

Compliance Report

Compliance of order dt. 04 Sep 2018
in the matter
O. A. No. 173 of 2018
(Sudarsan Das Vs State of West Bengal & Others)
Before the Hon'ble National Green Tribunal
at New Delhi

INDEX

| S.No. | PARTICULARS | PAGES |
|-------|---|---------|
| 1. | Compliance Report on behalf of MOEF & CC in view of order dated 4 th September, 2018 | 1-6 |
| 2. | ANNEXURE A-1. Copy of the progress report dated 24 th October 2019 of MOEF & CC. | 7-83 |
| 3. | ANNEXURE- A2. Copy of the progress report dated 31 st December, 2019 of MOEF & CC. | 84-160 |
| 4. | ANNEXURE- A3. Copy of the "Enforcement and Monitoring Guidelines for Sand Mining, 2020" | 161-243 |
| 5. | ANNEXURE- A4. Copy of email dated 27 th January, 2020 | 244-246 |

Submitted by

*Ministry of Environment, Forest & Climate Change
Government of India*

BEFORE THE HON'BLE NATIONAL GREEN
TRIBUNAL AT NEW DELHI

O. A. NO. 173 OF 2018

SUDARSAN DAS

Vs.

STATE OF WEST BENGAL & OTHERS

COMPLIANCE REPORT ON BEHALF OF MOEF & CC IN VIEW OF
ORDER DATED 4TH SEPTEMBER, 2018

Most respectfully showeth:

1. That vide order dated 4th September, 2018, Hon'ble National Green Tribunal (NGT) had directed the MOEF & CC to:

“DIRECTIONS TO MOEF & CC

25. In view of above discussion, we are of the view that since the subject of mining is also required to be regulated for protection of environment and it is to take care of this requirement, MoEF&CC has issued directions from time to time under Section 3 and 5 of the Environment (Protection) Act, 1986. The MoEF&CC needs to revise its directions keeping in mind the following:

- i. Mining Surveillance System discussed in para 23 above be finalized in consultation with ISRO Hyderabad.*
- ii. Safeguards suggested in Sustainable Sand Mining Guidelines published by the MoEF&CC in the year 2016.*
- iii. Suggestions in the High Power Committee Report.*
- iv. Requirement of demarcation of boundaries being published in respect of different leases in public domain.*
- v. Need to issue SOP laying down mechanism to evaluate loss to the ecology and to recover the cost of restoration of such damage from*

the legal or illegal miners. Such evaluation must include cost of mining material as well as cost of ecological restoration and net present value of future eco system services forgone.

- vi. Need to set up a dedicated institutional mechanism for effective monitoring of sand and gravel mining which may also take care of mining done without any Environmental Clearance as well as mining done in violation of Environmental Clearance conditions.*
- vii. The Mining Department may make a provision for keeping apart atleast 25% of the value of mined material for restoration of the area affected by the mining and also for compensating the inhabitants affected by the mining.*
- viii. One of the conditions of every lease of mine or minerals would be that there will be independent environmental audit atleast once in a year by reputed third party entity and report of such audit be placed in public domain.*
- ix. In the course of such environmental audit, a three member committee of the local inhabitants will also be associated. Composition of three member's committee may preferably include ex-servicemen, former teacher and former civil servant. The Committee will be nominated by the District Magistrate."*

3. That the Hon'ble Tribunal vide its order dated 5th September, 2018 (O.A. 44/2016; *Mushtakeem Vs. MoEF & CC & Ors.*) observed the following:

*"Para 23. We have dealt with the identical issue relating to the illegal sand mining in the border districts in the State of West Bengal and Odisha in the order dated 04th September 2018 in Sudarsan Das Vs. State of West Bengal & Ors., Original Application No. 173 of 2018. **We have directed the MoEF&CC to revise the***

guidelines on the subject for an effective mechanism for sand mining, relevant portions of which are reproduced below: -..."

4. That thereafter the Hon'ble Tribunal vide its order dated 5th April, 2019 (O.A. No. 362/2015; *National Green Tribunal Bar Association & Anr Vs Union of India & Ors*) observed the following:

"49. **The 2016 Guidelines need revision** in the light of the report of High Powered Committee in September 2016, failure of Monitoring mechanism followed by State Boards, SEIAs, DEIAs and MSS system developed by Ministry of Mines & IBM with the assistance of BISAG and MAITY and other observations quoted in paras 12 to 15 above...

50. As noted earlier in paras 17, 23, 27, 31 and 35, States of West Bengal, Odisha, Gujarat, Karnataka, Maharashtra, Punjab, Haryana and Uttar Pradesh are required to follow SSMG, 2016 as may be revised by MoEF&CC and even other States where illegal sand mining is taking place.

The States may review the monitoring mechanism in terms of several directions of the Tribunal and guidelines of MoEF&CC."

5. That in compliance of the order of Hon'ble NGT, a progress report dated 24th October 2019 was submitted by the MOEF & CC on 24th October, 2019. In the said report, MOEF & CC had tried to amalgamate in best possible way regarding all the issues in compliance of order dated 4th September, 2018 in its true letter and spirit. However, keeping in view the seriousness and gravity of the instant issue, in the report it was also submitted:

"..In absence of any response from MoM, a DO letter addressed to JS-MoM was issued by Joint Secretary-Impact Assessment on 30.09.2019 requesting for furnishing the status of

compliance in view of the decision taken in the meeting held on 13.08.2019. It was followed by a reminder letter (Annexure-...11) and in absence of no response, a D.O. Letter from Additional Secretary was issued on 18.10.2019. ..”

Copy of the progress report dated 24th October 2019 is attached herewith as **ANNEXURE- A1.**

6. That, MOEF & CC finalized the second progress report in compliance of the order dated 4th September, 2018 and the same was duly submitted before this Hon’ble Tribunal on 28.12.2019. Copy of the progress report dated 31st December, 2019 is attached herewith as **ANNEXURE- A2.**

7. That on 08.01.2020 in OA. No. 360/2015, Hon’ble Tribunal observed the following:

“7. ...MoEF&CC as a responsible body should have taken necessary steps which are not at all difficult to restore effective impact assessment and safeguards in terms of observations of this Tribunal. This does not involve any long or complicated procedure. We do not see any difficulty in officers of MoEF&CC in understanding the issue or executing the orders of this Tribunal, if there is will to do so. We hope that the said order will now be positively complied before the next date....”

8. That in compliance of slew of orders passed by this Hon’ble Tribunal as well as report of High Power Committee, MOEF & CC has incorporated all necessary suggestions including the experience derived from implementation of “Sustainable Sand Mining Management Guidelines 2016” and finalized the guidelines i.e., “Enforcement and

Monitoring Guidelines for Sand Mining, 2020". A copy of the same is attached herewith as **ANNEXURE- A3.**

9. That the "*Enforcement and Monitoring Guidelines for Sand Mining*" is supplemental & are to be read and implemented in sync with the "Sustainable Sand Mining Management Guidelines 2016". It is also submitted that in case any ambiguity or variation between the provisions of both these document arises, the provision made in "Enforcement & Monitoring Guidelines for Sand Mining" shall prevail.

10. That the new guidelines have been uploaded on the Ministry's website & Parivesh Portal on 27th January, 2020 for wider publicity and for implementation by the concerned stake holders. It is further submitted that all State Govt., SEIAA(s) & SPCB(s) have also been communicated on 27th January, 2020 via email. A copy of the email dated 27th January, 2020 is attached herewith as **ANNEXURE- A4.**

11. That, in view of direction issued by the Hon'ble Tribunal (*i) need to issue SOP laying down mechanism to evaluate loss to the ecology and to recover the cost of restoration*), it is humbly submitted that the Central Pollution Control Board (CPCB) has submitted the report which is under due consideration by the Hon'ble Tribunal in the same matter and is therefore yet to attain finality. However, the supplemental guidelines highlight the implementation of such provisions by concerned authority, as applicable.

12. That, MOEF & CC, being the nodal authority of Country for Environment, Forest and Climatic Change, is expected to examine and amalgamate all possible views from stakeholders while finalizing any guidelines which would become applicable for pan India. Accordingly,

MOEF & CC took considerable time in settling the guidelines in compliance of the order passed by this Hon'ble Tribunal in the instant case title. Unfortunately, some timeline given by the Hon'ble Tribunal in the above titled case as well as in other related cases could not be adhered to by MOEF & CC in past. However, the delay was neither intentional nor deliberate, but was solely on account of bonafide official and procedural difficulties.

Progress Report

On Compliance of

Hon'ble NGT order dt. 04 Sep 2018

In the matter

O. A. No. 173 of 2018

(Sudarsan Das Vs State of West Bengal & Others)

24th October 2019

Submitted by

Ministry of Environment, Forest & Climate Change

Government of India

Background:

Hon'ble National Green Tribunal (NGT) in the matter O. A. No. 173 of 2018 (Sudarsan Das Vs State of West Bengal & Others) had given following directions vide order dated 04.09.2018 to Ministry of Environment, Forests and Climate Change (MoEF&CC):

"Para 25: In view of above discussion, we are of the view that since the subject of mining is also required to be regulated for protection of environment and it is to take care of this requirement, MoEF&CC has issued directions from time to time under Section 3 and 5 of the Environment (Protection) Act, 1986. The MoEF&CC needs to revise its directions keeping in mind the following:

- i) Mining Surveillance System discussed in para 23 above be finalized in consultation with ISRO Hyderabad;*
- ii) Safeguards suggested in Sustainable Sand Mining Guidelines published by the MoEF&CC in the year 2016;*
- iii) Suggestions in the High Power Committee Report.*
- iv) Requirement of demarcation of boundaries being published in respect of different leases in public domain;*
- v) Need to issue SOP laying down mechanism to evaluate loss to the ecology and to recover the cost of restoration of such damage from the legal or illegal miners. Such evaluation must include cost of mining material as well as cost of ecological restoration and net present value of future eco system services forgone.*
- vi) Need to set up a dedicated institutional mechanism for effective monitoring of sand and gravel mining which*

may also take care of mining done without any EC and also in violation of EC conditions;

- vii) The Mining Department may make a provision for keeping apart at least 25% of the value of mined material for restoration of the area affected by the mining and also for compensating the inhabitants affected by the mining. One of the conditions of every lease of mine or minerals would be that there will be independent environmental audit at least once in a year by reputed third party entity and report of such audit be placed in public domain.;*
- viii) In the course of such environmental audit, a three-member committee of the local inhabitants will also be associated. Composition of three-member committee may preferably include ex-servicemen, former teacher and former civil servant. The Committee will be nominated by the District Magistrate.*

27. The direction with regard to setting up of dedicated institutional mechanism for monitoring of conditions of EC as granted under EIA notification, 2006 in respect of sand and gravel mining as directed in para (vi) may be an over-encompassing body to monitor the conditions of EC with respect to development of all projects.

2. Further, Hon'ble NGT vide order dated 5th April 2019 in the same matter constituted a committee for preparation of a scale of

compensation which can be adopted in whole of country. The same is produced below:

"57. We consider it necessary to constitute a Committee comprising representatives of the MoEF&CC, Central Pollution Control Board (CPCB), Indian Institute of Forest Management, Bhopal, Institute of Economic Growth Delhi and Madras School of Economics to prepare a scale of compensation, after including the above components which can then be adopted in whole of the country. The report may be furnished within three months to the Tribunal by email at ngt.filing@gmail.com. The nodal agency for compliance and coordination will be CPCB. The Committee may also take professional service of an expert/ institution in the matter if it so desires."

3. The matters were again taken up on 26th July, 2019 by the Hon'ble Tribunal, wherein the prevailing compliance status was expected from the respondents. Hon'ble Tribunal in its order dated 26.07.2019 has granted opportunity to MoEF&CC to report the compliance status of the direction passed by NGT vide its order dated 04.09.2018 and also directed that the Additional Secretary concerned of MoEF&CC be present in person with the compliance report on the next date of hearing. The order is reproduced below:

Para 8 Neither MoEF&CC has taken steps nor given any explanation for its failure. None appeared for the MoEF&CC during hearing but while dictating the order, learned counsel for MoEF&CC suddenly appeared and only casual explanation furnished is that MoEF&CC has approached the Hon'ble Supreme Court. While seeking of reasonable time for compliance on the ground that the matter was pending in higher Court may stand on different footing, there is no justification for unreasonable delay for more than 9 months on the part of the MoEF&CC. Learned counsel for the applicant submitted that in absence of any stay, order of this Tribunal may be enforced by coercive measures. We find merit in the submission, but before doing so, we give an opportunity for compliance of the directions and direct Additional Secretary concerned of MoEF&CC to remain present in person with the compliance report and an explanation as to why action be not taken against the person responsible for the default."

4. Action taken by MoEF&CC for compliance of Hon'ble NGT Order Dated 04.09.2018

- i. MoEF& CC has issued letter to Ministry of Mines (MoM) along with the order of NGT for compliance, as 6 out of 9 directions required follow-up action by Ministry of Mines (**Annexure-1**).
- ii. Ministry of mines acknowledging the communication received from MoEF&CC vide letter dt. 26.12.2018 had highlighted the Mining Surveillance System (MSS) developed based on satellite imagery and its benefits in monitoring illegal mining of major minerals by all States. However, no reference on monitoring of minor minerals like sand through MSS was made (**Annexure-2**).
- iii. MoEF&CC vide letter dated 11thDec 2018 requested Forest Research Institute (FRI) Dehradun to formulate a mechanism to evaluate loss to the ecology and to recover the cost of restoration of such damage from the legal or illegal miners. Such evaluation must include cost of mining material as well as cost of ecological restoration and net present value of future eco system services forgone as desired by the Hon'ble NGT (**Annexure-3**).
- iv. The work on harmonisation of Sustainable Sand Mining Management Guidelines – 2016 (SSMG-2016) with recommendation of High Power Committee constituted by NGT in the matter OA 184/2013 has been completed. However, the ministry felt it necessary to have a

comprehensive view taking account of experiences gained while implementing the SSMG-2016, and therefore is working to revise the SSMG in a more comprehensive manner taking into account the best practices and other feedback received from stakeholders. This exercise is being closely supervised by the Hon'ble Minister of EF & CC.

- v. A review meeting was conducted on 13.08.2019 with various stakeholders viz. Ministry of Mines (MoM), National Remote Sensing Centre (NRSC), Bhaskaracharya Institute for Space Applications and Geo-Informatics (BISAG) and officials of concerned divisions of MoEF&CC. Necessary follow-up was made with stakeholders for submission of action on the decision taken in the meeting. (**Annexure-4**).

5. Progress made as on 21.10.2019 on the Compliance of Hon'ble directions in case no. 173 of 2018 dated 04.09.2018 is given below:

- i. **Para 25 (i) "*Mining Surveillance System discussed in para 23 above be finalized in consultation with ISRO Hyderabad.*"**

Para 23: Ministry of Mines (MoM) & Indian Bureau of Mines (IBM) have developed Mines Surveillance System (MSS), with assistance from BISAG and MEITY. The MSS is a satellite based monitoring system which aims to establish a regime of responsive

mineral administration by curbing instances of illegal Mining activity through automatic remote sensing detection technology.

Present Compliance Status

- 1) As per the (Allocation of Business) Rules, 1961 (as amended), Ministry of mines is responsible for the following:
 - a) *Legislation for regulation of mines and development of minerals within the territory of India, including mines and minerals underlying the ocean within the territorial waters or the continental shelf, or the exclusive economic zone and other maritime zones of India as may be specified, from time to time, by or under any law made by Parliament.*
 - b) *Regulation of mines and development of minerals other than coal, lignite and sand for stowing and any other mineral declared as prescribed substances for the purpose of the Atomic Energy Act, 1962 (33 of 1962) under the control of the Union as declared by law, including questions concerning regulation and development of minerals in various States and the matters connected therewith or incidental thereto.*
 - c) *All other metals and minerals not specifically allotted to any other Ministry/Department, such as, aluminium, zinc, copper, gold, diamonds, lead and nickel.*

Pursuant to above mentioned allocation of Business rules, the Ministry of Mines is the Nodal Ministry for Implementation and enforcement of "The Mines and Minerals (Development and Regulation) Act, 1957 (as amended)". Further as per Section 23 C of MMDR, Act 1957, State Government is empowered to make rules for preventing illegal mining, transportation and storage of minerals. **(Annexure-5)**

Ministry of Mines being the Nodal Ministry for regulating mining operation in the country, MoEF&CC forwarded the order of Hon'ble NGT dated 04.09.2018 to Ministry of Mines for necessary compliance. Ministry of Mines was also called for the review meeting held on 13.08.2019 to submit their action taken on compliance of the order. The Minutes of review meeting was also circulated to Ministry of Mines on 06.09.2019. A formal response from Ministry of mines is awaited in this regard.

- 2) National Remote Sensing Centre (NRSC), Dept. of Space vide vide its letter dated. 23.09.2019 (Copy as **(Annexure-6)**) conveyed their technical submission that use of satellite imaginary is a challenge for monitoring of illegal sand mining. The details of their submission is as below:
 - (a) Illegal sand mining areas are difficult to delineate conclusively from satellite data because the sand has high reflecting body and mined area changes do not have

unique spectral signatures in the pre and post satellite images.

(b) It is difficult to establish the illegality since many of the mine boundaries are not accurately geo-fenced using DGPS coordinates. Hence, changes beyond the lease hold boundary becomes difficult to establish

(c) Some morphological changes can be observed within the sand bodies but to establish its legality from satellite data becomes difficult because these can happen due to river dynamics especially during flood and lean flow. The natural river erosion and deposition can be mistaken for mining or the mining area gets obliterated during the flood flow of the river.

(d) Accurate depth of excavation of sand is difficult to establish from Digital Elevation Model derived from stereoscopic satellite data to understand the volume of mined material.

II. Para 25 (ii) "*Safeguards suggested in Sustainable Sand Mining Guidelines published by the MoEF&CC in the year 2016*"

(iii) "*Suggestions in the High Power Committee Report*" of Hon'ble NGT Order dated 4.09.2018.

Present Compliance Status

The ministry has drafted the revised Sustainable Sand Mining Management Guidelines (SSMG). Draft guidelines (living

document) is under examination by experts and will be finalised after appropriate consultation Stakeholders, like State Governments. The recommendation of High Power Committee constituted by NGT in the matter OA 184/2013 has been incorporated in the draft guidelines (living document) along with other best practices and experiences gained from the implementation of the present SSMG. The suggestions and guidance given by Hon'ble NGT while disposing other sand mining related matters have also been considered.

It is expected that the final revised guidelines will be issued in the Current FY 2019-20. Copy of the major changes and incorporations made in some of the portion of the SSMG guidelines which are relevant to the order is annexed as **Annexure-7**.

III. Para 25 (iv) "*Requirement of demarcation of boundaries being published in respect of different leases in public domain*"

Ministry of Mines is the Nodal Ministry for Implementation of provision of The Mines and Minerals (Development and Regulation) Act, 1957 (as amended). Further, as per Section 15 of MMDR, Act 1957 the State Government is empowered to make rules in respect of minor minerals including grant of Mining lease. (**Annexure-8**) The state government while grant of letter of intent or mining lease is required to demarcate the boundary points. Thus, demarcation of mining leases & their display in public

domain comes under the purview of concerned Mining Department of State Governments.

It has been observed that the Letter of Intent (LoI) issued by State Mining department for sand mining doesn't have the geo-coordinates and mostly have the land reference number from revenue records. It is therefore stated that the State mining department shall mention the geo-coordinates in the LoI issued to the proponent and the same will be considered by Ministry/SEIAA while appraising the project through Decision Support System (DSS) or Google Map with the help of KML file.

However, in the Term of Reference (ToR) /Environmental Clearance (EC) form developed by this Ministry, there is a provision for providing coordinates (Latitude and longitude of the boundary) and for uploading of KML files on Parivesh Portal. The information provided by the project proponent in the respective forms are considered for appraisal by EAC/SEAC and the same is reproduced in the EC/ToR letter.

Present Status

Ministry of Mines is the Nodal Ministry for Implementation of provision of The Mines and Minerals (Development and Regulation) Act, 1957 (as amended). MoM was requested to provide the action taken in this regard. Till date, no information has been received.

However, MoEF&CC is mentioning the geo co-ordinates as provided by Project proponent, in the EC/ToR. (Copy of

Form 1M, Parivesh Portal showing geo-coordinates for reference **Annexure-9**).

- IV. Para 25 (v) "*Need to issue SOP laying down mechanism to evaluate loss to the ecology and to recover the cost of restoration of such damage from the legal or illegal miners. Such evaluation must include cost of mining material as well as cost of ecological restoration and net present value of future eco system services forgone*"**

Present Status

Hon'ble NGT in its order 5th April 2019 in the same matter, constituted a committee steered by CPCB for same purpose comprising of experts from different institutes, wherein MoEF&CC is also a member. This committee is already constituted & is working to develop the mechanism for evaluating loss to ecology; cost of restoration & NPV of future ecosystem services foregone due to illegal mining, therefore it was deemed appropriate that the outcomes/recommendations of this committee shall be utilised for ensuring compliance of Hon'ble NGT orders.

An official from MoEFCC is nominated and is actively participating in the deliberations of the committee for formulation of the guidelines.

CPCB is the nodal agency for coordination of this aspect and for submitting the compliance in this regard separately. It has been informed that CPCB will be filing the appropriate compliance report.

V. Para 25 (vi) "Need to set up a dedicated institutional mechanism for effective monitoring of sand and gravel mining which may also take care of mining done without any Environmental Clearance as well as mining done in violation of Environmental Clearance conditions"

Para 27: "The direction with regard to setting up of dedicated institutional mechanism for monitoring of conditions of Environmental Clearance as granted under EIA Notification, 2006 in respect of sand and gravel mining as directed in para (vi) may be an Over-Encompassing Body to monitor the conditions of Environmental Clearance with respect to all development projects".

(a) Sand Mining done without any Environmental Clearance qualifies under illegal mining. Ministry of Mines is mandated for enforcement and implementation of provisions of Mines and Minerals (Development and Regulation) Act, 1957. Under Sec 23 (C) of the Mines and Minerals (Development and Regulation) Act, 1957, the State Govt. is empowered to make rules to prevent illegal mining. Therefore, Ministry of Mines was requested to provide the compliance in this regard with the concerned stakeholders.

(b) The Environmental Clearance monitoring is being done by Regional Office of MoEF&CC for category 'A' projects and for category 'B' project by respective SEIAA.

