts hereof and to do all other acts and things which may be necessary to be done for the progress and in the course of the prosecution of the said case.

To appoint and instruct any other Legal Practitioner authorizing him to exercise the power and authority hereby conferred upon the Advocate whenever he may think fit do so and to sign the power of attorney on our behalf.

And I/We the undersigned do hereby agree to ratify and confirm all acts done by the Advocate or his substitute in the matter as my/our own acts, as if done by me/ us to all intends and purpose.

And I/We the undersigned do hereby agree to ratify and all acts done by Advocate or his substitute in the matter as my/our own acts, as if done by me/us to all intents and purposes.

And I/We undertake that I/We or my/our duly authorise agent would appear in Court on all hearings and will inform the Advocate for appearance when the case is called.

And I/We undersigned do hereby agree not to hold the advocate of his substitute responsible for the result of the said case. The adjournment costs whenever ordered by the Court shall be of the Advocate, which he shall receive and retain for himself.

And I/We the undersigned do hereby agree that in the event of the whole or part of the fee agreed by me/us to be paid to the advocate remaining unpaid he shall be entitled to withdraw from the prosecution of the said until the same is paid up. The fee settled is only for the above case and above Court. I/We hereby agree that once the fees is paid, I/We will not be entitled for the refund of the same in any case whatsoever and if the case prolongs for more than three years the original fee shall be paid again by me/us.

IN WITNESS WHEREOF I/We do hereunto set my/our hand to these presents the contents of which have been understood by me/us on this 20 day of September, 2024.

Accepted subject to the terms of the fees.

VmDn.
ADVOCATES

CLIENT

Anisha
D/6313/2019

VmDn.
Identified by Me

ADVOCATES' WELFARE FUND STAMP ₹25 1513072 DELHI TWENTYFIVE RUPEES