Further, the MoEF&CC vide its notification S.O. 637(E) dated 28.02.2014 delegated the powers vested in it under section 5 of the said Act to all the State and Union Territory Environment Impact Assessment Authorities (Hereinafter referred to as the said Authorities) constituted by the Central Government under sub-section (3) of section 3 of Environment (Protection) Act, 1986, to issue show cause notice to project proponents in case of violation of the conditions of the environment clearances issued by the said Authorities to projects or activities within their jurisdiction and to issue directions to the said project proponents for keeping such environment clearances in abeyance or withdrawing them, if required, for violations, subject to the condition that the Central Government may revoke such delegation of powers or may itself invoke the provisions of section 5 of the said Act, if in the opinion of the Central Government such a Course of action is necessary in the public interest.

Further, the monitoring mechanism is already under consideration of Hon'ble NGT in the matter O.A. No. 837/2018. (Copy as **(Annexure-10)** and based on the

direction of Hon'ble NGT the concerned department of the Ministry has devised a plan for strengthening its monitoring system and submitted to Hon'ble NGT on 25th September, 2018.

The salient features of the proposed action plan for monitoring of EC conditions by MoEF&CC, is as below:

- i. Strengthening the Monitoring Cell in the Ministry.*
- ii. Writing to Regional Offices of the Ministry, Regional Directorates of CPCB and State Pollution Control Boards for all the details with respect to the existing staff and vacancies, their preparedness and specific Action Plan for taking up monitoring of Category A and Category B projects.*
- iii. Evolving a mechanism for online maintenance of monitoring and compliance data.*
- iv. SEIAA is directed to take action on non-compliances w.r.t. Category B projects as per EIA notification 2006.*
- v. Filling up of vacant posts in Regional offices.*
- vi. Selection and hiring of independent agency for providing technical support.*
- vii. Constitution of Monitoring Evaluation Committee (MEC) for deciding the periodicity of monitoring of various category of project/industry, Reviewing the integration of all the existing statutory inspections (EC, CTO, CTE, etc.), Evaluate the Report of Independent Agency,*

Formulation of Standard Operating Procedure (SOP) for inspection and monitoring, web based system for end to end digitization of the whole monitoring mechanism, etc.

- viii. *Initiate actions towards strengthening/ expansion of ROs on the basis of available report of MEC.*
- ix. *Initiate action towards manpower and infrastructure augmentation in all the concerned agencies for effective implementation of monitoring and compliance on the basis of MEC report.*

Present Status:

- (a) Ministry of Mines is yet to provide the progress status to MoEF&CC
- (b) The activities proposed in the action plan for the month of August and September 2019 has been initiated by the MoEF&CC.

VI. Para 25 (vii) "*The Mining Department may make a provision for keeping apart at least 25% of the value of mined material for restoration of the area affected by the mining and also for compensating the inhabitants affected by the mining*"

The provision of this direction is within the mandate of Mining department and accordingly, Ministry of Mines was requested

to pursue the compliance in this regards and provide the compliance progress.

Present Status:

Ministry of Mines is yet to provide the progress status to MoEF&CC.

VII. Para 25 (viii) "*One of the conditions of every lease of mine or minerals would be that there will be independent environmental audit at least once in a year by reputed third party entity and report of such audit be placed in public domain*"

Para 25 (ix) "*In the course of such environmental audit, a three-member committee of the local inhabitants will also be associated. Composition of three member's committee may preferably include ex-servicemen, former teacher and former civil servant. The Committee will be nominated by the District Magistrate*"

The provision of the direction at para 25 (viii) is to incorporate a condition in the lease of mines and minerals. Ministry of Mines is the Nodal Ministry for Implementation of provision of The Mines and Minerals (Development and Regulation) Act, 1957 (as amended). Further as per Section 15 of MMDR, Act 1957 the State Government is empowered to make rules in respect of minor minerals including grant of

Mining lease. Accordingly, Ministry of Mines was requested to pursue the compliance in this regard and provide the compliance progress status.

Present Status:

Ministry of Mines is yet to provide the compliance status to MoEF&CC.

VIII. Para 26 *"Such steps may be worked out within two months and circulated to all States. The Mechanism may provide for a report of implementation from the concerned States every quarter. The matter may be reviewed after every six months by the MoEF&CC"*.

In compliance to direction dated 4 September 2018, a review meeting was called by Joint Secretary (IA-II division), MoEF&CC on 13th August, 2019 to assess the progress made by different stakeholders with respect to directions issued by the Hon'ble Tribunal in the aforementioned case. Copy of minutes of meeting is same as **Annexure-4**.

Present Status

In absence of any response from MoM, a DO letter addressed to JS-MoM was issued by Joint Secretary-Impact Assessment on 30.09.2019 requesting for furnishing the status of compliance in view of the decision taken in the meeting held on 13.08.2019. It was followed by a reminder letter (**Annexure-**

11) and in absence of no response, a D.O. Letter from Additional Secretary was issued on 18.10.2019.

ANNEXURE 1

Court Matter/Time Bound

F. No. L-11011/175/2018-IA-II (M)

CC.48

Government of India

Ministry of Environment, Forest & Climate Change

Impact Assessment Division

3rd Floor, Vayu Wing,
Indira Paryavaran Bhawan,
Jorbagh Road, Aliganj,
New Delhi-110 003
Email: rb.lal@nic.in
Phone/Fax: 011-24695362

Dated: 12th December 2018

To,

The Joint Secretary

Ministry of Mines

Shastri Bhawan, Dr. Rajendra Prasad Road,

New Delhi – 110 001

Sub: Order dated 04th September, 2018 & 13th September, 2018 passed by the Hon'ble National Green tribunal, New Delhi in O.A. No. 173 of 2018 & O.A. No. 186 of 2016 in the matters titled "Sudarsan Das Vs State of West Bengal & Ors" & "Satendra Pandey Vs Ministry of Environment Forest & Climate Change & Anr." respectively- regarding.

Sir,

This is with reference to the recent order of the Hon'ble NGT dated 04th September, 2018 in the matter titled *Sudarsan Das Vs State of West Bengal & Ors* & and order dated 13th September, 2018 in the matter *Satendra Pandey Vs Ministry of Environment Forest & Climate Change & Anr.*

2. The Hon'ble NGT vide order dated 04th September, 2018 in O.A. No. 173 of 2018 (*Sudarsan Das Vs State of West Bengal & Ors*) has cited out the following:-

"It has been brought to our notice that Ministry of Mines & Indian Bureau of Mines (IBM) have developed Mines Surveillance System (MSS), with assistance from Bhaskaracharya Institute for space applications and Geoinformatics (BISAG), Gandhinagar and Ministry of Electronics and Information Technology (MEITY). The Mining Surveillance System (MSS) is a satellite-based monitoring system which aims to establish a regime of responsive mineral administration by curbing instances of illegal mining activity through automatic remote sensing detection technology."

3. The Hon'ble NGT in direction given to MoEF&CC vide above order dated 04.09.2018, inter-alia mentioned about *"Mining Surveillance System discussed in para 23 above be finalized in consultation with ISRO Hyderabad"*. As

the Mines Surveillance System (MSS), has been developed by Ministry of Mines & Indian Bureau of Mines (IBM) with assistance from Bhaskaracharya Institute for Space Applications and Geoinformatics (BISAG), Gandhinagar and Ministry of Electronics and Information Technology (MEITY). In view of the above, it is thereby requested to finalize the same in consultation with ISRO Hyderabad as per direction of Hon'ble NGT.

4. In view of the above, the undersigned is directed to forward the copy of the aforementioned order for necessary compliance and thereby also provide with the comments and suggestions on the implementation of the directions of the Hon'ble NGT. The Comments may kindly be provided **urgently latest by 20.12.2018**.

5. This issues with the approval of the Competent Authority.

Yours faithfully,

Encl: As above


(Dr. R.B. Lal)
Scientist 'E'

etc
assisted
14/12

No. 31/2/2016-M.III (Part II)
Government of India
Ministry of Mines

New Delhi, dated the 26th December, 2018

Office Memorandum

Sub: Order dated 04th September, 2018 & 13th September, 2018 passed by the Hon'ble National Green Tribunal, New Delhi in O.A. No. 173 of 2018 & O.A. No. 186 of 2016 in the matters titled "Sudarsan Das Vs State of West Bengal & Ors" & "Satendra Pandey Vs Ministry of Environment Forest & Climate Change & Anr."

The undersigned is directed to refer to your letter No. L-11011/175/2018-IA-II (M) dated 12th December, 2018 on the above cited subject. The status report of Mining Surveillance System (MSS) is enclosed for necessary action.

(A.K.Mallik)

Under Secretary to the Government of India
Tel No.011- 23384743
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To

Ministry of Environment, Forest & Climate Change
(Attn : Dr. R.B.Lal, Scientist 'E')
Impact Assessment Division, 3rd Floor, Vayu Wing,
Indira Paryavaran Bhawan,
Jorbagh Road, Aliganj, New Delhi-110 003

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O/o Scientist (MK)
Dy. No. 2046
Date 16/11/19

Mining Surveillance System (MSS)

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MSS is a satellite-based monitoring system which aims to establish a regime of responsive mineral administration, through public participation, by facilitating State Governments in curbing instances of illegal mining by making use of space technology in the form of Satellite images. It also enable Citizen to register any complaints of illegal mining noticed by them. It covers the entire country and accessible to all Citizens by means of the mobile app, specifically developed for the purpose.

2. There was no robust mechanism to deal with illegal mining in the country, when the lessee go beyond his allotted lease area and indulge in illegal mining. It was very difficult to check each and every lease physically as most of the leases are located on hilly terrain and in very remote places. The illegal mining complaints were not addressed properly as one had to submit the complaint in writing and the complaint used to take a very long route before same are addressed and no permanent record of the complaints so received were maintained. There was no transparency dealing with the cases of illegal mining. In his address at the National Meet on Promoting Space Technology based Tools and Applications in Governance and Development, in New Delhi on 7th September, 2015, Prime Minister of India, Shri Narendra Modi, emphasized on the role of space science in achieving good governance and directed all departments to explore effective use of space technology. Following PM's vision, MSS was conceptualized in the Central Coordination cum Empowered Committee meeting of the Ministry of Mines with the Mining Departments of the major mineral rich States on 15th December, 2015.

3. This is first of its kind System, where the space technology is used in the detection of illegal mining in the Country and hence is a case of exemplary use of the emerging technology. The mining surveillance system aims to facilitate the State Governments in curbing the illegal mining by using space technology in the form of Satellite Imagery. The satellite imagery consist of images of the earth taken from the satellites and for the MSS, the latest available satellite Imagery of Cartosat-1 have been used. Cartosat-1 carries two state-of-the-art panchromatic (PAN) cameras that take black and white stereoscopic pictures of the earth in the visible region of the electromagnetic spectrum with spatial resolution is 2.5 metres. In the Mining Surveillance System, which is satellite based monitoring system, the lease areas of the mines are first plotted in the system, Georeferenced, Digitised and are superimposed on the Satellite Images.

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4. The entire system is web based, where the users have been provided with user name and passwords to access the system. The Mining Surveillance Project was launched by Hon'ble Union Minister of State (IC) for Power, Coal, New & Renewable Energy and Mines, Shri Piyush Goyal on 15th October 2018 in New Delhi. In the mining surveillance system, the Khasra plan/Cadastral Plan were Scanned, Georeferenced, digitized and then superimposed on the satellite imagery of Cartosat-1. After the lease area was superimposed, then a 500 m buffer zone was marked all-round the mining leases. Any activities within this 500 m buffer zone and outside the lease boundary were closely monitored and any unusual activities noticed were flagged off as the trigger, which could be the cases of illegal mining. Thus initially total 296 triggers were generated across the country and same were subject to field verification by the officials. In the 2nd phase total 52 triggers for major minerals were detected and sent to the respective State Government officials for the field verification and 130 triggers for the minor minerals from the plotted leases were also detected. A user-friendly mobile app has been created which can be used by the officials to submit compliance reports of their field verification. An executive dashboard has been designed under MSS to work as a decision support system. Using this dashboard, officials can track the current status of mapping of the mining leases, reasons for triggers, the status of inspections related to triggers generated.

5. The project is having following distinct advantages:-

- Satellite based technology with minimum human Interference – thus more transparent and unbiased recording
 - Remote & inaccessible areas can be approached
 - Integration of information from multiple sources- satellite imagery, cadastral plan, etc.
 - It will be an effective tool for monitoring of illegal mining- location, extent and trends
 - Various MIS report can be generated.
 - The system will be deterrent for the possible illegal mining.
6. The Mining Surveillance System is highly sustainable as numbers of State Governments are coming forward to implement the similar mining surveillance system for their minor minerals, where the incidences of illegal mining are more. It's been two years since the project was launched and it is highly accepted by the stake holders and proved to be very useful tools in curbing the illegal

2.4

mining. In order to ensure sustainability, Indian Bureau of Mines has imparted training to 179 officials of the various State Governments. The project is highly appreciated by the Ministry of Environment, Forest and Climate Change as same would help to know how many mines are located in a particular area for the pollution load assessment etc. The project has resulted in drastically reducing the number of illegal mining as the in the first phase that is year 2016, there were 296 triggers which were sent to respective State Governments and in the year 2018, there are only 52 triggers detected in respect of major minerals leases plotted in the System. Thus system has played important role in deterrence of the illegal mining in the country. The entire system is web based and for submitting the field verification reports of the triggers, the mobile app is specifically designed for the use of the State Government officials and they have to compulsorily submit the report through mobile app only, which reduced the time and need to submit report in physical report. Thus the productivity has been increased immensely by use of the Mining Surveillance System and there is psychologically pressure in the general public that Illegal mining activities are now being monitored through the Satellite and hence if any one indulges in the same, then they will be caught and this has lead to less number of illegal mining activities.

7. The system has proved very useful tool as for the first time space technology was used in detecting the illegal mining in the Country. The following are the main outcomes.
 - a. The system of detection of illegal mining has become more transparent where the finding are based on comparing the satellite images of different time span in order to understand the changes in the ground and thus unbiased recording.
 - b. The mining area located in Remote & inaccessible areas can be approached without any difficulty.
 - c. The Mining Surveillance system involved the Integration of information from multiple sources- satellite imagery, cadastral plan, etc. and hence now all these record can be accessed just by click of the mouse.
 - d. It has been effective tool for monitoring of illegal mining- location, extent and trends can be monitored by comparing the satellite image of different years.
 - e. The various MIS reports can be easily generated now from the system within fraction of second and hence reduced the time required to prepare the reports.
 - f. The system has provided an effective deterrence mechanism for the illegal mining in the country.

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By Speed Post/Online
ANNEXURE 3

F.No. L-11011/175/2018-IA. II (M)
Government of India
Ministry of Environment, Forest and Climate Change
Impact Assessment Division

Indira Paryavaran Bhavan,
Vayu Wing, 3rd Floor, Aliganj,
Jor Bagh Road,
New Delhi-110 003
Date: 11th December, 2018

To,

The Director,
Forest Research Institute,
P.O. New Forest,
Dehradun
Email:dir_fri@icfri.org

Sub.: Hon'ble NGT Order dated 04.09.2018 in O.A No 173 of 2018 in the matter of Sudarsan Das Vs. State of West Bengal & Ors. -Reg.

Sir,

This has reference Hon'ble NGT Order dated 04.09.2018 in O.A No 173 of 2018 in the matter of Sudarsan Das Vs. State of West Bengal & Ors.(copy enclosed), wherein, the Hon'ble NGT inter-alia mentioned that *" In view of above discussion, we are of the view that since the subject of mining is also required to be regulated for protection of environment and it is to take care of this requirement, MoEF&CC has issued directions from time to time under Section 3 and 5 of the Environment (Protection) Act, 1986. The MoEF&CC needs to revise its directions keeping in mind the following:"*

Para 25 (v) " Need to issue SOP laying down mechanism to evaluate loss to the ecology and to recover the cost of restoration of such damage from the legal or illegal miners. Such evaluation must include cost of mining material as well as cost of ecological restoration and net present value of future eco system services forgone."

2. In the same order dated 04.09.2018 in the direction give to Gov. of West Bengal the Hon'ble NGT has inter-alia mentioned the following:

The Committee shall also get the assessment done through Indian Council of Forestry Research and Education, Dehradun of the ecological damage on account of illegal mining by incorporating the following components:

- a) Cost of river bed material*
- b) Cost of ecological restoration.*
- c) Net present value of the future ecosystem services foregone.*

3. The matter was examined in the Ministry and undersigned is directed to request Forest Research Institute, Dehradun to formulate mechanism to evaluate loss to the ecology and to recover the cost of restoration of such damage from the legal or illegal miners. Such evaluation must include cost of mining material as well as cost of ecological restoration and net present value of future eco system services forgone as desired by the Hon'ble NGT.

4. In view of the above, it is requested to provide your comments within a week to enable the Ministry to take further necessary action in this regard to comply with the direction of Hon'ble NGT.

Encl: As above

Yours faithfully

(Dr. R.B. Lal)
Scientist 'E'

E-Mail: - rb.lal@nic.in
Phone/Fax: 011-24695399

Minutes of Meeting held under chairpersonship of Ms. Richa Sharma, Joint Secretary MoEF&CC on 13.08.2019 at 4:00 PM in Narmada Conference Hall, MoEF&CC for Compliance of Hon'ble NGT, New Delhi Order dated 4th September, 2018 and 13th September, 2018 in OA No. 173/2018 & O.A. No. 186/2016 in the matters titled "Sudarsan Das Vs MoEF&CC"

At the outset, Ms. Richa Sharma, Joint Secretary, MoEF&CC welcomed all participants and informed them about the directions given by Hon'ble NGT on 4th September, 2018 and 13th September, 2018 in OA No. 173/2018 & O.A. No. 186/2016 in the matters titled "Sudarsan Das Vs MoEF&CC". The List of participants is attached as Annexure-1. Relevant extracts from NGT order in WP No. 360/20016 dated 4th Sep 2018 on which compliance has to be reported is at Annexure II. The following agenda points were discussed during the meeting.

Agenda Item No. 1: Compliance of Para 25 (i) i.e. "*Mining Surveillance System discussed in para 23 above be finalized in consultation with ISRO Hyderabad.*" of Hon'ble NGT Order dated 4.09.2018.

The representative of Ministry of Mines (MoM) informed that the Ministry of Mines & Indian Bureau of Mines (IBM) have developed Mines Surveillance System (MSS), with assistance from Bhaskaracharya Institute for space applications and Geo-informatics (BISAG), Gandhinagar and Ministry of Electronics and Information Technology (MEITY). The Mining Surveillance System (MSS) is a satellite-based monitoring system which aims to establish a regime of responsive mineral administration by curbing instances of illegal mining activity through automatic remote sensing detection technology. The MSS is limited to identify the instance of illegal mining of major minerals only. However, while developing the MSS some minor minerals mines were also taken into account as they are falling close to major mineral mining leases. The representative of Ministry of Mines informed that the grant of mining lease for minor minerals and illegal mining (major & minor minerals) comes under the control of State Government and Ministry of Mines has no role to play.

The representative of BISAG informed that the information pertaining to minor minerals of some district were also covered under Mining Surveillance System and if required the same can be extended for all the Districts. The Ministry of Mines may provide the details of district covered so far.

The representative of National Remote Sensing Centre (NRSC), ISRO informed that it is not possible to monitor the illegal mining of sand through satellite imagery and a detailed note on the same will be submitted to the MoEF&CC for onward submission to Hon'ble NGT.

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Action Point:

- i) The Ministry of Mines will provide its detailed comments on the issue of development of MSS for Minor Minerals (including sand mining) so that the same can be submitted to Hon'ble NGT. It is the responsibility of MoM to convey compliance /progress report to MoEF&CC on para 25(i) by 20th September 2019, for this Ministry to submit the compliance report to Hon'ble NGT. MoM may take inputs from BISAG & ISRO as appropriate.

(Action: Ministry of Mines)

- ii) The NRSC (ISRO) will provide the detailed note to MoM by 15th September, 2019, on the possibility of monitoring illegal sand mining through satellite imagery, so that the same can be submitted to Hon'ble NGT. A copy of the note may be sent to MoEF&CC for submitting the compliance report to Hon'ble NGT.

(Action: NRSA/ISRO)

Agenda Item No. 2: Compliance of Para 25 (ii) i.e. "Safeguards suggested in Sustainable Sand Mining Guidelines published by the MoEF&CC in the year 2016" of Hon'ble NGT Order dated 4.09.2018.

The Director Non-Coal Mining Division informed that Hon'ble NGT initially directed to issue directions under Section 3 and 5 of EPA, 1986 but later on Hon'ble NGT directed to revise the Sustainable Sand Mining Management Guidelines (SSMMG), 2016 considering the suggestion made by Hon'ble NGT in order dated 4.09.2018. He further informed that the focus of Hon'ble NGT is on monitoring mechanism, recommendation of High Power Committee, and other NGT orders passed in similar matters. Although, the recommendations of HPC are more or less part of SSMMG, 2016, harmonization of SSMMG, 2016 with other Hon'ble NGT orders needs to be carried out. The same will be completed and reported to NGT.

Action Point: Non -Coal Mining Sector needs harmonize the SSMMG with NGT orders along with HPC recommendations within 15 days.

(Action: NCM Division, MoEF&CC)

Agenda Item No. 3: Compliance of Para 25 (iv) i.e. *"Suggestions in the High Power Committee Report"* of Hon'ble NGT Order dated 4.09.2018.

Conveyed under Agenda Item No. 2

Agenda Item No. 4: Compliance of Para 25 (iv) i.e. *"Requirement of demarcation of boundaries being published in respect of different leases in public domain"* of Hon'ble NGT Order dated 4.09.2018.

The representative of Ministry of Mines (MoM) informed that the grant of mining lease for minor minerals and monitoring of illegal mining (major & minor minerals) comes under the preview of State Government and Ministry of Mines has limited role. Further, the demarcation of the mining lease also comes under preview of concerned State Governments.

Director Non-Coal Mining, MoEF&CC informed that there is provision for submitting KML file (geographical co-ordinates on Google map) along with application submitted for Environment Clearance (EC) and accordingly, regulatory authorities while granting EC are mentioning the geographical coordinates in the EC letters as submitted by Project Proponent of the mining lease. It was suggested that demarcation of mining lease with geographical coordinates may be done at Lol stage by the concerned authority so the same records are used while granting EC by regulatory authority.

Action Point: The Ministry of Mines will provide their comments on feasibility of mentioning geographical co-ordinates at the Lol stage itself. Action taken on the suggestion in this regard shall be communicated to MoEF&CC by Ministry of Mines by 20th September, 2019. It is the responsibility of MoM to communicate the progress report to MoEF&CC for further reporting of progress to Hon'ble NGT.

(Action: Ministry of Mines)

Agenda Item No. 5: Compliance of Para 25 (v) i.e. *"Need to issue SOP laying down mechanism to evaluate loss to the ecology and to recover the cost of restoration of such damage from the legal or illegal miners. Such evaluation must include cost of mining material as well as cost of ecological restoration and net present value of future eco system services forgone"* of Hon'ble NGT Order dated 4.09.2018.

It was informed by Director, NCM-MoEF&CC that Hon'ble NGT in its order dated 5th April 2019 in the same matter vide para 57 has constituted a committee comprising of representatives of MoEF&CC, CPCB, Indian Institute of Forest Management - Bhopal, Indian Institute of Economic Growth Delhi, to prepare a scale of compensation which can be adopted in whole of the country. The

4.4

committee has submitted an interim report to Hon'ble NGT. Hon'ble NGT has directed to submit the report of the committee within 3 months.

Further, it was submitted that preparation of another SOP by another group of experts will not be in harmony of the objective, and therefore, the final report of the committee constituted for this purpose can be considered by MoEF&CC for further examination.

It was decided that MoEF&CC will consider the Committee report for further perusal in order to issue SOP for laying down mechanism to evaluate loss to the ecology and to recover the cost of restoration of damages from the legal miners.

Action Point: Dir (NCM) to provide the status of the meeting of the said Committee and time taken to finalize the report to be submitted to Hon'ble NGT.

(Action: NCM Division, MoEF&CC)

Agenda Item No. 6(a) : Compliance of Para 25 (vi) i.e. *"Need to set up a dedicated institutional mechanism for effective monitoring of sand and gravel mining which may also take care of mining done without any Environmental Clearance as well as mining done in violation of Environmental Clearance conditions"* of Hon'ble NGT Order dated 4.09.2018.

Agenda Item No. 6 (b): Compliance of Para 27 i.e. *"The direction with regard to setting up of dedicated institutional mechanism for monitoring of conditions of Environmental Clearance as granted under EIA Notification, 2006 in respect of sand and gravel mining as directed in para (vi) may be an Over-Encompassing Body to monitor the conditions of Environmental Clearance with respect to all development projects"* of Hon'ble NGT Order dated 04.09.2018.

It was informed that there are two issues

- (1) Monitoring of Illegal mining and
- (2) Monitoring of EC compliance.

The State Department of Mines and Geology is the nodal authority entrusted with the enforcement and regulation of mining operations in State including illegal mining. State Government regulates grant of mining leases and other concessions in respect of all minor minerals including sand. The enforcement of sand mining leases, controlling and abating illegal sand mining is largely vested with the State Governments. Section 23 C of The Mines and Minerals (Development and Regulation) Act, 1957 gives power to State Government to make rules for preventing illegal mining, transport and storage of minerals.

Therefore, it was decided that Ministry of Mines shall explore for further strengthening or setting up of dedicated institutional mechanism for effective monitoring of illegal sand and gravel mining, in consultation with State Governments. A note with action proposed in this regard may be submitted by Ministry of Mines to MoEF&CC by 20th September, 2019.

(Action: Ministry of Mines)

It was further informed that SPCBs are the nodal authority in the State for dealing with cases related to Pollution or Environment Management coming under the purview of The Water (Prevention and Control of Pollution) Act, 1974, The Air (Prevention and Control of Pollution) Act, 1981 and The Environment (Protection) Act, 1986. The mandate of MoEF&CC is to have adequate mechanism to monitor compliance of EC conditions. With regards to dedicated institutional mechanisms for effective monitoring of violation of Environmental Conditions, Scientist 'E' - Monitoring cell, IA division, MoEF&CC informed that Hon'ble NGT in another matter (O. A. No. 837/2018) has passed direction vide order dated 29.04.2018 to MoEF&CC to evolve an appropriate monitoring mechanism in consideration of guidance given by Hon'ble NGT.

It was decided that the status report on the progress made in this regard may be provided by Monitoring cell-MoEF&CC, so that the same is submitted before the Hon'ble NGT for compliance of order.

(Action: Monitoring Cell, IA-Division, MoEF&CC)

Agenda Item No. 7: Compliance of Para 25 (vii) i.e. *"The Mining Department may make a provision for keeping apart at least 25% of the value of mined material for restoration of the area affected by the mining and also for compensating the inhabitants affected by the mining"* of Hon'ble NGT Order dated 4.09.2018.

The representative of Ministry of Mines informed that as per the provision of Section 9B of MMDR Act, 1957, the State Government are required to establish a trust as a non-profit body to be called as District Mineral Foundation (DMF) in any district affected by mining related operations.

Action Point: The Ministry of Mines will provide details on the provision in reference to the said direction with emphasis on the provision if any for restoration of the area affected by mining and also for compensating the inhabitants affected by mining, for onward submission to Hon'ble NGT.

(Action: Ministry of Mines)

Agenda Item No. 8: Compliance of Para 25 (viii) i.e. *"One of the conditions of every lease of mine or minerals would be that there will be independent environmental audit"*

at least once in a year by reputed third party entity and report of such audit be placed in public domain" of Hon'ble NGT Order dated 4.09.2018."

It was informed that the mining lease is done between State Government Mining department and project proponent. Therefore, for compliance to include the said condition in the lease deed with regard to independent environmental audit at least once in a year as per Hon'ble NGT order needs to be complied by the concern State Government Department.

Action Point: Ministry of mines may take appropriate follow-up action in this regard with the concerned State Government Departments and provide the progress/compliance status in this regard.

(Action: Ministry of Mines)

Agenda Item No. 9: Compliance of Para 25 (ix) i.e. *"In the course of such environmental audit, a three-member committee of the local inhabitants will also be associated. Composition of three member's committee may preferably include ex-servicemen, former teacher and former civil servant. The Committee will be nominated by the District Magistrate"* of Hon'ble NGT Order dated 4.09.2018.

It was informed that the instant order delegates power for constitution of committee to District Magistrate. Therefore, Policy division of MoEF&CC may explore the feasible option to ensure environmental audit.

Action Point: Policy division- MoEF&CC will examine the issue and inform on the progress in this regards to NCM division, by 20th September, 2019.

(Action: IA-Policy Division/MoEF&CC)

Agenda Item No. 10: Compliance of Para 26 i.e. *"Such steps may be worked out within two months and circulated to all States. The Mechanism may provide for a report of implementation from the concerned States every quarter. The matter may be reviewed after every six months by the MoEF&CC"* of Hon'ble NGT Order dated 4.09.2018.

Chairperson requested all concerned to submit their inputs positively by 20th Sept. 2019 to Director, NCM for compilation of the status report on each of the points above. The progress report should be submitted to Hon'ble NGT at the earliest, preferably by 1st week of October, 2019.

The Meeting end with thanks to chair.

4.7

Annexure-I

ATTENDANCE SHEET

Meeting date 13.08.2019

| S.NO | Name & Designation | CONTACT NO / email | SIGNATURE |
|------|--|---|-----------|
| 1. | Rucha Sharma JS MOEFCC | sruha@ias. me.in | Rucha |
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| 4. | Shorath Kumar Valla Director, NCM | 9205219757 Shorath.kr@gov.in | Shorath |
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| 6. | Dr. Shanti Rai Shanday Addl Dir, MOEFCC | 997106377 shanti.rai@nic.in | Shanti |
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| 8. | RAVI KUMAR Legal Att. (WL) | 9891536356 ravi.kr85@nic.in, | Ravi |
| 9. | Pushpender Gaur RCOM | 9680877222 ro-delhi@cbm.gov.in | P. Gaur |
| 10. | T P SINGH Director | 9909945001 info@bisaf.gujarat. gov.in | T P Singh |
| 11. | TUSHAR RAI Sr. Con., MeitY | 7838604546 tushar@meity.gov.in | Tushar |
| 12. | Amit Vankintha SC'DI | 8860855857 amit.vankintha@nic.in | Amit |
| 13. | Dr. Ramesh A MIE | Ramesh.anguluri@gov.in | Ramesh |
| 14. | Dr. Thillai Sivakumar Scientist 'B' | thillai.sivakumar@ gov.in | Thillai |
| 15. | Marcus Knight Sci-C | m.knight@gov.in | Marcus |

ANNEXURE-II

DIRECTIONS TO MOEF & CC

- (i) Mining Surveillance System discussed in para 23 above be finalized in consultation with ISRO Hyderabad.
- (ii) Safeguards suggested in Sustainable Sand Mining Guidelines published by the MOEF&CC in the year 2016.
- (iii) Suggestions in the High Power Committee report.
- (iv) Requirement of demarcation of boundaries being published in respect of different leases in public domain.
- (v) Need to issue SOP laying down mechanism to evaluate loss to the ecology and to recover the cost of restoration of such damage from the legal or illegal miners. Such evaluation must include cost of mining material as well as cost of ecological restoration and net present value of future eco system services forgone.
- (vi) Need to set up a dedicated institutional mechanism for effective monitoring of sand and gravel mining which may also take care of mining done without any Environmental Clearance as well as mining done in violation of Environmental Clearance conditions.
- (vii) The Mining Department may make a provision for keeping apart atleast 25% of the value of mined material for restoration of the area affected by the mining and also for compensating the inhabitants affected by the mining.
- (viii) One of the conditions of every lease of mine or minerals would be that there will be independent environmental audit atleast once in a year by reputed third party entity and report of such audit be placed in public domain.
- (ix) In the course of such environmental audit, a three-member committee of the local inhabitants will also be associated. Composition of three members committee may preferably include ex-servicemen, former teacher and former civil servant. The Committee will be nominated by the District Magistrate.

23. Offences by companies.—(1) If the person committing an offence under this Act or any rules made thereunder is a company, every person who at the time the offence was committed was in charge of, and was responsible to the company for the conduct of the business of the company, shall be deemed to be guilty of the offence and shall be liable to be proceeded against and punished accordingly:

Provided that nothing contained in this sub-section shall render any such person liable to any punishment, if he proves that the offence was committed without his knowledge or that he exercised all due diligence to prevent the commission of such offence.

(2) Notwithstanding anything contained in sub-section (1), where an offence under this Act has been committed with the consent or connivance of any director, manager, secretary or other officer of the company, such director, manager, secretary or other officer shall be deemed to be guilty of that offence and shall be liable to be proceeded against and punished accordingly.

Explanation.—For the purposes of this section,—

- (a) “company” means any body corporate and includes a firm or other association of individuals;
- (b) “director” in relation to a firm means a partner in the firm.

¹[**23A. Compounding of offences.**—(1) Any offence punishable under this Act or any rule made thereunder may, either before or after the institution of the prosecution, be compounded by the person authorised under section 22 to make a complaint to the court with respect to that offence, on payment to that person, for credit to the Government, of such sum as that person may specify:

Provided that in the case of an offence punishable with fine only, no such sum shall exceed the maximum amount of fine which may be imposed for that offence.

(2) Where an offence is compounded under sub-section (1), no proceeding or further proceeding, as the case may be, shall be taken against the offender in respect of the offence so compounded, and the offender, if in custody, shall be released forthwith.]

²[**23B. Power to search.**—If any gazetted officer of the Central or a State Government authorised by the Central Government ³[or a State Government, as the case may be,] in this behalf by general or special order has reason to believe that any mineral has been raised in contravention of the provisions of this Act or rules made thereunder or any document or thing in relation to such mineral is secreted in any place ³[or vehicle], he may search for such mineral, document or thing and the provisions of section 100 of the Code of Criminal Procedure, 1973 (2 of 1974), shall apply to every such search.]

⁴[**23C. Power of State Government to make rules for preventing illegal mining, transportation and storage of minerals.**—(1) The State Government may, by notification in the Official Gazette, make rules for preventing illegal mining, transportation and storage of minerals and for the purposes connected therewith.

(2) In particular and without prejudice to the generality of the foregoing power, such rules may provide for all or any of the following matters, namely:—

- (a) establishment of check-posts for checking of minerals under transit;
- (b) establishment of weigh-bridges to measure the quantity of mineral being transported;
- (c) regulation of mineral being transported from the area granted under a prospecting licence or a mining lease or a quarrying licence or a permit, in whatever name the permission to excavate minerals, has been given;
- (d) inspection, checking and search of minerals at the place of excavation or storage or during transit;
- (e) maintenance of registers and forms for the purposes of these rules;

1. Ins. by Act 56 of 1972, s. 13 (w.e.f. 12-9-1972).

2. Ins. by Act 25 of 1994, s. 9 (w.e.f. 25-1-1994).

3. Ins. by Act 38 of 1999, s. 18 (w.e.f. 18-12-1999).

4. Ins. by s. 19, *ibid.* (w.e.f. 18-12-1999).

(f) the period within which and the authority to which applications for revision of any order passed by any authority be preferred under any rule made under this section and the fees to be paid therefor and powers of such authority for disposing of such applications; and

(g) any other matter which is required to be, or may be, prescribed for the purpose of prevention of illegal mining, transportation and storage of minerals.

(3) Notwithstanding anything contained in section 30, the Central Government shall have no power to revise any order passed by a State Government or any of its authorised officers or any authority under the rules made under sub-sections (1) and (2).]

24. Power of entry and inspection.—(1) For the purpose of ascertaining the position of the working, actual or prospective, of any mine or abandoned mine or for any other purpose connected with this Act or the rules made thereunder, any person authorised by the ¹[Central Government or a State Government] in this behalf, by general ^{2***} order, may—

(a) enter and inspect any mine;

(b) survey and take measurements in any such mine;

(c) weigh, measure or take measurements of the stocks of minerals lying at any mine;

(d) examine any document, book, register, or record in the possession or power of any person having the control of, or connected with, any mine and place marks of identification thereon, and take extracts from or make copies of such document, book, register or record;

(e) order the production of any such document, book, register, record, as is referred to in clause (d); and

(f) examine any person having the control of, or connected with, any mine.

(2) Every person authorised by the ¹[Central Government or a State Government] under sub-section (1) shall be deemed to be a public servant within the meaning of section 21 of the Indian Penal Code, and every person to whom an order or summons is issued by virtue of the powers conferred by clause (e) or clause (f) of that sub-section shall be legally bound to comply with such order or summons, as the case may be.

³[24A. Rights and liabilities of a holder of prospecting licence or mining lease.—(1) On the issue of a ⁴[reconnaissance permit, prospecting licence or mining lease] under this Act and the rules made thereunder, it shall be lawful for the ⁵[holder of such permit, licence or lease], his agents or his servants or workmen to enter the lands over which ⁶[such permit, lease or licence had been granted] at all times during its currency and carry out all such ⁷[reconnaissance, prospecting or mining operations] as may be prescribed:

Provided that no person shall enter into any building or upon an enclosed court or garden attached to a dwelling-house (except with the consent of the occupier thereof) without previously giving such occupier at least seven days' notice in writing of his intention to do so.

(2) The holder of a ⁴[reconnaissance permit, prospecting licence or mining lease] referred to in sub-section (1) shall be liable to pay compensation in such manner as may be prescribed to the occupier of the surface of the land granted under ⁸[such permit, licence or lease] for any loss or damage which is likely to arise or has arisen from or in consequence of the ⁹[reconnaissance, mining or prospecting operations].

1. Subs. by Act 38 of 1999, s. 20, for "Central Government" (w.e.f. 18-12-1999).

2. The words "or special" omitted by s. 20, *ibid.* (w.e.f. 18-12-1999).

3. Ins. by Act 37 of 1986, s. 17 (w.e.f. 10-2-1987).

4. Subs. by Act 38 of 1999, s. 21, for "prospecting licence or mining lease" (w.e.f. 18-12-1999).

5. Subs. by s. 21, *ibid.*, for "holder of such licence or lease" (w.e.f. 18-12-1999).

6. Subs. by s. 21, *ibid.*, for "such lease or licence had been granted" (w.e.f. 18-12-1999).

7. Subs. by s. 21, *ibid.*, for "prospecting or mining operations" (w.e.f. 18-12-1999).

8. Subs. by s. 21, *ibid.*, for "such licence or lease" (w.e.f. 18-12-1999).

9. Subs. by s. 21, *ibid.*, for "mining or prospecting operations" (w.e.f. 18-12-1999).

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No.NRSC:RSA:11:19

September 23, 2019

Sub : Action item from the meeting held on 13 / 08/2019 regarding possibilities of monitoring sand mining using satellite data

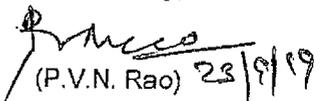
Ref : F NO. Z -11012/175/2018-1A dated 6, Sep,2019

Sir,

With reference to above subject and reference number regarding possibility of monitoring illegal sand mining using satellite imagery, the followings points are brought to your kind notice:-

1. Illegal sand mining areas are difficult to delineate conclusively from satellite data because the sand has been high reflecting body and mined area changes do not have unique spectral signatures in the pre and post satellite images.
2. It is difficult to establish the illegality since many of the mine boundaries are not accurately geofenced using DGPS coordinates. Hence changes beyond the lease hold boundary becomes difficult to establish
3. Some morphological changes can be observed within the sand bodies but to establish its legality from satellite data becomes difficult because these can happen due to river dynamics especially during flood and lean flow. The natural river erosion and deposition can be mistaken for mining or the mining area gets obliterated during the flood flow of the river
4. Accurate depth of excavation of sand is difficult to establish from Digital Elevation Model derived from stereoscopic satellite data to understand the volume of mined material

Yours faithfully,


(P.V.N. Rao) 23/9/19

To
Shri Sundeep
Director, Ministry of Environment Forest and Climate change (IA Division)
3 floor Vayu Block, Indira Paryavaran Bhavan
Jor Bagh Road, Aliganj, New Delhi-110033

CC : Director, NRSC
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JD(AV)
23/9/19

भारतीय अंतरिक्ष अनुसंधान संगठन  Indian Space Research Organisation

Ver 3



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



**(LIVING DOCUMENT)
SUSTAINABLE SAND MINING MANAGEMENT GUIDELINE**

2019

SUSTAINABLE SAND MINING MANAGEMENT GUIDELINE

TABLE OF CONTENTS

| Sl.No. | CONTENTS | Page |
|-----------------|---|-------------|
| 01 | Foreword | 03 |
| | Introductory Message | 04 |
| | Preface | 05 |
| | Acknowledgement | 06 |
| 02 | Executive Summary | 07 |
| 03 | Introduction | 08 |
| 04 | Need for Policy Guidelines | 08 |
| 05 | The objective of the Guideline | 09 |
| 06 | The Effect of Sand and Gravel Mining | 10 |
| 07 | General Approach to Sustainable Sand and Gravel Mining | 12 |
| 08 | Method of Mining and Conditions in which Mining in River bed area is to be allowed | |
| 09 | The World Scenario | 13 |
| 10 | Indian Scenario | 14 |
| 11 | The Price Elasticity for Demand of Sand | 15 |
| 12 | Process of Sediment Transport | 15 |
| 13 | Sustainable Sand and Gravel Mining Guideline | 16 |
| 14 | The Structure of District Survey Report | 19 |
| 16 | Management Plan | 21 |
| 17 | Marine Sand Mining and Impact on Marine Biodiversity | 25 |
| 18 | Reducing Consumption of Sand | 26 |
| 19 | The Report of the Committee headed by Secretary, MoEF – 2010 | 27 |
| 20 | The Regime of Law and Administrative orders relating to Mining of Minor Minerals | 31 |
| 21 | The Issues and Management of Mining in Cluster | 38 |
| 22 | Management of Sand Deposited after Flood on the agricultural field of Farmers | 45 |
| 23 | Mining of Sand from Agricultural Field | 46 |
| 24 | Customary Right on Sand Mining | 46 |
| 25 | Monitoring System for Sustainable Sand Mining | 49 |
| 26 | Administrative Structure for Environment Clearance and Ensuring Compliance of EC Conditions | 52 |
| 27 | Exemption of Certain Cases from being Considered as Mining and Requirement of Environment Clearance | 56 |
| 28 | Standard Environmental Conditions | 57 |
| APPENDIX | | |
| 28 | Table - 1: Revenue from Sand Mining in State / UT | 61 |
| 29 | Table - 2: Number of Mining Leases in State | 62 |
| 30 | Table - 3: Average Size of Sand Mining Leases in State / UT: 2014-15 | 63 |
| 31 | Table - 4: Average Period of Sand Mining Lease in State / UT | 64 |
| 32 | Table - 5: Common Method and Practice of Sand Mining in the State / UT | 65 |
| 33 | Table - 6: Suggestions / Recommendations for Environmentally Sustainable Sand Mining by State / UT | 67 |
| 34 | Table - 7: Best Practice of Sand Mining adopted in any District in the State / UT | 73 |
| 35 | Table - 8: Status of Promulgation of Rule on Sand Mining in the State / UT | 75 |
| 36 | Table - 9: Normal Dates of Onset and withdrawal of South-West Monsoon | 77 |

7.2

5. 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 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 up-stream side and 500 meters on the down-stream 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.
- l) Alternatively, off-channel or floodplain extraction is recommended to allow rivers to replenish the quantity taken out during mining.
- m) 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

7.3

6. METHOD OF MINING AND CONDITIONS IN WHICH MINING IN RIVER BED AREA IS TO BE ALLOWED

- (i) A buffer distance /un-mined block of 50 meters after every block of 100 meters over which mining is undertaken or at such distance as may be directed/prescribed by the regulatory authority shall be maintained.
- (ii) River bed sand mining shall be done in slices of one meter (1 meter) depth up to a maximum of three-meter (3 m) preferably from the un-mined bed level at any point of time(Minimum) with proper bench formation or river bed water table, whichever is attained early.
- (iii) 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 width of the river, as the case (river flow regime and morphology) 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.
- (iv) The minerals removed from the river bed areas get replenished in the rainy season. The minerals reserve for mining on replenishment remains almost the same every year after the rainy season, though it varies with the intensity and amount of rainfall.
- (v) The areas where minerals mining is outside the river bed, the minerals reserves are reduced every year after mining operations. Hence, total mineable reserves after mining get depleted and the life of a mine also gets reduced. Therefore, necessary precautionary measures inform of annual excavation targets or assessment based production capacity shall be prescribed while environmental clearance is granted by the regulatory authority.
- (vi) The minerals reserve for river bed area is calculated on the basis of maximum depth of 3 meters. The area multiplied by depth gives the volume and volume multiplied with bulk density gives the quantity in Metric Tonne. In the case of the river bed, mineable material per hectare area available for actual mining shall not exceed the maximum quantity of 60,000 MT per annum.

The river/ streams/ other sources of sand and aggregate are studied on the following parameters:

a) Geomorphological studies

- i) Place of origin
- ii) Catchment area.
- iii) The general profile of the river stream.
- iv) Annual deposition factor.
- v) Replenishment.
- vi) The total potential of minor mineral in the river bed.

b) Geological studies

- i) The lithology of the catchment area.
- ii) Tectonics and structural behaviour of rocks.

c) Climatic Factors

- i) The 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:

- i) A stable river is able to constantly transport the flow of sediments produced by watershed such that it's dimensioned (width and depth) pattern and vertical profile is 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 the 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 an 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 the 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.

Pre-requisite for starting sand mining operation

- (i) **All district to prepare a comprehensive mining plan for the district as per the provision of District Survey Report. These reports shall be put on the website of District Administration. No mining shall be allowed in the area which has not been identified in the comprehensive mining plan of the District.**
- (ii) **All potential river mining zone/area for auction shall be geotagged by the concern auctioning authority. The latitude and longitude of each mining lease shall be clearly mentioned in Letter of Intent issued to the potential mine lease. Such information may also be provided on the website of the district administration.**

7.5

- (iii) **Potential stretches for River bed mining of minor minerals shall be prepared by District administration and details shall be put on the district administration website. The provision of these guidelines shall be considered while identifying the potential stretches /locations and boundaries of the leases for the minable area.**
- (iv) **There shall be no river bed mining operation allowed in monsoon period. The period as defined by IMD Nagpur for each state shall be adhered with.**

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 to remove 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 the 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 a 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 a recommendation on the suitability of the site for mining or prohibition thereof.

21. MINING OF SAND FROM AGRICULTURAL FIELD

This practice is prevalent in Haryana, **to ensure that mining from outside doesn't affect rivers, no mining is permitted in an area up to a width of 100 meters from the active edge of embankments or distance prescribed by Irrigation department which one is critical.** where the top layer of soil varying between 1 and 2 meters is removed and stacked separately and thereafter the sand deposit which maybe 10-15 meter deep is mined. After removing the sand layer up to a maximum depth of 09 meters or **the maximum mineable minerals in such cases will be 1,60,000 MT per hectare with a maximum depth of 8 meters.** The topsoil stacked is spread out on the field and the same is brought under the cultivation. Though the level of this land (mined out area) is lowered to the depth of the excavation and in initial years of cultivation the productivity is low, but the productivity of the fields improves with continued cultivation and addition of organic manure in the field. It is seen that in Haryana some leases are of large area (ranging from 1000 hectare to 2000 hectare) the agricultural fields and river bed both are included in the same lease for mining.

The following recommendations should be kept in mind for mining in such leases:

1. Mining of sand in such mine leases will require environment clearance.
2. The lease should be of sand mining either from the agricultural field or river. In the same lease, both types of the area should not be included.
3. The sand mining from the agricultural field is being done in Haryana for a long time and it can be done in a more sustainable manner without adverse impact on agricultural productivity if proper environmental safeguards are taken.
4. The slope of mining area adjacent to agricultural fields should be proper (preferably 45-60 degree) and adequate gap (minimum 10 feet) be left from adjacent agricultural field to avoid erosion and scouring.

MONITORING MECHANISM FOR SUSTAINABLE SAND MINING

PROCEDURE TO ESTABLISH SAFEGUARD SYSTEM TO MEASURE & MONITOR FOR SAND MINING

1. All precaution shall be taken to ensure that the water stream flows during rains and process of Natural river meandering doesn't get affected due to mining activity.
2. To ensure that river mining from outside doesn't affect rivers, no mining is permitted in an area up to a width of 100 meters from the active edge of embankments or distance prescribed by the Irrigation department.
3. The mining from the area outside river bed is permitted subject to the condition that a safety margin of two meters (2 m) shall be maintained above the groundwater table while undertaking mining and no mining operation shall be permissible below this level unless specific permission is obtained from the Competent Authority. Further, the mining should not exceed nine-meter (9 m) at any point in time.
4. The minerals from areas outside the river bed excavated by deploying Earth Moving Machineries. In such cases, the topsoil /earth varying between 1 to 1.5 m is generally removed and stacked separately and many times put to use for cultivation after mineral deposits are excavated. The maximum depth for such excavation should be limited to a maximum of 9 m or the depth prescribed by the irrigation department.
5. The survey shall be carried out for identifying the stretches having habitation of freshwater turtles or turtle nesting zones. Similarly, stretches shall be identified for other species of significant importance to the river eco-system. Such stretch with adequate buffer distance shall be declared as no-mining zone and no mining shall be permitted. The regulatory authority as defined for granting Environmental Clearance, while considering the application of issuance of ToR and/or EC for the adjacent block (to non-mining zone) of mining shall take due precaution and impose requisite conditions to safeguard the interest of such species of importance.
6. District administration shall provide details information on its website about the sand mines in its district for public information, with an objective to extend all information in public domain so that the citizens are aware of the mining activities and can also report to the district administration on any deviation observed. Appropriate feedback and its redressal mechanism shall also be made operational. The details shall include, but not limited to, lease area, geo-coordinates of lease area and mineable area, transport routes, permitted capacity, regulatory conditions for operation including mining, environmental and social commitments etc.
7. A Website need to made to track the movement of centralisd sand mining and a Centralised server system should be made to manage the data related to sand mining across the India.
8. The mineral concession holders shall maintain electronic weighbridges at the appropriate location identified by the district mining officer, in order to ensure that all mined minerals from that particular mine are accounted for before the material is dispatched from the mine. The weighing bridge shall have the provision of CCTV camera and all dispatch from the mine shall be accounted for.
9. The mineral movement shall be monitored and controlled through the use of transit permit with security features like printing on IBA approved MICR papers, Unique bar/QR, fugitive ink background, invisible ink mark, void pantographs and watermarks papers or through use of RFID tagged transit permits and IT /IT-enabled services. Such monitoring system shall be created and made operationalised by State Mining department and district level mining officer shall be responsible for ensuring that all legal and operational mines are connected and providing the requisite information on the system. Regular check and associated report shall be submitted to DLTF and uploaded on the website.

7.8

10. The area not identified for mining due to restriction or otherwise are also to be monitored on a regular basis by the DLTF. Any observations of mining activity from the restricted area shall be reported and corrective measures shall be initiated on an urgent basis by the DLTF.
11. The dispatch routes shall be defined in the Environmental Clearance and shall be avoided through the densely habituated area and the increase in the number of vehicle movement on the road shall be in agreement with the IRC guidelines / carrying capacity of the road. The alternate and dedicated route shall be explored and preferred for movement of mining to avoid inconvenience to the local habitat. The mining production capacity, by volume/weight, shall be governed by total permissible dispatch calculated based on the carrying capacity of dispatch link roads and accordingly, the production should be regulated.
12. State Government shall constitute a District Level Task Force (DLTF) under the Chairmanship of Deputy Commissioner/District Magistrate/Collector with Superintendents of Police and other related senior functionaries (District Forest Officer, District transport officer, Regional officer- SPCBs, Senior Officer of Irrigation Department, District Mining Officer) with one/two Independent member nominated by concerned Commissioner. The independent member shall be retired government officials/teacher or ex-serviceman or ex-judiciary member. The DLTF shall keep regular watch over the mining activities and movement of minerals in the district. THE DLTF shall have its regular meeting, preferably every month to reconcile the information from the mining activity, and other observations made during the month and take appropriate corrective and remedial action, which may include a recommendation for revoking mining lease or environmental clearance. The DLTF may constitute an independent committee of the expert to assess the environmental or ecological damage caused due to illegal mining and recommend recovery of environmental compensation from the miner's concern. The recommendation may also include action under the provision of E(P) Act, 1986.
13. The movement of minerals shall be reconciled with the data collected from the mines and various Naka/check posts. Other measures may also include a general survey of the potential mineable area in the district which has not to be lease/auction or permitted for mining due to regulatory or other reasons.
14. The location and number of check post requirement shall be reviewed by DLTF on a regular basis so that appropriate changes in location/number could be made as per the requirement. Such review shall be carried out on a regular basis special for the district on inter-state boundary or district providing multiple passages between two districts of different states.
15. The district administration shall compile the information from their district of the permitted and legal mined out minerals and other details and share such information and intelligence with the officials of the adjoining district (Inter or/and Intra State) for reconciliation. The information shall include the area of operation, permissible quantity, mined out minerals (production) the permitted route etc., and other observations, especially where the mine lease boundary is congruent with the district boundary. Such coordination meeting shall be held on a quarterly basis, alternatively in two district headquarters or any other site in two districts decided mutually by the District Magistrate.
16. The mining department shall include submission of an annual environmental audit report as one of the conditions in the mining lease agreement. The annual audit for each river bed mining lease shall be carried out and the audit report shall be uploaded on the website of district administration. The audit shall be carried out by an independent team of 3 members nominated by District Collector/Magistrate/Commissioner comprising of Ex-Serviceman, Ex-Govt officials of repute, Professor or Person having exposure of mining/environment. The guidelines and method of the audit shall reflect adequately the monitor-able parameters and output and reflect the compliance status with respect to the conditions imposed by the regulatory authorities including conditions of Environmental clearance.

REPLENISHMENT STUDY FOR RIVER SAND MINING

INTRODUCTION

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 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 defined period. 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 Central Water Commission and Indian Meteorological Department. The excavation will therefore be limited to estimated replenishment estimated with consideration of other regulatory provisions.

METHODOLOGY USED FOR REPLENISHMENT STUDY

The replenishment estimation is based on a theoretical empirical formula with the estimation of bed load 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 field in 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 is 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

Physical survey of field by conventional method

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 base line data for assessing the pre and post study period scenario.

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 ground as common reference points to control the topographic survey and mining activity.

Base line 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-section in longitudinal and lateral direction should not be more than 10-meter distance apart, however, regulatory authority may fix these interval depending on the geographical and site specific conditions, only and after providing the scientific reason for such deviation.

The changes observed in the elevation in pre and post scenario at each node should be depicted in graphical forms with 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 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.

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.

A clear identification is required to be highlighted between grids under mineable and grids under non-mineable area. These base line 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.

The database should be structured in a tabulated form clearly depicting the nomenclature of the section lines, latitude and longitude of starting point, chainage and respective levels of all the points taken on that section line.

Net area shall be derived after summation of area of deposition minus area of erosion for each cross-section. The volume will be estimated by multiplying distance between two cross-sections with the average of net area of these two consecutive cross-sections.

One sample per 900 square meter (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.

7.12

Use of UAV/Drone and other image data processing techniques

With development in image data processing tools and its accuracy acceptability, Drone/UAV fitted with advance camera are used for survey purposes. Such technology has promising potential in survey of sand mining zones due to its fast and reliable output deliveries. The survey is conducted using 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 essential requirement for using this technique.

The details of the instruments their limitation and software used shall be demonstrated in form of 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 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 imagery to the block file, marking of GCPs, generation of tie points and refining of the model.
- c. **Interior orientation:** - The interior orientation of stereo pair rational polynomial coefficients (RPC) used, which should be bundled with the scenes. RPCs are coefficient, which are used by photogrammetric software to represent the ground to-image viewing geometry.
- d. **Exterior orientation:** For exterior orientation, ground control points shall be used, which are collected from the DGPS survey.
- e. **Aero Triangulation:** - A critical phase in photogrammetric mapping is to rectify the satellite imagery at an appropriate tract on the surface of the earth. This is accomplished by collecting horizontal and vertical data [GCP's] to ascertain the spatial location of a number of features that are visible and measurable on the aerial images – this process is often called control bridging, which refers to passing horizontal and vertical information from one aerial image to the next.
- f. **Ortho Generation:** - After running the above steps; the software shall automatically generate orthorectified imagery.
- g. **DTM extraction:** For extraction of DTM, Generated point cloud data classified manually to extract bare earth.

Accuracy Assessment of Aerial Data

To check the accuracy of DTM generated by Aerial data, few points are selected and compared with on-site by using DGPS instrument for ground-truthing purpose. It is preferred to do ground truthing at minimum 5 locations spread evenly across the lease area. The readings from the DGPS instrument are then compared with the Drone data for accuracy assessment purpose. A comparative chart will be prepared in comparison of Data related to ground truthing (From DGPS) and from Drone. Such accuracy assessment report shall a chapter of the replenishment study.

The replenishment study shall have the details of the

- List of instruments
- List of software
- Establishment of Bench Mark by putting No. of pillar points and various Ground Control Points (GCP) at the site.
- Ground Control Points (GCP) Collection: - Various GCPs were observed by using DGPS for Permanent Benchmarks and for control points.
- The summary of the elevation data from each section's profile based on the post-monsoon the survey should have mentioned in the table form.
- The detail of post-monsoon survey data in tabular form shall be
- The detailed comparison of both pre-monsoon and post-monsoon elevation data shall be attached
- Cross section depiction of deposition and erosion for each section in pre and post deposition season shall be given supported by

(*qqc*) the composition and functions of the National Mineral Exploration Trust under sub-section (3) of section 9C;

(*qqd*) the manner of payment of amount to the National Mineral Exploration Trust under sub-section (4) of section 9C;

(*qqe*) the terms and conditions subject to which mining leases shall be granted under sub-section (3) of section 10B;

(*qqf*) the terms and conditions, and procedure, subject to which the auction shall be conducted including the bidding parameters for the selection under sub-section (5) of section 10B;

(*qqg*) the time limits for various stages in processing applications for grant of mining lease or prospecting licence-cum-mining lease under sections 10B, 11, 11A, 11B, and section 17A, and their renewals;

(*qqh*) the terms and conditions for grant of non-exclusive reconnaissance permits under sub-section (1) of section 10C;

(*qqi*) the terms and conditions for grant of prospecting licence-cum-mining leases under sub-section (4) of section 11;

(*qqj*) the terms and conditions, and procedure, including the bidding parameters for the selection under sub-section (6) of section 11;

¹[(*qqja*) the terms and conditions and amount or transfer charges under the proviso to sub-section (6) of section 12A;]

(*qqk*) the amount to be payable by a Government company or corporation, or a joint venture for grant of mining lease under sub-section (2C) of section 17A; and]

(*r*) any other matter which is to be, or may be, prescribed under this Act.

²[13A. Power of Central Government to make rules for the grant of prospecting licences or mining leases in respect of territorial waters or continental shelf of India.—(1) The Central Government may, by notification in the Official Gazette, make rules for the grant of prospecting licences or mining leases in respect of any minerals underlying the ocean within the territorial waters or the continental shelf of India.

(2) Without prejudice to the generality of the foregoing power, such rules may provide for all or any of the following matters, namely:—

(a) the conditions, limitations and restrictions subject to which such prospecting licences or mining leases may be granted;

(b) regulation of exploration and exploitation of minerals within the territorial waters or the continental shelf of India;

(c) ensuring that such exploration or exploitation does not interfere with navigation and

(d) any other matter which is required to be, or may be, prescribed.]

14. ³[Sections 5 to 13] not to apply to minor minerals.—The provisions of ³[sections 5 to 13] (inclusive) shall not apply to ⁴[quarry leases, mining leases or other mineral concessions] in respect of minor minerals.

15. Power of State Governments to make rules in respect of minor minerals.—(1) The State Government may, by notification in the Official Gazette, make rules for, regulating the grant of ⁵[quarry leases, mining leases or other mineral concessions] in respect of minor minerals and for purposes connected therewith.

1. Ins. by Act 25 of 2016, s. 4 (w.e.f. 6-5-2016).

2. Ins. by Act 56 of 1972, s. 6 (w.e.f. 12-9-1972).

3. Subs. by Act 37 of 1986, s. 12, for "sections 4 to 13" (w.e.f. 10-2-1987).

4. Subs. by Act 56 of 1972, s. 7, for "prospecting licences and mining leases" (w.e.f. 12-9-1972).

5. Subs. by s. 8, *ibid.*, for "prospecting licence and mining leases" (w.e.f. 12-9-1972).

¹[(1A) In particular and without prejudice to the generality of the foregoing power, such rules may provide for all or any of the following matters, namely:—

(a) the person by whom and the manner in which, applications for quarry leases, mining leases or other mineral concessions may be made and the fees to be paid therefor;

(b) the time within which, and the form in which, acknowledgement of the receipt of any such applications may be sent;

(c) the matters which may be considered where applications in respect of the same land are received within the same day;

(d) the terms on which, and the conditions subject to which and the authority by which quarry leases, mining leases or other mineral concessions may be granted or renewed;

(e) the procedure for obtaining quarry leases, mining leases or other mineral concessions;

(f) the facilities to be afforded by holders of quarry leases, mining leases or other mineral concessions to persons deputed by the Government for the purpose of undertaking research or training in matters relating to mining operations;

(g) the fixing and collection of rent, royalty, fees, dead rent, fines or other charges and the time within which and the manner in which these shall be payable;

(h) the manner in which rights of third parties may be protected (whether by way of payment of compensation or otherwise) in cases where any such party is prejudicially affected by reason of any prospecting or mining operations;

(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 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;

(j) the manner in which and the conditions subject to which, a quarry lease, mining lease or other mineral concession may be transferred;

(k) the construction, maintenance and use of roads power transmission lines, tramways, railways, serial rope ways, pipelines and the making of passage for water for mining purposes on any land comprised in a quarry or mining lease or other mineral concession;

(l) the form of registers to be maintained under this Act;

(m) the reports and statements to be submitted by holders of quarry or mining leases or other mineral concessions and the authority to which such reports and statements shall be submitted;

(n) the period within which and the manner in which and the authority to which applications for revision of any order passed by any authority under these rules may be made, the fees to be paid therefore, and the powers of the revisional authority; and

(o) any other matter which is to be, or may be, prescribed.]

(2) Until rules are made under sub-section (1), any rules made by a state Government regulating the grant of ²[quarry leases, mining leases or other mineral concessions] in respect of minor minerals which are in force immediately before the commencement of these Act shall continue in force.

³[(3) The holder of a mining lease or any other mineral concession granted under any rule made under sub-section (1) shall pay ⁴[royalty or dead rent, whichever is more] in respect of minor minerals removed or consumed by him or by his agent, manager, employee, contractor or sub-lessee at the rate prescribed for the time being in the rules framed by the State Government in respect of minor minerals:

1. Ins. by Act 37 of 1986, s. 13 (w.e.f. 10-2-1987).

2. Subs. by Act 56 of 1972, s. 8, for "prospecting licence and mining leases" (w.e.f. 12-9-1972).

3. Ins. by s. 8, *ibid.* (w.e.f. 12-9-1972).

4. Subs. by Act 37 of 1986, s. 13, for "royalty" (w.e.f. 10-2-1987).

Provided that the State Government shall not enhance the rate of ¹[royalty or dead rent] in respect of any minor mineral for more than once during any period of ²[three] years.]

³[(4) Without prejudice to sub-sections (1), (2) and sub-section (3), the State Government may, by notification, make rules for regulating the provisions of this Act for the following, namely:—

(a) the manner in which the District Mineral Foundation shall work for the interest and benefit of persons and areas affected by mining under sub-section (2) of section 9B;

(b) the composition and functions of the District Mineral Foundation under sub-section (3) of section 9B; and

(c) the amount of payment to be made to the District Mineral Foundation by concession holders of minor minerals under section 15A.]

⁴[15A. Power of State Government to collect funds for District Mineral Foundation in case of minor minerals.—The State Government may prescribe the payment by all holders of concessions related to minor minerals of amounts to the District Mineral Foundation of the district in which the mining operations are carried on.]

16. Power to modify mining leases granted before 25th October, 1949.—⁵[(1) (a) All mining leases granted before the commencement of the Mines and Minerals (Regulation and Development) Amendment Act, 1972 (56 of 1972) ⁶[if in force at the date of commencement of the Mines and Minerals (Regulation and Development) Amendment Act, 1994 (25 of 1994), shall be brought in conformity with the provisions of this Act and the rules made thereunder within two years from the date of the commencement of the Mines and Minerals (Regulation and Development) Amendment Act, 1994], or such further time as the Central Government may, by general or special order, specify in this behalf.

(b) Where the rights under any mining lease, granted by the proprietor of an estate or tenure before the commencement of the Mines and Minerals (Regulation and Development) Amendment Act, 1972 (56 of 1972), have vested, on or after the 25th day of October, 1949, in the State Government in pursuance of the provisions of any Act of any Provincial or State Legislature which provides for the acquisition of estates or tenures or provides for agrarian reform, such mining lease shall be brought into conformity with the provisions of this Act and the rules made thereunder within ⁷[two years from the commencement of the Mines and Minerals (Regulation and Development) Amendment Act, 1994 (25 of 1994)], or within such further time as the Central Government may, by general or special order, specify in this behalf.]

⁸[(1A) Where any action is taken under clause (a) or clause (b) of sub-section (1) to bring the period of any lease in conformity with the provisions of this Act and the rules made thereunder, then notwithstanding anything contained in section 8, the period of such lease shall continue to operate for a period of two years from the date of bringing such lease in conformity with the provisions of this Act.]

(2) The Central Government may, by notification in the Official Gazette, make rules for the purpose of giving effect to the provisions of sub-section (1) and in particular such rules shall provide—

(a) for giving previous notice of the modification or alteration proposed to be made in any existing mining lease to the lessee and where the lessor is not the Central Government, also to the lessor and for affording him an opportunity of showing cause against the proposal;

(b) for the payment of compensation to the lessee in respect of the reduction of any area covered by the existing mining lease; and

1. Subs. by Act 37 of 1986, s. 13, for "royalty" (w.e.f. 10-2-1987).

2. Subs. by s. 13, *ibid.*, for "four" (w.e.f. 10-2-1987).

3. Ins. by Act 10 of 2015, s. 15 (w.e.f. 12-1-2015).

4. Ins. by s. 16, *ibid.* (w.e.f. 12-1-2015).

5. Subs. by Act 56 of 1972, s. 9, for sub-section (1) (w.e.f. 12-9-1972).

6. Subs. by Act 25 of 1994, s. 6, for certain words (w.e.f. 25-1-1994).

7. Subs. by s. 6, *ibid.*, for "six months from the commencement of the Mines and Minerals (Regulation and Development) Amendment Act, 1972" (w.e.f. 25-1-1994).

8. Ins. by s. 6, *ibid.* (w.e.f. 25-1-1994).

Annex-9

9.1

APPENDIX I
(See paragraph – 6)

FORM 1

VI(a) “(I) Basic Information

| Serial Number | Item | Details |
|---------------|---|--|
| 1. | Name of the project/s | |
| 2. | S. No. in 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 | |
| | Plot/Survey/Khasra No. | |
| | Village | |
| | Tehsil | |
| | District | |
| | 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, Zilla 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. Location of these sites should be shown on a topo sheet. | Village-District-State 1. 2. 3. |
| 17. | Interlinked Projects | |
| 18 | Whether separate application of interlinked project has been submitted? | |

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b), (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

| | | |
|-----|---|--|
| 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. (a) The Forest (Conservation) Act, 1980 ? (b) The Wildlife (Protection) Act, 1972 ? (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 propose to be set up ? (a) Name of the Court. (b) Case No. (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 | | |

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b), (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

| | | | |
|------|---|--|--|
| 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 from 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? | | |

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b), (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

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

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b), (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

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 demollition 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 | | |

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b), (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

| | | | |
|-----|---|--|--|
| 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 |
|-------|---|--------|--|
| 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? | | |

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b), (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

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 facilities, ancillary development or development stimulated by the project which could have impact on the environment e.g.: • Supporting infrastructure (roads, power supply, waste or waste water treatment, etc.) • housing development • extractive industries • supply industries • other | | |
| 9.2 | Lead to after-use of the site, which could have an 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 | | |

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b), (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

(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, esting, 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 (<i>hospitals, schools, places of worship, community facilities</i>) | | |
| 10 | Areas containing important, high quality or scarce Resources (<i>ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals</i>) | | |
| 11 | Areas already subjected to pollution or environmental damage. (<i>those where existing legal environmental standards are exceeded</i>) | | |
| 12 | Areas susceptible to natural hazard which could cause the project to present environmental Problems (<i>earthquakes, subsidence, landslides, erosion, Flooding or extreme or adverse climatic conditions</i>) | | |

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b), (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

9.9

(IV). Proposed Terms of Reference for EIA studies

^{VI(b)} "I hereby given 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 give, 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/Authorised Signatory)

NOTE:

1. The projects involving clearance under Coastal Regulation Zone Notification, 1991 shall submit with the application a C.R.Z. 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 the requisite clearance under the provisions of the C.R.Z. Notification, 1991 for the activities to be located in the CRZ.
2. The projects to be located within 10 km of the National Prks, Sancturies, Biosphere Reserves, Migratory Corridors of Wile Animals, the project proponenet shall submit the map duly authenticated by Chief Wildlife Warden showing these features vis-à-vis the project location and the recommendations or comments of the Chief Wildlife Warden thereon (at the stage of EC)."
3. All correspondence with the Ministry of Environment & Forests including aubmission of application for TOR/Environmental Clearance, subsequent clarifications, as may be required from time to time, participation in the EAC Meeting on behalf of the project proponenet shall be made by the authorized signatory only. The authorized signatory should also submit a document in support of his claim of being and authorized signatory for the specific project."

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b), (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

F2

9110



PARIVESH
परिवेश

विश्वविद्यालय

"Pro Active and Responsive facilitation by Interactive, Virtuous and Environmental Single-window Hub"

Ministry of Environment, Forest and Climate Change
Government of India

kalmamda@gmail.com [Logout](#)



[Home](#) |
 [Environment Clearance](#) |
 [Only CRZ Clearance](#) |
 [Forest Clearance](#) |
 [Wildlife Reference](#)

Application for EC

Note : Fields marked with(*) are mandatory. Do not use any special symbol (i.e space , , , & , _ , ? , \$, #.... etc.) in naming of PDF file and the size of any file to be uploaded should not be greater that 1 MB.

| PROJECT COST :- | | | |
|--|---|---|----------------|
| Funds Allocated for Environment Management (Capital) (In crores):* | | Funds Allocated for Environment Management Capita(%):* | 0.00 |
| Funds Allocated Towards ESC (Entrepreneur Social Commitment) (In crores):* | | Funds Allocated for Environment Management Plan (EMP) (Recurring per Annum) (In crores):* | |
| Total Cost of the Project at Price Level (In crores):* | 10 | | |
| LOCATION OF THE PROJECT :- | | | |
| Plot No./Survey No./Khasra No. of the Project Location:* | | Distance of Nearest HFL from the Project Boundary within the study area (kilometres):* | |
| Pincode:* | | Bounded Latitudes (North):* | From: To: |
| Bounded Longitudes(East):* | From: To: | No. of So (Survey of India) Topo Sheet No. :* | |
| Upload Topo Sheet File:* | <input type="button" value="Choose File"/> No file chosen <small>(Upload Pdf only)</small> | Maximum Elevation Above Mean Sea Level(AMSL):* | |
| | <input type="button" value="Choose File"/> No file chosen | | |

9.11

Upload topo sheet no. Level(AJMSL)*

(Upload Pdf only)

Upload (km) File* No file chosen Seismic Zone*

(Upload km) only



DETAILS OF EARLIER EAC MEETING :-

Meeting No. of EAC* Deliberations*

Meeting Date of EAC from* Meeting Date of EAC to*

DETAILS OF CONSENT TO OPERATE (CTO) :-

Whether CTO obtained?

Date of Issue: Valid Upto:

File No.: Application No.:

Upload Copy of CTO valid as on date: No file chosen

(Upload pdf only)

Six Monthly Action Plan (Map) For Strengthening of Monitoring Mechanism

10.1

In accordance with the directions of the Hon'ble NGT in Order Dated 23.07.2019 of OA No. 837 OF 2018, the Ministry has devised a plan for strengthening its monitoring system (Annexure). The initial plan involves the development of a web based system to automate the entire process of inspection and compliance monitoring to reduce the time taken for monitoring, enhance coverage and transparency, reduce requirement of significant additional human resources even while ensuring comprehensive compliance of environmental conditions, thereby resulting in greater protection of the environment on a continuing basis.

2. Actions already initiated are as follows:

- i. Strengthening the Monitoring Cell in the Ministry.
- ii. Writing to Regional Offices of the Ministry, Regional Directorates of CPCB and State Pollution Control Boards for all the details with respect to the existing staff and vacancies, their preparedness and specific Action Plan for taking up monitoring of Category A and Category B projects.
- iii. Evolving a mechanism for online maintenance of monitoring and compliance data.
- iv. SEIAA is directed to take action on non-compliances w.r.t. Category B projects.
- v. Filling up of vacant posts in Regional offices.
- vi. Selection and hiring of independent agency for providing technical support.

3. Actions that will be taken up in near future:

- i. Constitution of Monitoring Evaluation Committee (MEC) deciding the periodicity of monitoring of various category of project/industry, Reviewing the integration of all the existing statutory inspection (EC, CTO, CTE, etc.), Evaluate the Report of Independent Agency, Formulation of Standard Operating Procedure (SOP) for inspection and monitoring, web based system for end to end digitization of the whole monitoring mechanism, etc.
- ii. Initiate actions towards strengthening/ expansion of ROs on the basis of available report of MEC.
- iii. Initiate action towards manpower and infrastructure augmentation in all the concerned agencies for effective implementation of monitoring and compliance on the basis of MEC report.

4. This evolved system is expected to reduce the time taken for monitoring, enhance coverage and transparency, reduce requirement of significant additional human resources even while ensuring comprehensive compliance of environmental conditions, thereby resulting in greater protection of the environment on a continuing basis.

Annexure R-2

ORIGINAL APPLICATION NO. 837 OF 2018 IN NGT DELHI

*Order Dated 23.07.2019***SIX MONTHLY ACTION PLAN**

In accordance with the directions of the Hon'ble NGT, the Ministry has devised a plan for strengthening its monitoring system. As a preliminary step this involves assessment of: a) quantum of work, and b) resources available. Based on this assessment, the requirement of additional staff, additional Regional Offices and cooperation of other agencies will be worked out.

The initial plan also involves the development of a web based system to automate the entire process of inspection and compliance monitoring. This system is expected to reduce the time taken for monitoring, enhance coverage and transparency, reduce requirement of significant additional human resources even while ensuring comprehensive compliance of environmental conditions, thereby resulting in greater protection of the environment on a continuing basis.

The Action Plan is outlined below:

August 2019 *

1. Strengthening the Monitoring Cell in the Ministry which is limited to one scientist and no support staff by involving additional technical/scientific manpower and support staff and hiring of young professionals and ad hoc support staff.
2. Writing to all the 79 offices i.e. 10 ROs, 6 CPCB Regional Directorates, 29 SPCBs, 6 PCCs, 28 SEIAAs for all the details wrt the existing staff and vacancies, their preparedness and specific Action Plan for taking up monitoring of 100% Category A and reasonable percentage of Category B projects as directed by the Hon'ble NGT.
3. Evolving a mechanism for online maintenance of monitoring and compliance data with regard to Category – A and Category – B projects and integrating it with the existing PARIVESH portal of the Ministry.
4. SEIAAs asked to take up strict implementation of Notification dated 2014, wherein show cause and issuance of directions for Cat B has been delegated by the Ministry to SEIAA.

** Most of the actions have already been initiated.*

September 2019

5. **Taking up the issue of filling up of 9 Vacant Posts of Scientists in the ROs.**
6. Selection and hiring of an Independent Agency like NEERI/IIT/ASCI or other government recognized autonomous research body to:
 - (a) Undertake assessment of number of ECs issued till date for both Category 'A' and Category 'B' projects.
 - (b) Identifying the clusters on the basis of number of ECs issued to help in taking decision wrt setting up of ROs.
 - (c) Assessment of existing manpower and sanctioned manpower in all the agencies to be involved in monitoring viz. MoEFCC's ROs, CPCB and its regional offices, SEIAAs and SPCBs.
 - (d) Evaluate the existing international best practices regarding the monitoring and compliance mechanism and suggest the successful models applicable to India.**

October 2019

7. Constitution of Monitoring Evaluation Committee (MEC) with following Terms of Reference (ToR):
 - (a) Evolving the criteria for deciding the periodicity of monitoring of various category of project/industry. The periodicity of monitoring may not be uniform irrespective of industry type and can be finalized utilizing the criteria such as capacity of the unit, CPCB categorization (white, green, orange, red), environmental impact, categorization under EIA notification etc rather than keeping it uniform irrespective of industry type.
 - (b) Reviewing the integration of all the existing statutory inspection and data collection mechanisms as part of CTO, CTE, EC, Authorizations etc under one system of inspection and data collection to ensure optimum utilization of manpower and infrastructure.

- (c) Evaluate the Report of Independent Agency assigned with assessment of ECs, manpower and international best practices.
- (d) Development of a web based system for end to end digitization of the whole monitoring mechanism utilizing the existing international best practices.
- (e) **Verification of the existing Online Continuous Emission/Effluent Monitoring Systems (OCEMS) for monitoring of industrial emissions and effluent and other related technologies to rectify the incidences of data fudging.**
- (f) The OCEMS and other data integrated with CPCB and SPCBs server to be integrated with the web based monitoring mechanism so as to avoid all kind of duplications.
- (g) **Examine the proposals for creation of ROs across the geographical location, taking into account the regional disparity in the number of ROs and the ECs to be monitored.**
- (h) The whole process to inter alia involve discussion of MEC with CPCB, SPCB, ROs, SEIAAs and NIC.
- (i) **Workout the manpower and infrastructure requirement in all the agencies for effective implementation of monitoring and compliance on the basis of information available at (a) to (h).**
- (j) **Formulation of Standard Operating Procedure (SOP) for inspection and monitoring of environmental conditions.**
- (k) Formulation of comprehensive integrated monitoring and inspection plan utilizing the information available from (a) to (j).
- (l) Evolving the training plan for intensive training of all the stakeholders involved in the newly structured monitoring mechanism and web based system.

The baseline information to be used for the purpose are:

10.5

- a. the present target of 100% Category A by ROs and CPCB and reasonable percentage of Category B projects by SEIAA and SPCB.
- b. Variation in number of projects being dealt in different states to be taken into account while suggesting the augmentation.

8. First Meeting of Monitoring Evaluation Committee.

November 2019- December 2019

9. Second Meeting of Monitoring Evaluation Committee for discussion on periodicity of monitoring and integration of all the existing statutory inspection and data collection mechanisms.
10. Third Meeting of the MEC on the web-based system with various stakeholders including NIC to evaluate the structure of the system.
11. Initiate the procedure for hiring of a consulting firm for helping ministry in evolving and managing the web based system for end to end digitization of the whole monitoring mechanism, if need felt.

January 2020

12. Submission of the report of Independent Agency.
13. Report of Independent Agency wrt the need of manpower to be forwarded to Internal Work Study Unit (IWSU) of the Ministry for evaluation.
14. Submission of proposal on Web based system.
15. Fourth meeting of the MEC on the Web based system.

Post January 2020

16. Meetings of MEC for finalization of SOP for Compliance Monitoring and Inspection, to work out the manpower, infrastructure and ROs requirement and other assignments indicated in its ToR.

17. Initiate actions towards evolving Web-based system on the above-mentioned lines.
18. **Initiate actions towards strengthening/ expansion of ROs on the basis of available report of MEC.**
19. **Initiate action towards manpower and infrastructure augmentation in all the concerned agencies for effective implementation of monitoring and compliance on the basis of MEC report.**
20. Intensive training of all the stakeholders involved in the newly structured monitoring mechanism and web based system.

Note:

The present exercise needs to be undertaken with a great deal of caution in view of large gaps existing in the available data as summarized below:

- Categorization of A & B did not exist prior to 2006.
Implications: All projects prior to 2006 may have to be monitored by ROs. No clear cut, well demarcated year wise data for this purpose is available as yet.
- Post 2006, ECs in respect of Cat B projects were issued by SEIAs wherever they were constituted. In other states, MoEF&CC continued to issue ECs. This breakup is not available at present.
Implication: the quantum of job at hand is not amenable to being assessed realistically.

80

10-7

State Level Environment Impact Assessment Authority, Uttar Pradesh

Directorate of Environment, U.P.
 Vineet Khand-1, Gomti Nagar, Lucknow-226 010
 Phone : 91-522-2300 541, Fax : 91-522-2300 543
 E-mail : docuplko@yahoo.com
 Website : www.seiaaup.in

To,
 S/o Shri Santosh Malviya,
 Owner,
 H.No. Ward No. 10, Village-30/2, Hamirpur,
 Tehsil-Hosangabad, District-Madhya Pradesh.

Ref. No. 489/2018 / 2018

Date: 24 November, 2018

Sub: Environmental Clearance for River Bed Sand Mining Project from Ken River at Khand No.- 30/2, Village- Bhulsi, Tehsil- Maudaha, Hamirpur, U.P., (Sanctioned Lease Area: 36.437 ha.), M/s Silvr Mist Retail Pvt. Ltd.
 Dear Sir,

Please refer to your application/letter dated 26-02-2018, 06-03-2018, 04-10-2018 & 15-10-2018 received in this office on 01-11-2018 addressed to the Secretary, SEAC, Directorate of Environment, U.P., Lucknow on the subject as above. The State Level Expert Appraisal Committee considered the matter in its meetings held on dated 15/10/2018 & 16/11/2018.

A presentation was made by the project proponent alongwith their consultant M/s ENV DAS (India) Pvt. Ltd. The proponent, through the documents submitted and the presentation made, informed the committee that:-

1. The environmental clearance is sought for River Bed Sand Mining Project from Ken River at Khand No.- 30/2, Village- Bhulsi, Tehsil- Maudaha, Hamirpur, U.P., (Sanctioned Lease Area: 36.437 ha.), M/s Silvr Mist Retail Pvt. Ltd.
2. The public hearing was organized on 20/09/2018.
3. Salient features of the project as submitted by the project proponent:

| | | | |
|--|--|---------------|---------------|
| 1. On-line proposal No. | SIA/UP/MIN/22098/2018 | | |
| 2. File No. allotted by SEIAA, UP | 4100 | | |
| 3. Name of Proponent | ShriPrashantMalviya | | |
| 4. Full correspondence address of proponent and mobile no. | M/s Silvr Mist Retail Private Limited ShriPrashantMalviya S/o ShriSantoshMalviya R/o H.No. Ward No.10, Village - Sohagpur, Tehsil - Hosangabad, District -Hosangabad, Madhya Pradesh. | | |
| 5. Name of Project | Sand/Morrum Mining | | |
| 6. Project location (Plot/Khasra/Gata No.) | Khand No. 30/2 | | |
| 7. Name of River | Ken | | |
| 8. Name of Village | Bhulsi | | |
| 9. Tehsil | Maudaha | | |
| 10. District | Hamirpur | | |
| 11. Name of Minor Mineral | Sand/Morrum | | |
| 12. Sanctioned Lease Area (in ha) | 36.437 ha | | |
| 13. Mineable Area (in ha) | 36.437 ha | | |
| 14. Zero level mRL | 92 mRL | | |
| 15. Max. & Min mrl within lease area | 101 mRL and 93 mRL | | |
| 16. Pillar Coordinates (Verified by DMO) | Pillars | Latitude | Longitude |
| | Sanctioned Lease Area | | |
| | A | 25°39'6.10"N | 80°18'56.18"E |
| | B | 25°39'2.85"N | 80°19'4.02"E |
| | C | 25°38'33.23"N | 80°18'47.34"E |
| | D | 25°38'18.52"N | 80°18'28.54"E |
| | E | 25°38'24.84"N | 80°18'23.45"E |
| F | 25°38'35.85"N | 80°18'40.07"E | |

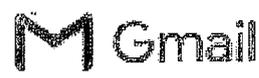
81

ANNEXURE-11

11

SUNDEEP - <sundeep.moef@gmail.com>

1101



Compliance of NGT Order-Reg

2 messages

Amit Vashishtha <amit.vashishtha@nic.in> 30 September 2019 at 19:25
To: "Dr. Niranjana Kumar Singh" <jse-mines@nic.in>
Cc: JS <sricha@ias.nic.in>, DIR-NCM <sundeep.moef@gmail.com>

Dear Sir,

Please find the attached herewith D. O. No. L-11011/175/2018-IA.II(M) dated 30.09.2019 for compliance of NGT Order dated 4th September, 2018 and 13th September, 2018 in O.A. No. 173/2018 & O.A.No. 186/2016 in the matter titled "Sudarsan Das Vs MoEF&CC".

--
With Regards

Amit Vashishtha
Scientist 'D'
MoEF&CC

2 attachments

D.O Letter.pdf
313K

MoM-13.08.2019.pdf
6821K

SUNDEEP - <sundeep.moef@gmail.com> 10 October 2019 at 17:04
To: Shruti Mishra <shruti05mishra@gmail.com>

[Quoted text hidden]

--
with regards

Sundeep
Scientist 'F' & Member Secretary (EAC-NCM)
A-106, Agni Tower,
Indira Paryavaran Bhawan, Aligunj
Jorbag, New Delhi - 110003
LL - +91 11 2469 5339

2 attachments

D.O Letter.pdf
313K

MoM-13.08.2019.pdf
6821K

10/18/2019

Gmail - Reminder-2: Compliance of NGT Order-Reg



SUNDEEP - <sundeep.moef@gmail.com>

11/2

Reminder-2: Compliance of NGT Order-Reg

1 message

9 October 2019 at 17:12

Amit Vashishtha <amit.vashishtha@nic.in>

To: jse-mines@nic.in

Cc: JS <sricha@ias.nic.in>, DIR-NCM <sundeep.moef@gmail.com>, Pushpinder Gaur <pushpgaur@rediffmail.com>

Dear Sir,

This with reference to trailing mail wherein it was requested to provide the reply/comments of Ministry of Mines for compliance of Hon'ble NGT Order dated 13.09.2018. The information is still awaited and Ministry is unable to formulate the reply to be filed in Hon'ble NGT. In this regard it is requested to arrange to provide the requisite information at the earliest.

With Regards

Amit Vashishtha
Scientist 'D'
MoEF&CC

On 09/30/19 07:25 PM, "Amit Vashishtha" <amit.vashishtha@nic.in> wrote:

Dear Sir,

Please find the attached herewith D. O. No. L-11011/175/2018-IA.II(M) dated 30.09.2019 for compliance of NGT Order dated 4th September, 2018 and 13th September, 2018 in O.A. No. 173/2018 & O.A.No. 186/2016 in the matter titled "Sudarsan Das Vs MoEF&CC".

--

With Regards

Amit Vashishtha
Scientist 'D'
MoEF&CC

--

With Regards

Amit Vashishtha
Scientist 'D'
MoEF&CC

10/23/2019

Gmail - D.O. letter Dated 18th Oct 2019 and Minutes of Meeting

83



SUNDEEP - <sundeep.moef@gmail.com>

11.3

D.O. letter Dated 18th Oct 2019 and Minutes of Meeting

1 message

SUNDEEP - <sundeep.moef@gmail.com>

18 October 2019 at 18:28

To: as_mines@nic.in, ravis.prasad@nic.in, sricha <sricha@ias.nic.in>

Cc: Amit Vashishtha <amit.vashishtha@nic.in>

Bcc: Thillai Sivakumar Natarajan <thillai.sivakumar@gov.in>, RAMESH ANGULURI <ramesh.anguluri@gov.in>

Dear Sir / Madam,

I have attached the D.O.No. L. 11011/175/2018-IA.II(M) dated 18.10.2019 and the Minutes of Meeting dated 13.08.2019.

--
with regards

Sundeep
Scientist 'F' & Member Secretary (EAC-NCM)
A-106, Agni Tower,
Indira Paryavaran Bhawan, Aligunj
Jorbag, New Delhi - 110003
LL - +91 11 2469 5339

2 attachments

 D.O. letter 2_Part_1.pdf
41K

 MoM-13.08.2019 (1).pdf
6821K

Progress Report

On Compliance of

Hon'ble NGT order dt. 04 Sep 2018

In the matter

O. A. No. 173 of 2018

(Sudarsan Das Vs State of West Bengal & Others)

31st December 2019

Submitted by

Ministry of Environment, Forest & Climate Change

Government of India

Background:

Hon'ble National Green Tribunal (NGT) in the matter O. A. No. 173 of 2018 (Sudarsan Das Vs State of West Bengal & Others) had given following directions vide order dated 04.09.2018 to Ministry of Environment, Forests and Climate Change (MoEF&CC):

"Para 25: In view of above discussion, we are of the view that since the subject of mining is also required to be regulated for protection of environment and it is to take care of this requirement, MoEF&CC has issued directions from time to time under Section 3 and 5 of the Environment (Protection) Act, 1986. The MoEF&CC needs to revise its directions keeping in mind the following:

- i) Mining Surveillance System discussed in para 23 above be finalized in consultation with ISRO Hyderabad;*
- ii) Safeguards suggested in Sustainable Sand Mining Guidelines published by the MoEF&CC in the year 2016;*
- iii) Suggestions in the High Power Committee Report.*
- iv) Requirement of demarcation of boundaries being published in respect of different leases in public domain;*
- v) Need to issue SOP laying down mechanism to evaluate loss to the ecology and to recover the cost of restoration of such damage from the legal or illegal miners. Such evaluation must include cost of mining*

material as well as cost of ecological restoration and net present value of future eco system services forgone.

- vi) Need to set up a dedicated institutional mechanism for effective monitoring of sand and gravel mining which may also take care of mining done without any EC and also in violation of EC conditions;*
- vii) The Mining Department may make a provision for keeping apart at least 25% of the value of mined material for restoration of the area affected by the mining and also for compensating the inhabitants affected by the mining. One of the conditions of every lease of mine or minerals would be that there will be independent environmental audit at least once in a year by reputed third party entity and report of such audit be placed in public domain.;*
- viii) In the course of such environmental audit, a three-member committee of the local inhabitants will also be associated. Composition of three-member committee may preferably include ex-servicemen, former teacher and former civil servant. The Committee will be nominated by the District Magistrate.*

27. The direction with regard to setting up of dedicated institutional mechanism for monitoring of conditions of EC as granted under EIA notification, 2006 in respect of sand and gravel mining as directed in para (vi) may be an over-

encompassing body to monitor the conditions of EC with respect to development of all projects.

2. Further, Hon'ble NGT vide order dated 5th April 2019 in the same matter constituted a committee for preparation of a scale of compensation which can be adopted in whole of country. The same is produced below:

"57. We consider it necessary to constitute a Committee comprising representatives of the MoEF&CC, Central Pollution Control Board (CPCB), Indian Institute of Forest Management, Bhopal, Institute of Economic Growth Delhi and Madras School of Economics to prepare a scale of compensation, after including the above components which can then be adopted in whole of the country. The report may be furnished within three months to the Tribunal by email at ngt.filing@gmail.com. The nodal agency for compliance and coordination will be CPCB. The Committee may also take professional service of an expert/ institution in the matter if it so desires."

3. The matters were again taken up on 26th July, 2019 by the Hon'ble Tribunal, wherein the prevailing compliance status was expected from the respondents. Hon'ble Tribunal in its order dated 26.07.2019 has granted opportunity to MoEF&CC to report the compliance status of the direction passed by NGT vide its order dated 04.09.2018 and also directed that the Additional Secretary concerned of MoEF&CC be present in person with the

compliance report on the next date of hearing. The order is reproduced below:

Para 8 *Neither MoEF&CC has taken steps nor given any explanation for its failure. None appeared for the MoEF&CC during hearing but while dictating the order, learned counsel for MoEF&CC suddenly appeared and only casual explanation furnished is that MoEF&CC has approached the Hon'ble Supreme Court. While seeking of reasonable time for compliance on the ground that the matter was pending in higher Court may stand on different footing, there is no justification for unreasonable delay for more than 9 months on the part of the MoEF&CC. Learned counsel for the applicant submitted that in absence of any stay, order of this Tribunal may be enforced by coercive measures. We find merit in the submission, but before doing so, we give an opportunity for compliance of the directions and direct Additional Secretary concerned of MoEF&CC to remain present in person with the compliance report and an explanation as to why action be not taken against the person responsible for the default."*

4. Action taken by MoEF&CC for compliance of Hon'ble NGT Order Dated 04.09.2018

- i. MoEF&CC received the order dated 4.09.2018 on 24.09.2018.
- ii. MoEF& CC has issued letter to Ministry of Mines (MoM) along with the order of NGT for compliance, as 6 out of 9 directions required follow-up action by Ministry of Mines (**Annexure-1**).
- iii. Ministry of mines acknowledging the communication received from MoEF&CC vide letter dt. 26.12.2018 had highlighted the Mining Surveillance System (MSS) developed based on satellite imagery and its benefits in monitoring illegal mining of major minerals by all States. However, no reference on monitoring of minor minerals like sand through MSS was made (**Annexure-2**).
- iv. MoEF&CC vide letter dated 11thDec 2018 requested Forest Research Institute (FRI) Dehradun to formulate a mechanism to evaluate loss to the ecology and to recover the cost of restoration of such damage from the legal or illegal miners. Such evaluation must include cost of mining material as well as cost of ecological restoration and net present value of future eco system services forgone as desired by the Hon'ble NGT (**Annexure-3**). A Committee has been constituted by Hon'ble NGT vide order dated

05.04.2019 and in this regard the report will be submitted separately.

- v. The work on harmonisation of Sustainable Sand Mining Management Guidelines – 2016 (SSMG-2016) with recommendation of High Power Committee constituted by NGT in the matter OA 184/2013 has been completed. However, the ministry felt it necessary to have a comprehensive view taking account of experiences gained while implementing the SSMG-2016, and therefore is working to revise the SSMG in a more comprehensive manner taking into account the best practices and other feedback received from stakeholders. This exercise is being carried out under the directions of Hon'ble Minister of EF & CC, for which last review on the draft was taken on 17.12.2019.
- vi. A review meeting was conducted on 13.08.2019 with various stakeholders viz. Ministry of Mines (MoM), National Remote Sensing Centre (NRSC), Bhaskaracharya Institute for Space Applications and Geo-Informatics (BISAG) and officials of concerned divisions of MoEF&CC. Necessary follow-up was made with stakeholders for submission of action on the decision taken in the meeting. (**Annexure-4**).
- vii. The National Remote Sensing Centre (NRSC) provided its comments vide its letter dated 23.09.2019 (**Annexure-5**).

- viii. As no response from Ministry of Mines was received after the 13.08.2019 meeting, a DO letter addressed to JS-MoM was issued by JS-IA on 30.09.2019 requesting for furnishing the status of compliance in view of the decision taken in the meeting held on 13.08.2019. It was followed by a reminder letter (**Annexure-6**) and in absence of any response, a D.O. Letter from Additional Secretary was issued on 18.10.2019. The Ministry of Mines submitted its reply vide letter dated 24.10.2019 (**Annexure-7**).
- ix. Ministry of Mines in its letter dated 24.10.2019 mentioned that most of the points come under the preview of State Government and due to this Ministry conducted a review meeting with representative of State/UT Government on 17.12.2019. Minutes of the meeting is enclosed as (**Annexure-8**)

Present Compliance Status

5. Progress made as on 31.12.2019 on the Compliance of Hon'ble directions in case no. 173 of 2018 dated 04.09.2018 is given below:

- i. **Para 25 (i) "Mining Surveillance System discussed in para 23 above be finalized in consultation with ISRO Hyderabad."**

Para 23: Ministry of Mines (MoM) & Indian Bureau of Mines (IBM) have developed Mines Surveillance System (MSS), with assistance from BISAG and MEITY. The MSS is a satellite based monitoring

system which aims to establish a regime of responsive mineral administration by curbing instances of illegal Mining activity through automatic remote sensing detection technology.

1) As per the (Allocation of Business) Rules, 1961 (as amended), Ministry of mines is responsible for the following:

- a) *Legislation for regulation of mines and development of minerals within the territory of India, including mines and minerals underlying the ocean within the territorial waters or the continental shelf, or the exclusive economic zone and other maritime zones of India as may be specified, from time to time, by or under any law made by Parliament.*
- b) *Regulation of mines and development of minerals other than coal, lignite and sand for stowing and any other mineral declared as prescribed substances for the purpose of the Atomic Energy Act, 1962 (33 of 1962) under the control of the Union as declared by law, including questions concerning regulation and development of minerals in various States and the matters connected therewith or incidental thereto.*
- c) *All other metals and minerals not specifically allotted to any other Ministry/Department, such as, aluminium, zinc, copper, gold, diamonds, lead and nickel.*

- 2) Pursuant to above mentioned allocation of Business rules, the Ministry of Mines is the Nodal Ministry for Implementation and enforcement of "The Mines and Minerals (Development and Regulation) Act, 1957 (as amended)". Further as per Section 23 C of MMDR, Act 1957, State Government is empowered to make rules for preventing illegal mining, transportation and storage of minerals.

- 3) Ministry of Mines being the Nodal Ministry for regulating mining operation in the country, MoEF&CC forwarded the order of Hon'ble NGT dated 04.09.2018 to Ministry of Mines for necessary compliance. Ministry of Mines was also called for the review meeting held on 13.08.2019 to submit their action taken on compliance of the order. The Minutes of review meeting was also circulated to Ministry of Mines on 06.09.2019. A formal response from Ministry of mines was received on 25.10.2019 wherein it has mentioned the following:
 - a) *Mining Surveillance System (MSS) is Geo Spatial Configuration of Mining Leases (a closed boundary string) database which can be superimposed over satellite imagery. Thus it is a generic system on GIS platform which be used for any mineral without any limitation. The system checks a region of 500 meters around the existing mining lease boundary to search for any unusual activity which is likely*

to be illegal mining. Any discrepancy if found is flagged-off as a trigger.

- b) It was developed by Ministry of Mines through Indian Bureau of Mines (IBM) collaboration with Ministry of Electronics and Information Technology (MeitY) and Bhaskaracharya Institute for Space Applications and Geo-informatics (BISAG) and launched in Oct 2016. This has been developed to facilitate the State Governments in curbing instance, of illegal mining.*
- c) To initiate the System Mining Leases of minerals administered under MCDR were plotted. Thereafter the State Governments were also asked to use the MSS by plotting mining lease of minor mineral on this platform for detecting/curbing illegal mining. Various DO letter has been sent by the Ministry for training/capacity building of States, as a result various States have deputed their officers to have training and plotting leases and have hands-on training/experience of MSS. State wise details is Annexed.*
- 4) National Remote Sensing Centre (NRSC), Dept. of Space vide vide its letter dated. 23.09.2019 (Copy as **Annexure-5**) conveyed their technical submission that use of satellite imagery is a challenge for monitoring of illegal sand mining. The details of their submission is as below:
- (a) Illegal sand mining areas are difficult to delineate conclusively from satellite data because the sand has

high reflecting body and mined area changes do not have unique spectral signatures in the pre and post satellite images.

(b) It is difficult to establish the illegality since many of the mine boundaries are not accurately geo-fenced using DGPS coordinates. Hence, changes beyond the lease hold boundary becomes difficult to establish

(c) Some morphological changes can be observed within the sand bodies but to establish its legality from satellite data becomes difficult because these can happen due to river dynamics especially during flood and lean flow. The natural river erosion and deposition can be mistaken for mining or the mining area gets obliterated during the flood flow of the river.

(d) Accurate depth of excavation of sand is difficult to establish from Digital Elevation Model derived from stereoscopic satellite data to understand the volume of mined material.

In view of the above, it is understood that use of satellite imagery for monitoring of illegal sand mining is a technical challenge for regulating purpose.

ii. Para 25 (ii) "Safeguards suggested in Sustainable Sand Mining Guidelines published by the MoEF&CC in the year 2016"

**(iii) "Suggestions in the High Power Committee Report"
of Hon'ble NGT Order dated 4.09.2018.**

Progress Made:

The recommendations of the High Power Committee Constituted by Hon'ble NGT in the matter of OA 184/2013, orders passed by NGT in other similar matters along with experience and suggestion received on implementation of present Sustainable Sand Mining and Management Guidelines-2016 issued by Ministry has been complied and accordingly in consultation with some experts, dealing sand mining, a draft guideline on enforcement and monitoring of sand mining has been prepared.

In addition, the relevant provision of sand mining frame work published by Ministry of Mines has been considered as base for all monitoring and enforcement purpose, except for environmental related issue.

Further, requirement and procedure of Replenishment study for River Sand mining has also been suitably incorporated.

The draft guideline is submitted before competent authority for consideration before it is circulated to stakeholder for their feedback /suggestion to finalize the guideline.

A discussion with limited input was received from states which attended meeting on 17.12.2019 but formal response on each direction of NGT is still awaited.

III. Para 25 (iv) "Requirement of demarcation of boundaries being published in respect of different leases in public domain"

Ministry of Mines is the Nodal Ministry for Implementation of provision of The Mines and Minerals (Development and Regulation) Act, 1957 (as amended). Further as per Section 15 of MMDR, Act 1957 the State Government is empowered to make rules in respect of minor minerals including grant of Mining lease. The state government while grant of letter of intent or mining lease is required to demarcate the boundary points. Thus, demarcation of mining leases & their display in public domain comes under the purview of concerned Mining Department of State Governments.

It has been observed that the Letter of Intent (LoI) issued by State Mining department for sand mining doesn't have the geo-coordinates and mostly have the land reference number from revenue records. It is therefore stated that the State mining department shall mention the geo-coordinates in the LoI issued to the proponent and the same will be considered by Ministry/SEIAA while appraising the project through Decision Support System (DSS) or Google Map with the help of KML file.

However, in the Term of Reference (ToR) /Environmental Clearance (EC) form developed by this Ministry, there is a provision for providing coordinates (Latitude and longitude of the boundary) and for uploading of KML files on Parivesh Portal. The information provided by the project proponent in the respective forms are considered for appraisal by EAC/SEAC and

the same is reproduced in the EC/ToR letter. (Copy of Form 1M, Parivesh Portal showing geo-coordinates for reference **Annexure -9)**

During the meeting held on 17.12.2019 this point was discussed and some State Government informed that geo-coordinates tagging of lease area have started. The State Governments were requested to provide the status in this regard, which is still awaited.

- IV. **Para 25 (v) "Need to issue SOP laying down mechanism to evaluate loss to the ecology and to recover the cost of restoration of such damage from the legal or illegal miners. Such evaluation must include cost of mining material as well as cost of ecological restoration and net present value of future eco system services forgone"**

Present Status

Hon'ble NGT in its order 5th April 2019 in the same matter, constituted a committee steered by CPCB for same purpose comprising of experts from different institutes, wherein MoEF&CC is also a member. This committee is already constituted & is working to develop the mechanism for evaluating loss to ecology; cost of restoration & NPV of future ecosystem services foregone due to illegal mining, therefore it was deemed appropriate that the outcomes/recommendations of this committee shall be utilised for ensuring compliance of Hon'ble NGT orders.

CPCB is the nodal agency for coordination of this aspect and for submitting the compliance in this regard separately. It has been informed that the has submitted its report to CPCB and CPCB will be filing the appropriate compliance report.

V. Para 25 (vi) "Need to set up a dedicated institutional mechanism for effective monitoring of sand and gravel mining which may also take care of mining done without any Environmental Clearance as well as mining done in violation of Environmental Clearance conditions"

Para 27: "The direction with regard to setting up of dedicated institutional mechanism for monitoring of conditions of Environmental Clearance as granted under EIA Notification, 2006 in respect of sand and gravel mining as directed in para (vi) may be an Over-Encompassing Body to monitor the conditions of Environmental Clearance with respect to all development projects".

(a) Sand Mining done without any Environmental Clearance qualifies under illegal mining. Ministry of Mines is mandated for enforcement and implementation of provisions of Mines and Minerals (Development and Regulation) Act, 1957. Under Sec 23 (C) of the Mines and Minerals (Development and Regulation) Act, 1957, the State Govt. is empowered to make rules to prevent illegal mining. Therefore, Ministry of Mines was requested to provide the compliance in this regard with the concerned stakeholders.

(b) The Environmental Clearance monitoring is being done by Regional Office of MoEF&CC for category 'A' projects and for category 'B' project by respective SEIAA.

Further, the MoEF&CC vide its notification S.O. 637(E) dated 28.02.2014 delegated the powers vested in it under section 5 of the said Act to all the State and Union Territory Environment Impact Assessment Authorities (Hereinafter referred to as the said Authorities) constituted by the Central Government under sub-section (3) of section 3 of Environment (Protection) Act, 1986, to issue show cause notice to project proponents in case of violation of the conditions of the environment clearances issued by the said Authorities to projects or activities within their jurisdiction and to issue directions to the said project proponents for keeping such environment clearances in abeyance or withdrawing them, if required, for violations, subject to the condition that the Central Government may revoke such delegation of powers or may itself invoke the provisions of section 5 of the said Act, if in the opinion of the Central Government such a Course of action is necessary in the public interest.

Further, the monitoring mechanism is already under consideration of Hon'ble NGT in the matter O.A. No. 837/2018. (Copy as **Annexure-10**) and based on the direction of Hon'ble NGT the concerned department of the Ministry has devised a plan for strengthening its monitoring

system and submitted to Hon'ble NGT on 25th September, 2018.

The salient features of the proposed action plan for monitoring of EC conditions by MoEF&CC, is as below:

- i. *Strengthening the Monitoring Cell in the Ministry.*
- ii. *Writing to Regional Offices of the Ministry, Regional Directorates of CPCB and State Pollution Control Boards for all the details with respect to the existing staff and vacancies, their preparedness and specific Action Plan for taking up monitoring of Category A and Category B projects.*
- iii. *Evolving a mechanism for online maintenance of monitoring and compliance data.*
- iv. *SEIAA is directed to take action on non-compliances w.r.t. Category B projects as per EIA notification 2006.*
- v. *Filling up of vacant posts in Regional offices.*
- vi. *Selection and hiring of independent agency for providing technical support.*
- vii. *Constitution of Monitoring Evaluation Committee (MEC) for deciding the periodicity of monitoring of various category of project/industry, Reviewing the integration of all the existing statutory inspections (EC, CTO, CTE, etc.), Evaluate the Report of Independent Agency, Formulation of Standard Operating Procedure (SOP) for inspection and monitoring, web*

based system for end to end digitization of the whole monitoring mechanism, etc.

- viii. Initiate actions towards strengthening/ expansion of ROs on the basis of available report of MEC.*
- ix. Initiate action towards manpower and infrastructure augmentation in all the concerned agencies for effective implementation of monitoring and compliance on the basis of MEC report.*

VI. Para 25 (vii) *"The Mining Department may make a provision for keeping apart at least 25% of the value of mined material for restoration of the area affected by the mining and also for compensating the inhabitants affected by the mining"*

The provision of this direction is within the mandate of Mining department and accordingly, Ministry of Mines was requested to pursue the compliance in this regards and provide the compliance progress.

Present Status:

- a) The Ministry of Mines in its reply submitted on 24.10.2019 inter-alia mentioned that a) Section 9B introduced through the MMDR Amendment Act, 2015, prescribes the establishment of District Mineral Foundation (DMF) in any district affected by mining related operations, the object of which is to work for the interest and benefit of persons, and areas affected by mining related operations. Directions have been issued under section 20A of Mines and Minerals

(Development and Regulation) (MMDR) Act -on 16.09.2015 to all States to incorporate the Pradhan Mantri Khanij Kshetra Kalyan Yojna (PMKKKY) into the rules framed by them for the District Mineral Foundations (DMFs), b) PMKKKY is a scheme for transforming the living standards, social up-liftment of people and for development of areas affected by the Mining related operations. At least 60% of PMKKKY ' funds are being utilized for projects in high priority areas like [(i) drinking water supply; (ii) environment preservation and pollution control measures; (iii) health: care; iv) education; (v) welfare of women and children; (vi) welfare of aged and disabled people; (vii) skill development; and (viii) Sanitation.], c) The rest of the funds are utilized for the carrying out projects in the field of: (i) physical infrastructure; (ii) irrigation; (iii) energy and watershed development; and (iv) any other measures for enhancing environmental quality in mining district, and d) As on 30th August 2018 more than Rs. 31,830 Crores has been collected under this scheme. Total 13,3217 projects have been taken up under the scheme out of which. 45,517 projects have been completed. Total 9,555 Crore has been spent so far.

b) Reply from the State Government is yet to be received.

VII. Para 25 (viii) "One of the conditions of every lease of mine or minerals would be that there will be independent environmental audit at least once in a year

by reputed third party entity and report of such audit be placed in public domain"

Para 25 (ix) "In the course of such environmental audit, a three-member committee of the local inhabitants will also be associated. Composition of three member's committee may preferably include ex-servicemen, former teacher and former civil servant. The Committee will be nominated by the District Magistrate"

The provision of the direction at para 25 (viii) is to incorporate a condition in the lease of mines and minerals. Ministry of Mines is the Nodal Ministry for Implementation of provision of The Mines and Minerals (Development and Regulation) Act, 1957 (as amended). Further as per Section 15 of MMDR, Act 1957 the State Government is empowered to make rules in respect of minor minerals including grant of Mining lease. Accordingly, Ministry of Mines was requested to pursue the compliance in this regard and provide the compliance progress status.

Present Status:

- a) Ministry of Mines vide its letter dated 24.10.2019 submitted that Mining Lease deed is executed between the State Government and the Lessee. One of the pre-requisite of getting Mining Lease executed is the EC issued by MoEF&CC, irrespective of the type of mineral whether minor or other. Besides this, one of the important conditions of EC is the regular monitoring of various environmental parameters and its report submissions. MoEF&CC may issue necessary directions to the State Governments to incorporate the provision of environmental audit in the lease deed.

- b) The Ministry during the meeting held on 17.12.2019 asked the representative of State Government to provide the compliance on the same.

VIII. Para 26 "Such steps may be worked out within two months and circulated to all States. The Mechanism may provide for a report of implementation from the concerned States every quarter. The matter may be reviewed after every six months by the MoEF&CC".

In compliance to direction dated 4 September 2018, as most of the point raised are pertaining to Ministry of Mines a review meeting was called by Joint Secretary (IA-II division), MoEF&CC on 13th August, 2019 to assess the progress made by different stakeholders with respect to directions issued by the Hon'ble Tribunal in the aforementioned case. Copy of minutes of meeting is same as **Annexure-4**. The Ministry of Mines vide its letter dated informed that most of the points raised are pertaining to State Government due to this a meeting was held on 17.12.2019 wherein Mines Department of all the States/UTs were invited but representative from State of Haryana, Rajasthan, Uttrakhand, Gujarat, Karnataka and Telangana attended the meeting. The Ministry circulated minutes of the meeting to all the State/UTs for their comments and the same is still awaited.

ANNEXURE 1

Court Matter/Time Bound

F. No. L-11011/175/2018-IA-II (M)

6248

Government of India
Ministry of Environment, Forest & Climate Change
Impact Assessment Division

3rd Floor, Vayu Wing,
Indira Paryavaran Bhawan,
Jorbagh Road, Aliganj,
New Delhi-110 003
Email: rb.lal@nic.in
Phone/Fax: 011-24695362

Dated: 12th December 2018

To,

The Joint Secretary
Ministry of Mines
Shastri Bhawan, Dr. Rajendra Prasad Road,
New Delhi - 110 001

Sub: Order dated 04th September, 2018 & 13th September, 2018 passed by the Hon'ble National Green Tribunal, New Delhi in O.A. No. 173 of 2018 & O.A. No. 186 of 2016 in the matters titled "Sudarsan Das Vs State of West Bengal & Ors" & "Satendra Pandey Vs Ministry of Environment Forest & Climate Change & Anr." respectively- regarding.

Sir,

This is with reference to the recent order of the Hon'ble NGT dated 04th September, 2018 in the matter titled *Sudarsan Das Vs State of West Bengal & Ors* & and order dated 13th September, 2018 in the matter *Satendra Pandey Vs Ministry of Environment Forest & Climate Change & Anr.*

2. The Hon'ble NGT vide order dated 04th September, 2018 in O.A. No. 173 of 2018 (*Sudarsan Das Vs State of West Bengal & Ors*) has cited out the following:-

"It has been brought to our notice that Ministry of Mines & Indian Bureau of Mines (IBM) have developed Mines Surveillance System (MSS), with assistance from Bhaskaracharya Institute for space applications and Geoinformatics (BISAG), Gandhinagar and Ministry of Electronics and Information Technology (MEITY). The Mining Surveillance System (MSS) is a satellite-based monitoring system which aims to establish a regime of responsive mineral administration by curbing instances of illegal mining activity through automatic remote sensing detection technology."

3. The Hon'ble NGT in direction given to MoEF&CC vide above order dated 04.09.2018, Inter-alia mentioned about "Mining Surveillance System discussed in para 23 above be finalized in consultation with ISRO Hyderabad". As

107

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the Mines Surveillance System (MSS), has been developed by Ministry of Mines & Indian Bureau of Mines (IBM) with assistance from Bhaskaracharya Institute for Space Applications and Geoinformatics (BISAG), Gandhinagar and Ministry of Electronics and Information Technology (MEITY). In view of the above, it is thereby requested to finalize the same in consultation with ISRO Hyderabad as per direction of Hon'ble NGT.

4. In view of the above, the undersigned is directed to forward the copy of the aforementioned order for necessary compliance and thereby also provide with the comments and suggestions on the implementation of the directions of the Hon'ble NGT. The Comments may kindly be provided **urgently latest by 20.12.2018**.

5. This issues with the approval of the Competent Authority.

Yours faithfully,

Encl: As above


(Dr. R.B. Lal)
Scientist 'E'

etc
22/12/18
14/12

ANNEXURE 2
2.1

No. 31/2/2016-M.III (Part II)
Government of India
Ministry of Mines

New Delhi, dated the 26th December, 2018

Office Memorandum

Sub: Order dated 04th September, 2018 & 13th September, 2018 passed by the Hon'ble National Green Tribunal, New Delhi in O.A. No. 173 of 2018 & O.A. No. 186 of 2016 in the matters titled "Sudarsan Das Vs State of West Bengal & Ors" & "Satendra Pandey Vs Ministry of Environment Forest & Climate Change & Anr."

The undersigned is directed to refer to your letter No. L-11011/175/2018-IA-II (M) dated 12th December, 2018 on the above cited subject. The status report of Mining Surveillance System (MSS) is enclosed for necessary action.

(A.K.Mallik)

Under Secretary to the Government of India
Tel No.011- 23384743
E-Mail ID: ak.mallik@nic.in

To

Ministry of Environment, Forest & Climate Change
(Attn : Dr. R.B.Lal, Scientist 'E')
Impact Assessment Division, 3rd Floor, Vayu Wing,
Indira Paryavaran Bhawan,
Jorbagh Road, Aliganj, New Delhi-110 003

Lib/ast

Pl. compile

ED (MK)

31/12/18

to you please

16/11/19

31/12/18

20/11/18

Old Scientist (MK)
By No. 2046.....
Date 16/11/19.....

Mining Surveillance System (MSS)

MSS is a satellite-based monitoring system which aims to establish a regime of responsive mineral administration, through public participation, by facilitating State Governments in curbing instances of illegal mining by making use of space technology in the form of Satellite images. It also enable Citizen to register any complaints of illegal mining noticed by them. It covers the entire country and accessible to all Citizens by means of the mobile app, specifically developed for the purpose.

2. There was no robust mechanism to deal with illegal mining in the country, when the lessee go beyond his allotted lease area and indulge in illegal mining. It was very difficult to check each and every lease physically as most of the leases are located on hilly terrain and in very remote places. The illegal mining complaints were not addressed properly as one had to submit the complaint in writing and the complaint used to take a very long route before samé are addressed and no permanent record of the complaints so received where maintained . There was no transparency dealing with the cases of illegal mining. In his address at the National Meet on Promoting Space Technology based Tools and Applications in Governance and Development, in New Delhi on 7th September, 2015, Prime Minister of India, Shri Narendra Modi, emphasized on the role of space science in achieving good governance and directed all departments to explore effective use of space technology. Following PM's vision, MSS was conceptualized in the Central Coordination cum Empowered Committee meeting of the Ministry of Mines with the Mining Departments of the major mineral rich States on 15th December, 2015.

3. This is first of its kind System, where the space technology is used in the detection of illegal mining in the Country and hence is a case of exemplary use of the emerging technology. The mining surveillance system aims to facilitate the State Governments in curbing the illegal mining by using space technology in the form of Satellite Imagery. The satellite imagery consist of images of the earth taken from the satellites and for the MSS, the latest available satellite Imagery of Cartosat-1 have been used. Cartosat-1 carries two state-of-the-art panchromatic (PAN) cameras that take black and white stereoscopic pictures of the earth in the visible region of the electromagnetic spectrum with spatial resolution is 2.5 metres. In the Mining Surveillance System, which is satellite based monitoring system, the lease areas of the mines are first plotted in the system, Georeferenced , Digitised and are superimposed on the Satellite Images.

A - 2.3

4. The entire system is web based, where the users have been provided with user name and passwords to access the system. The Mining Surveillance Project was launched by Hon'ble Union Minister of State (IC) for Power, Coal, New & Renewable Energy and Mines, Shri Piyush Goyal on 15th October 2018 in New Delhi. In the mining surveillance system, the Khasra plan/Cadastral Plan were Scanned, Georeferenced, digitized and then superimposed on the satellite imagery of Cartosat-1. After the lease area was superimposed, then a 500 m buffer zone was marked all-round the mining leases. Any activities within this 500 m buffer zone and outside the lease boundary were closely monitored and any unusual activities noticed were flagged off as the trigger, which could be the cases of illegal mining. Thus initially total 296 triggers were generated across the country and same were subject to field verification by the officials. In the 2nd phase total 52 triggers for major minerals were detected and sent to the respective State Government officials for the field verification and 130 triggers for the minor minerals from the plotted leases were also detected. A user-friendly mobile app has been created which can be used by the officials to submit compliance reports of their field verification. An executive dashboard has been designed under MSS to work as a decision support system. Using this dashboard, officials can track the current status of mapping of the mining leases, reasons for triggers, the status of inspections related to triggers generated.

5. The project is having following distinct advantages:-

- Satellite based technology with minimum human Interference – thus more transparent and unbiased recording
- Remote & inaccessible areas can be approached
- Integration of information from multiple sources- satellite imagery, cadastral plan, etc.
- It will be an effective tool for monitoring of illegal mining- location, extent and trends
- Various MIS report can be generated.
- The system will be deterrent for the possible illegal mining.

6. The Mining Surveillance System is highly sustainable as numbers of State Governments are coming forward to implement the similar mining surveillance system for their minor minerals, where the incidences of illegal mining are more. It's been two years since the project was launched and it is highly accepted by the stake holders and proved to be very useful tools in curbing the illegal

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mining. In order to ensure sustainability, Indian Bureau of Mines has imparted training to 179 officials of the various State Governments. The project is highly appreciated by the Ministry of Environment, Forest and Climate Change as same would help to know how many mines are located in a particular area for the pollution load assessment etc. The project has resulted in drastically reducing the number of illegal mining as the in the first phase that is year 2016, there were 296 triggers which were sent to respective State Governments and in the year 2018, there are only 52 triggers detected in respect of major minerals leases plotted in the System. Thus system has played important role in deterrence of the illegal mining in the country. The entire system is web based and for submitting the field verification reports of the triggers, the mobile app is specifically designed for the use of the State Government officials and they have to compulsorily submit the report through mobile app only, which reduced the time and need to submit report in physical report. Thus the productivity has been increased immensely by use of the Mining Surveillance System and there is psychologically pressure in the general public that Illegal mining activities are now being monitored through the Satellite and hence if any one indulges in the same, then they will be caught and this has lead to less number of illegal mining activities.

7. The system has proved very useful tool as for the first time space technology was used in detecting the illegal mining in the Country. The following are the main outcomes.
 - a. The system of detection of illegal mining has become more transparent where the finding are based on comparing the satellite images of different time span in order to understand the changes in the ground and thus unbiased recording.
 - b. The mining area located in Remote & inaccessible areas can be approached without any difficulty.
 - c. The Mining Surveillance system involved the Integration of information from multiple sources- satellite imagery, cadastral plan, etc. and hence now all these record can be accessed just by click of the mouse.
 - d. It has been effective tool for monitoring of illegal mining- location, extent and trends can be monitored by comparing the satellite image of different years.
 - e. The various MIS reports can be easily generated now from the system within fraction of second and hence reduced the time required to prepare the reports.
 - f. The system has provided an effective deterrence mechanism for the illegal mining in the country.

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By Speed Post/Online
ANNEXURE 3

F.No. L-11011/175/2018-IA. II (M)
Government of India
Ministry of Environment, Forest and Climate Change
Impact Assessment Division

Indira Paryavaran Bhavan,
Vayu Wing, 3rd Floor, Aliganj,
Jor Bagh Road,
New Delhi-110 003

Date: 11th December, 2018

To,

The Director,
Forest Research Institute,
P.O. New Forest,
Dehradun
Email:dir_fri@icfri.org

Sub.: Hon'ble NGT Order dated 04.09.2018 in O.A No 173 of 2018 in the matter of Sudarsan Das Vs. State of West Bengal & Ors. -Reg.

Sir,

This has reference Hon'ble NGT Order dated 04.09.2018 in O.A No 173 of 2018 in the matter of Sudarsan Das Vs. State of West Bengal & Ors.(copy enclosed), wherein, the Hon'ble NGT inter-alia mentioned that " In view of above discussion, we are of the view that since the subject of mining is also required to be regulated for protection of environment and it is to take care of this requirement, MoEF&CC has issued directions from time to time under Section 3 and 5 of the Environment (Protection) Act, 1986. The MoEF&CC needs to revise its directions keeping in mind the following:"

Para 25 (v) " Need to issue SOP laying down mechanism to evaluate loss to the ecology and to recover the cost of restoration of such damage from the legal or illegal miners. Such evaluation must include cost of mining material as well as cost of ecological restoration and net present value of future eco system services forgone."

2. In the same order dated 04.09.2018 in the direction give to Gov. of West Bengal the Hon'ble NGT has inter-alia mentioned the following:

The Committee shall also get the assessment done through Indian Council of Forestry Research and Education, Dehradun of the ecological damage on account of illegal mining by incorporating the following components:

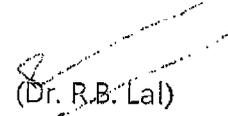
- a) *Cost of river bed material*
- b) *Cost of ecological restoration.*
- c) *Net present value of the future ecosystem services foregone.*

3. The matter was examined in the Ministry and undersigned is directed to request Forest Research Institute, Dehradun to formulate mechanism to evaluate loss to the ecology and to recover the cost of restoration of such damage from the legal or illegal miners. Such evaluation must include cost of mining material as well as cost of ecological restoration and net present value of future eco system services forgone as desired by the Hon'ble NGT.

4. In view of the above, it is requested to provide your comments within a week to enable the Ministry to take further necessary action in this regard to comply with the direction of Hon'ble NGT.

Encl: As above

Yours faithfully


(Dr. R.B. Lal)
Scientist 'E'

E-Mail: - rb.lal@nic.in
Phone/Fax: 011-24695399

Minutes of Meeting held under chairpersonship of Ms. Richa Sharma, Joint Secretary MoEF&CC on 13.09.2019 at 4:00 PM in Narmada Conference Hall, MoEF&CC for Compliance of Hon'ble NGT, New Delhi Order dated 4th September, 2018 and 13th September, 2018 in OA No. 173/2018 & O.A. No. 186/2016 in the matters titled "Sudarsan Das Vs MoEF&CC"

At the outset, Ms. Richa Sharma, Joint Secretary, MoEF&CC welcomed all participants and informed them about the directions given by Hon'ble NGT on 4th September, 2018 and 13th September, 2018 in OA No. 173/2018 & O.A. No. 186/2016 in the matters titled "Sudarsan Das Vs MoEF&CC". The List of participants is attached as Annexure-I. Relevant extracts from NGT order in WP No. 360/20016 dated 4th Sep 2018 on which compliance has to be reported is at Annexure II. The following agenda points were discussed during the meeting.

Agenda Item No. 1: Compliance of Para 25 (i) i.e. "Mining Surveillance System discussed in para 23 above be finalized in consultation with ISRO Hyderabad." of Hon'ble NGT Order dated 4.09.2018.

The representative of Ministry of Mines (MoM) informed that the Ministry of Mines & Indian Bureau of Mines (IBM) have developed Mines Surveillance System (MSS), with assistance from Bhaskaracharya Institute for space applications and Geo-informatics (BISAG), Gandhinagar and Ministry of Electronics and Information Technology (MEITY). The Mining Surveillance System (MSS) is a satellite-based monitoring system which aims to establish a regime of responsive mineral administration by curbing instances of illegal mining activity through automatic remote sensing detection technology. The MSS is limited to identify the instance of illegal mining of major minerals only. However, while developing the MSS some minor minerals mines were also taken into account as they are falling close to major mineral mining leases. The representative of Ministry of Mines informed that the grant of mining lease for minor minerals and illegal mining (major & minor minerals) comes under the control of State Government and Ministry of Mines has no role to play.

The representative of BISAG informed that the information pertaining to minor minerals of some district were also covered under Mining Surveillance System and if required the same can be extended for all the Districts. The Ministry of Mines may provide the details of district covered so far.

The representative of National Remote Sensing Centre (NRSC), ISRO informed that it is not possible to monitor the illegal mining of sand through satellite imagery and a detailed note on the same will be submitted to the MoEF&CC for onward submission to Hon'ble NGT.

Action Point:

- i) The Ministry of Mines will provide its detailed comments on the issue of development of MSS for Minor Minerals (including sand mining) so that the same can be submitted to Hon'ble NGT. It is the responsibility of MoM to convey compliance /progress report to MoEF&CC on para 25(i) by 20th September 2019, for this Ministry to submit the compliance report to Hon'ble NGT. MoM may take inputs from BISAG & ISRO as appropriate.

(Action: Ministry of Mines)

- ii) The NRSC (ISRO) will provide the detailed note to MoM by 15th September, 2019, on the possibility of monitoring illegal sand mining through satellite imagery, so that the same can be submitted to Hon'ble NGT. A copy of the note may be sent to MoEF&CC for submitting the compliance report to Hon'ble NGT.

(Action: NRSA/ISRO)

Agenda Item No. 2: Compliance of Para 25 (ii) i.e. *"Safeguards suggested in Sustainable Sand Mining Guidelines published by the MoEF&CC in the year 2016"* of Hon'ble NGT Order dated 4.09.2018.

The Director Non-Coal Mining Division informed that Hon'ble NGT initially directed to issue directions under Section 3 and 5 of EPA, 1986 but later on Hon'ble NGT directed to revise the Sustainable Sand Mining Management Guidelines (SSMMG), 2016 considering the suggestion made by Hon'ble NGT in order dated 4.09.2018. He further informed that the focus of Hon'ble NGT is on monitoring mechanism, recommendation of High Power Committee, and other NGT orders passed in similar matters. Although, the recommendations of HPC are more or less part of SSMMG, 2016, harmonization of SSMMG, 2016 with other Hon'ble NGT orders needs to be carried out. The same will be completed and reported to NGT.

Action Point: Non -Coal Mining Sector needs harmonize the SSMMG with NGT orders along with HPC recommendations within 15 days.

(Action: NCM Division, MoEF&CC)

Agenda Item No. 3: Compliance of Para 25 (iv) i.e. *"Suggestions in the High Power Committee Report"* of Hon'ble NGT Order dated 4.09.2018.

Conveyed under Agenda Item No. 2

Agenda Item No. 4: Compliance of Para 25 (iv) i.e. *"Requirement of demarcation of boundaries being published in respect of different leases in public domain"* of Hon'ble NGT Order dated 4.09.2018.

The representative of Ministry of Mines (MoM) informed that the grant of mining lease for minor minerals and monitoring of illegal mining (major & minor minerals) comes under the preview of State Government and Ministry of Mines has limited role. Further, the demarcation of the mining lease also comes under preview of concerned State Governments.

Director Non-Coal Mining, MoEF&CC informed that there is provision for submitting KML file (geographical co-ordinates on Google map) along with application submitted for Environment Clearance (EC) and accordingly, regulatory authorities while granting EC are mentioning the geographical coordinates in the EC letters as submitted by Project Proponent of the mining lease. It was suggested that demarcation of mining lease with geographical coordinates may be done at Lol stage by the concerned authority so the same records are used while granting EC by regulatory authority.

Action Point: The Ministry of Mines will provide their comments on feasibility of mentioning geographical co-ordinates at the Lol stage itself. Action taken on the suggestion in this regard shall be communicated to MoEF&CC by Ministry of Mines by 20th September, 2019. It is the responsibility of MoM to communicate the progress report to MoEF&CC for further reporting of progress to Hon'ble NGT.

(Action: Ministry of Mines)

Agenda Item No. 5: Compliance of Para 25 (v) i.e. *"Need to issue SOP laying down mechanism to evaluate loss to the ecology and to recover the cost of restoration of such damage from the legal or illegal miners. Such evaluation must include cost of mining material as well as cost of ecological restoration and net present value of future eco system services forgone"* of Hon'ble NGT Order dated 4.09.2018.

It was informed by Director, NCM-MoEF&CC that Hon'ble NGT in its order dated 5th April 2019 in the same matter vide para 57 has constituted a committee comprising of representatives of MoEF&CC, CPCB, Indian Institute of Forest Management - Bhopal, Indian Institute of Economic Growth Delhi, to prepare a scale of compensation which can be adopted in whole of the country. The

committee has submitted an interim report to Hon'ble NGT. Hon'ble NGT has directed to submit the report of the committee within 3 months.

Further, it was submitted that preparation of another SOP by another group of experts will not be in harmony of the objective, and therefore, the final report of the committee constituted for this purpose can be considered by MoEF&CC for further examination.

It was decided that MoEF&CC will consider the Committee report for further perusal in order to issue SOP for laying down mechanism to evaluate loss to the ecology and to recover the cost of restoration of damages from the legal miners.

Action Point: Dir (NCM) to provide the status of the meeting of the said Committee and time taken to finalize the report to be submitted to Hon'ble NGT.

(Action: NCM Division, MoEF&CC)

Agenda Item No. 6(a) : Compliance of Para 25 (vi) i.e. *"Need to set up a dedicated institutional mechanism for effective monitoring of sand and gravel mining which may also take care of mining done without any Environmental Clearance as well as mining done in violation of Environmental Clearance conditions"* of Hon'ble NGT Order dated 4.09.2018.

Agenda Item No. 6 (b): Compliance of Para 27 i.e. *"The direction with regard to setting up of dedicated institutional mechanism for monitoring of conditions of Environmental Clearance as granted under EIA Notification, 2006 in respect of sand and gravel mining as directed in para (vi) may be an Over-Encompassing Body to monitor the conditions of Environmental Clearance with respect to all development projects"* of Hon'ble NGT Order dated 04.09.2018.

It was informed that there are two issues

- (1) Monitoring of Illegal mining and
- (2) Monitoring of EC compliance.

The State Department of Mines and Geology is the nodal authority entrusted with the enforcement and regulation of mining operations in State including illegal mining. State Government regulates grant of mining leases and other concessions in respect of all minor minerals including sand. The enforcement of sand mining leases, controlling and abating illegal sand mining is largely vested with the State Governments. Section 23 C of The Mines and Minerals (Development and Regulation) Act, 1957 gives power to State Government to make rules for preventing illegal mining, transport and storage of minerals.

Therefore, it was decided that Ministry of Mines shall explore for further strengthening or setting up of dedicated institutional mechanism for effective monitoring of illegal sand and gravel mining, in consultation with State Governments. A note with action proposed in this this regard may be submitted by Ministry of Mines to MoEF&CC by 20th September, 2019.

(Action: Ministry of Mines)

It was further informed that SPCBs are the nodal authority in the State for dealing with cases related to Pollution or Environment Management coming under the purview of The Water (Prevention and Control of Pollution) Act, 1974, The Air (Prevention and Control of Pollution) Act, 1981 and The Environment (Protection) Act, 1986. The mandate of MoEF&CC is to have adequate mechanism to monitor compliance of EC conditions. With regards to dedicated institutional mechanisms for effective monitoring of violation of Environmental Conditions, Scientist 'E' - Monitoring cell, IA division, MoEF&CC informed that Hon'ble NGT in another matter (O. A. No. 837/2018) has passed direction vide order dated 29.04.2018 to MoEF&CC to evolve an appropriate monitoring mechanism in consideration of guidance given by Hon'ble NGT.

It was decided that the status report on the progress made in this regard may be provided by Monitoring cell-MoEF&CC, so that the same is submitted before the Hon'ble NGT for compliance of order.

(Action: Monitoring Cell, IA-Division, MoEF&CC)

Agenda Item No. 7: Compliance of Para 25 (vii) i.e. *"The Mining Department may make a provision for keeping apart at least 25% of the value of mined material for restoration of the area affected by the mining and also for compensating the inhabitants affected by the mining"* of Hon'ble NGT Order dated 4.09.2018.

The representative of Ministry of Mines informed that as per the provision of Section 9B of MMDR Act, 1957, the State Government are required to establish a trust as a non-profit body to be called as District Mineral Foundation (DMF) in any district affected by mining related operations.

Action Point: The Ministry of Mines will provide details on the provision in reference to the said direction with emphasis on the provision if any for restoration of the area affected by mining and also for compensating the inhabitants affected by mining, for onward submission to Hon'ble NGT.

(Action: Ministry of Mines)

Agenda Item No. 8: Compliance of Para 25 (viii) i.e. *"One of the conditions of every lease of mine or minerals would be that there will be independent environmental audit"*

at least once in a year by reputed third party entity and report of such audit be placed in public domain" of Hon'ble NGT Order dated 4.09.2018."

It was informed that the mining lease is done between State Government Mining department and project proponent. Therefore, for compliance to include the said condition in the lease deed with regard to independent environmental audit at least once in a year as per Hon'ble NGT order needs to be complied by the concern State Government Department.

Action Point: Ministry of mines may take appropriate follow-up action in this regard with the concerned State Government Departments and provide the progress/compliance status in this regard.

(Action: Ministry of Mines)

Agenda Item No. 9: Compliance of Para 25 (ix) i.e. "In the course of such environmental audit, a three-member committee of the local inhabitants will also be associated. Composition of three member's committee may preferably include ex-servicemen, former teacher and former civil servant. The Committee will be nominated by the District Magistrate" of Hon'ble NGT Order dated 4.09.2018.

It was informed that the instant order delegates power for constitution of committee to District Magistrate. Therefore, Policy division of MoEF&CC may explore the feasible option to ensure environmental audit.

Action Point: Policy division- MoEF&CC will examine the issue and inform on the progress in this regards to NCM division, by 20th September, 2019.

(Action: IA-Policy Division/MoEF&CC)

Agenda Item No. 10: Compliance of Para 26 i.e. "Such steps may be worked out within two months and circulated to all States. The Mechanism may provide for a report of implementation from the concerned States every quarter. The matter may be reviewed after every six months by the MoEF&CC" of Hon'ble NGT Order dated 4.09.2018.

Chairperson requested all concerned to submit their inputs positively by 20th Sept. 2019 to Director, NCM for compilation of the status report on each of the points above. The progress report should be submitted to Hon'ble NGT at the earliest, preferably by 1st week of October, 2019.

The Meeting end with thanks to chair.

4.7

Annexure-1

ATTENDANCE SHEET

Meeting date 13.08.2019

| S.NO | Name & Designation | CONTACT NO / email | SIGNATURE |
|------|--|---|------------|
| 1. | Rucha Charanya JS MO & FCC | srucha@ias. nic.in | Rucha |
| 2. | | | |
| 3. | Sundeep Director NCM | 9433080104 sundeep.moe@gmail.com | Sundeep |
| 4. | Shashi Kumar Kollada Director, NCM | 9205219757 Shashi.kr@gov.in | Shashi |
| 5. | Dr. V.M. Chandany Scientist / Engineer 'G' Addl Dy, MO & FCC | 9434754217 chandany_vmv@nic.in | Chandany |
| 6. | Dr. Shanti Rai Chandany Addl Dy, MO & FCC | 9971016377 shanti.rai@nic.in | Shanti |
| 7. | VL Ravi Kulkari DIG (WL) | 9021. Kulkari@ nic.in | Ravi |
| 8. | RAVI KUMAR Legal Adtl. (WL) | 9891536356 ravi.kr85@nic.in, | Ravi |
| 9. | Pushpender Gaur RCOM | 9680877223 ro-delhi@abm.gov.in | Pushpender |
| 10. | T P SINGH Director | 9929945001 info@bisaj.gujarat. gov.in | T P Singh |
| 11. | TUSHAR RAI Sr. Con., MeitY | 7838604526 tushar@meity.gov.in | Tushar |
| 12. | Anil Vashantha SC/DI | 8860855557 anil.vashantha@nic.in | Anil |
| 13. | Dr. Ramesh A RAIC | ramesh.anguluri@gov.in | Ramesh |
| 14. | Dr. Thillai Sivakumar Scientist 'B' | thillai.sivakumar@ gov.in | Thillai |
| 15. | Moumita Knight Sci-C | m.knight@gov.in | Moumita |

ANNEXURE-II

DIRECTIONS TO MOEF & CC

- (i) Mining Surveillance System discussed in para. 23 above be finalized in consultation with ISRO Hyderabad.
- (ii) Safeguards suggested in Sustainable Sand Mining Guidelines published by the MOEF&CC in the year 2016.
- (iii) Suggestions in the High Power Committee report.
- (iv) Requirement of demarcation of boundaries being published in respect of different leases in public domain.
- (v) Need to issue SOP laying down mechanism to evaluate loss to the ecology and to recover the cost of restoration of such damage from the legal or illegal miners. Such evaluation must include cost of mining material as well as cost of ecological restoration and net present value of future eco system services forgone.
- (vi) Need to set up a dedicated institutional mechanism for effective monitoring of sand and gravel mining which may also take care of mining done without any Environmental Clearance as well as mining done in violation of Environmental Clearance conditions.
- (vii) The Mining Department may make a provision for keeping apart atleast 25% of the value of mined material for restoration of the area affected by the mining and also for compensating the inhabitants affected by the mining.
- (viii) One of the conditions of every lease of mine or minerals would be that there will be independent environmental audit atleast once in a year by reputed third party entity and report of such audit be placed in public domain.
- (ix) In the course of such environmental audit, a three-member committee of the local inhabitants will also be associated. Composition of three members committee may preferably include ex-servicemen, former teacher and former civil servant. The Committee will be nominated by the District Magistrate.

~~XXXXXXXXXX~~

5.1

23. Offences by companies.—(1) If the person committing an offence under this Act or any rules made thereunder is a company, every person who at the time the offence was committed was in charge of, and was responsible to the company for the conduct of the business of the company, shall be deemed to be guilty of the offence and shall be liable to be proceeded against and punished accordingly:

Provided that nothing contained in this sub-section shall render any such person liable to any punishment, if he proves that the offence was committed without his knowledge or that he exercised all due diligence to prevent the commission of such offence.

(2) Notwithstanding anything contained in sub-section (1), where an offence under this Act has been committed with the consent or connivance of any director, manager, secretary or other officer of the company, such director, manager, secretary or other officer shall be deemed to be guilty of that offence and shall be liable to be proceeded against and punished accordingly.

Explanation.—For the purposes of this section,—

(a) “company” means any body corporate and includes a firm or other association of individuals;

(b) “director” in relation to a firm means a partner in the firm.

¹[23A. Compounding of offences.—(1) Any offence punishable under this Act or any rule made thereunder may, either before or after the institution of the prosecution, be compounded by the person authorised under section 22 to make a complaint to the court with respect to that offence, on payment to that person, for credit to the Government, of such sum as that person may specify:

Provided that in the case of an offence punishable with fine only, no such sum shall exceed the maximum amount of fine which may be imposed for that offence.

(2) Where an offence is compounded under sub-section (1), no proceeding or further proceeding, as the case may be, shall be taken against the offender in respect of the offence so compounded, and the offender, if in custody, shall be released forthwith.]

²[23B. Power to search.—If any gazetted officer of the Central or a State Government authorised by the Central Government ³[or a State Government, as the case may be,] in this behalf by general or special order has reason to believe that any mineral has been raised in contravention of the provisions of this Act or rules made thereunder or any document or thing in relation to such mineral is secreted in any place ³[or vehicle], he may search for such mineral, document or thing and the provisions of section 100 of the Code of Criminal Procedure, 1973 (2 of 1974), shall apply to every such search.]

⁴[23C. Power of State Government to make rules for preventing illegal mining, transportation and storage of minerals.—(1) The State Government may, by notification in the Official Gazette, make rules for preventing illegal mining, transportation and storage of minerals and for the purposes connected therewith.

(2) In particular and without prejudice to the generality of the foregoing power, such rules may provide for all or any of the following matters, namely:—

(a) establishment of check-posts for checking of minerals under transit;

(b) establishment of weigh-bridges to measure the quantity of mineral being transported;

(c) regulation of mineral being transported from the area granted under a prospecting licence or a mining lease or a quarrying licence or a permit, in whatever name the permission to excavate minerals, has been given;

(d) inspection, checking and search of minerals at the place of excavation or storage or during transit;

(e) maintenance of registers and forms for the purposes of these rules;

1. Ins. by Act 56 of 1972, s. 13 (w.e.f. 12-9-1972).
2. Ins. by Act 25 of 1994, s. 9 (w.e.f. 25-1-1994).
3. Ins. by Act 38 of 1999, s. 18 (w.e.f. 18-12-1999).
4. Ins. by s. 19, *ibid.* (w.e.f. 18-12-1999).

(f) the period within which and the authority to which applications for revision of any order passed by any authority be preferred under any rule made under this section and the fees to be paid therefor and powers of such authority for disposing of such applications; and

(g) any other matter which is required to be, or may be, prescribed for the purpose of prevention of illegal mining, transportation and storage of minerals.

(3) Notwithstanding anything contained in section 30, the Central Government shall have no power to revise any order passed by a State Government or any of its authorised officers or any authority under the rules made under sub-sections (1) and (2).]

24. Power of entry and inspection.—(1) For the purpose of ascertaining the position of the working, actual or prospective, of any mine or abandoned mine or for any other purpose connected with this Act or the rules made thereunder, any person authorised by the ¹[Central Government or a State Government] in this behalf, by general ²*** order, may—

(a) enter and inspect any mine;

(b) survey and take measurements in any such mine;

(c) weigh, measure or take measurements of the stocks of minerals lying at any mine;

(d) examine any document, book, register, or record in the possession or power of any person having the control of, or connected with, any mine and place marks of identification thereon, and take extracts from or make copies of such document, book, register or record;

(e) order the production of any such document, book, register, record, as is referred to in clause (d); and

(f) examine any person having the control of, or connected with, any mine.

(2) Every person authorised by the ¹[Central Government or a State Government] under sub-section (1) shall be deemed to be a public servant within the meaning of section 21 of the Indian Penal Code, and every person to whom an order or summons is issued by virtue of the powers conferred by clause (e) or clause (f) of that sub-section shall be legally bound to comply with such order or summons, as the case may be.

³**[24A. Rights and liabilities of a holder of prospecting licence or mining lease.**—(1) On the issue of a ⁴[reconnaissance permit, prospecting licence or mining lease] under this Act and the rules made thereunder, it shall be lawful for the ⁵[holder of such permit, licence or lease], his agents or his servants or workmen to enter the lands over which ⁶[such permit, lease or licence had been granted] at all times during its currency and carry out all such ⁷[reconnaissance, prospecting or mining operations] as may be prescribed:

Provided that no person shall enter into any building or upon an enclosed court or garden attached to a dwelling-house (except with the consent of the occupier thereof) without previously giving such occupier at least seven days' notice in writing of his intention to do so.

(2) The holder of a ⁴[reconnaissance permit, prospecting licence or mining lease] referred to in sub-section (1) shall be liable to pay compensation in such manner as may be prescribed to the occupier of the surface of the land granted under ⁸[such permit, licence or lease] for any loss or damage which is likely to arise or has arisen from or in consequence of the ⁹[reconnaissance, mining or prospecting operations].

1. Subs. by Act 38 of 1999, s. 20, for "Central Government" (w.e.f. 18-12-1999).

2. The words "or special" omitted by s. 20, *ibid.* (w.e.f. 18-12-1999).

3. Ins. by Act 37 of 1986, s. 17 (w.e.f. 10-2-1987).

4. Subs. by Act 38 of 1999, s. 21, for "prospecting licence or mining lease" (w.e.f. 18-12-1999).

5. Subs. by s. 21, *ibid.*, for "holder of such licence or lease" (w.e.f. 18-12-1999).

6. Subs. by s. 21, *ibid.*, for "such lease or licence had been granted" (w.e.f. 18-12-1999).

7. Subs. by s. 21, *ibid.*, for "prospecting or mining operations" (w.e.f. 18-12-1999).

8. Subs. by s. 21, *ibid.*, for "such licence or lease" (w.e.f. 18-12-1999).

9. Subs. by s. 21, *ibid.*, for "mining or prospecting operations" (w.e.f. 18-12-1999).

ANNEXURE - 5

ANNEXURE

भारत सरकार
अन्तरिक्ष विभाग
राष्ट्रीय सुदूर संवेदन केन्द्र
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No.NRSC:RSA:11:19

September 23, 2019

Sub : Action item from the meeting held on 13 / 08/2019 regarding possibilities of monitoring sand mining using satellite data

Ref : F NO. Z-11012/175/2018-1A dated 6, Sep,2019

Sir,

With reference to above subject and reference number regarding possibility of monitoring illegal sand mining using satellite imagery, the followings points are brought to your kind notice:-

1. Illegal sand mining areas are difficult to delineate conclusively from satellite data because the sand has been high reflecting body and mined area changes do not have unique spectral signatures in the pre and post satellite images.
2. It is difficult to establish the illegality since many of the mine boundaries are not accurately geofenced using DGPS coordinates. Hence changes beyond the lease hold boundary becomes difficult to establish
3. Some morphological changes can be observed within the sand bodies but to establish its legality from satellite data becomes difficult because these can happen due to river dynamics especially during flood and lean flow. The natural river erosion and deposition can be mistaken for mining or the mining area gets obliterated during the flood flow of the river
4. Accurate depth of excavation of sand is difficult to establish from Digital Elevation Model derived from stereoscopic satellite data to understand the volume of mined material

Yours faithfully,

P.V.N. Rao
(P.V.N. Rao) 23/9/19

To
Shri Sundeep
Director, Ministry of Environment Forest and Climate change (IA Division)
3 floor Vayu Block, Indira Paryavaran Bhavan
Jor Bagh Road, Aliganj, New Delhi-110033

CC : Director, NRSC
Dr V.M.Chaudhary, Scientist SG, NRSC, Delhi
Dr K Vinod Kumar, Gr.Head, GSG/RSA

JD(AV)

Shri Sundeep
23/9/19

भारतीय अंतरिक्ष अनुसंधान संगठन



Indian Space Research Organisation

~~ANNEXURE-6~~

11

SUNDEEP - <sundeep.moef@gmail.com>

11.1



Compliance of NGT Order-Reg

2 messages

30 September 2019 at 19:25

Amit Vashishtha <amit.vashishtha@nic.in>
To: "Dr. Niranjn Kumar Singh" <jse-mines@nic.in>
Cc: JS <sricha@ias.nic.in>, DIR-NCM <sundeep.moef@gmail.com>

Dear Sir,

Please find the attached herewith D. O. No. L-11011/175/2018-IA.II(M) dated 30.09.2019 for compliance of NGT Order dated 4th September, 2018 and 13th September, 2018 in O.A. No. 173/2018 & O.A.No. 186/2016 in the matter titled "Sudarsan Das Vs MoEF&CC".

With Regards

Amit Vashishtha
Scientist 'D'
MoEF&CC

2 attachments

D.O Letter.pdf
313K

MoM-13.08.2019.pdf
6821K

10 October 2019 at 17:04

SUNDEEP - <sundeep.moef@gmail.com>
To: Shruti Mishra <shruti05mishra@gmail.com>

[Quoted text hidden]

with regards

Sundeep
Scientist 'F' & Member Secretary (EAC-NCM)
A-106, Agni Tower,
Indira Paryavaran Bhawan, Aligunj
Jorbag, New Delhi - 110003
LL - +91 11 2469 5339

2 attachments

D.O Letter.pdf
313K

MoM-13.08.2019.pdf
6821K

10/18/2019

Gmail - Reminder-2: Compliance of NGT Order-Reg

126



SUNDEEP - <sundeep.moef@gmail.com>

112

Reminder-2: Compliance of NGT Order-Reg

1 message

Amit Vashishtha <amit.vashishtha@nic.in>

9 October 2019 at 17:12

To: jse-mines@nic.in

Cc: JS <sricha@ias.nic.in>, DIR-NCM <sundeep.moef@gmail.com>, Pushpinder Gaur <pushpgaur@rediffmail.com>

Dear Sir,

This with reference to trailing mail wherein it was requested to provide the reply/comments of Ministry of Mines for compliance of Hon'ble NGT Order dated 13.09.2018. The information is still awaited and Ministry is unable to formulate the reply to be filed in Hon'ble NGT. In this regard it is requested to arrange to provide the requisite information at the earliest.

With Regards

Amit Vashishtha
Scientist 'D'
MoEF&CC

On 09/30/19 07:25 PM, "Amit Vashishtha" <amit.vashishtha@nic.in> wrote:

Dear Sir,

Please find the attached herewith D. O. No. L-11011/175/2018-IA.II(M) dated 30.09.2019 for compliance of NGT Order dated 4th September, 2018 and 13th September, 2018 in O.A. No. 173/2018 & O.A.No. 186/2016 in the matter titled "Sudarsan Das Vs MoEF&CC".

--

With Regards

Amit Vashishtha
Scientist 'D'
MoEF&CC

--

With Regards

Amit Vashishtha
Scientist 'D'
MoEF&CC

No. 8/3/2019-M.V
Government of India
Ministry of Mines

Shastri Bhawan, New Delhi
Dated the 24 October, 2019

OFFICE MEMORANDUM

Subject: Compliance of Hon'ble NGT, New Delhi Order dated 04.09.2018 and 13.09.2018 in O.A. No. 173/2018 & O.A. No. 186/2016 the matter titled "Sudarsan vs. MoEF&CC"-regarding

The undersigned is directed to refer to M/o Environment Forest & Climate Change's D.O. letter No. L-11011/175/2018-IA.II (M) dated 30.09.2019 and 18.10.2019 on subject mentioned above. In this regard, status of compliance on the directions pertaining to this Ministry is enclosed.

Encl. As above


(Dr. Veena Kumari D.)
Director
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The Joint Secretary
(Kind attention: Mrs. Richa Sharma)
M/o Environment Forest and Climate Change
Indira Paryavaran Bhawan, Jor Bagh Road
New Delhi-03

Urgent

Sis (NCM)

Richa
25/10/19

JS (AV)

Plz put up urgently.

Richa
25/10/19

AS
1/11/19

KA (SM)

Status of compliance on the directions pertaining to Ministry of Mines

Point-wise inputs on the Agenda Items pertaining to Ministry of Mines are given as below:

1. **Action point on Agenda item 1 (i):** Mining Surveillance System (MSS) is Geo Spatia Configuration of Mining Leases (a closed boundary string) database which can be superimposed over satellite imagery. Thus it is a generic system on GIS platform which can be used for any mineral without any limitation. The system checks a region of 500 meters around the existing mining lease boundary to search for any unusual activity which is likely to be illegal mining. Any discrepancy if found is flagged-off as a trigger.

It was developed by Ministry of Mines through Indian Bureau of Mines (IBM) in collaboration with Ministry of Electronics and Information Technology (MeitY) and Bhaskaracharya Institute for Space Applications and Geo-informatics (BISAG) and launched in Oct 2016. This has been developed to facilitate the State Governments in curbing instances of illegal mining.

To initiate the System Mining Leases of minerals administered under MCDR were plotted. Thereafter the State Governments were also asked to use the MSS by plotting mining leases of minor mineral on this platform for detecting/curbing illegal mining. Various DO letter has been sent by the Ministry for training/capacity building of States, as a result various States have deputed their officers to have training and plotting leases and have hands-on training/experience of MSS. State wise details is Annexed.

2. **Action point on Agenda item 4:** Ministry of mines has no role on issuing of LOI. Issuing LOI is state subject and there was already a provision for precise demarcation of the concession area in MCR 1960. In case of auctioning of mineral concession blocks the precise demarcation is mentioned in notification and tender document as per extant statutory provisions.

Grant of Mining Leases, illegal mining, precise demarcation of the mining lease boundary comes under the sole control of the State Government.

3. **Action point on Agenda item 6(b):** Mechanism for handling illegal sand mining is State Subject as per section 23C of MMDR Act 1957. Hence Ministry of Mines has no comments to offer.
4. **Action point on Agenda item 7:** Section 9B introduced through the MMDR Amendment Act, 2015, prescribes the establishment of District Mineral Foundation (DMF) in any district affected by mining related operations, the object of which is to work for the interest and benefit of persons, and areas affected by mining related operations. Directions have been issued under section 20A of Mines and Minerals (Development and Regulation) (MMDR)

Act on 16.09.2015 to all States to incorporate the Pradhan Mantri Khanij Kshetra Kalyan Yojana(PMKKKY) into the rules framed by them for the District Mineral Foundations (DMFs).

129

PMKKKY is a scheme for transforming the living standards / social upliftment of people and development of areas affected by the Mining related operations. At least 60% of PMKKKY funds are being utilized for projects in high priority areas like:

(i) drinking water supply; (ii) environment preservation and pollution control measures; (iii) health care (iv) education; (v) welfare of women and children; (vi) welfare of aged and disabled people; (vii) skill development; and (viii) Sanitation.

The rest of the funds are utilized for the carrying out projects in the field of: (i) physical infrastructure; (ii) irrigation; (iii) energy and watershed development; and (iv) any other measures for enhancing environmental quality in mining district.

As on 30th August 2018 more than Rs. 31, 830 Crores has been collected under this scheme. Total 13,3217 projects have been taken up under the scheme out of which 45,517 projects have been completed. Total 9,555 crore has been spent so far.

5. **Action point on Agenda item 8:** Mining Lease deed is executed between the State Government and the Lessee. One of the pre-requisite of getting Mining Lease executed is the EC issued by MoEF&CC, irrespective of the type of mineral whether minor or other. Besides this, one of the important conditions of EC is the regular monitoring of various environmental parameters and its report submissions. MoEF&CC may issue necessary directions to the State Govts. to incorporate the provision of environmental audit in the lease deed.

| Training and Lease Plotting Status of MSS to the States for Minor Minerals | | | | | | | | | | | |
|--|------------------------|--|--|-----------------------------|--------------------------|-------|---|-------------------------|---|---|--|
| Sr. No. | State/UT | Scheduled Dates for Training/ Capacity Building | Date of Imparting Training/ Capacity Building | Number of officers attended | | | Lease plotting Status | | | | Remarks |
| | | | | Mining Dept. | IT/ Remote Sensing Dept. | Total | Name of Districts for which minor mineral Data was given to BISAG | Name of minor minerals | Number of mines for which data was given to BISAG | Number of mines, which were plotted/validated in presence of State Government Officials | |
| 1 | Andaman & Nicobar | 8th June to 9th June 2017 at Kolkata Workshop | 8th June to 9th June 2017 at Kolkata Workshop | 1 | | 1 | | | | | |
| 2 | Andhra Pradesh | 21st August to 25th August 2017 | 21st August to 24th August 2017 | 2 | 1 | 3 | Kurnool, Chittoor | Quartz, Ochre, Sand etc | 71 | 71 | |
| | | 29th May & 30th May 2017, Workshop at Bangalore | 29th May & 30th May 2017, Workshop at Bangalore | 7 | 0 | 7 | | | | | |
| | | 3rd July 2017, MSS Workshop at New Delhi | 3rd July 2017, MSS Workshop at New Delhi | 1 | 0 | 1 | | | | | |
| 3 | Arunachal Pradesh | 8th June to 9th June 2017 at Kolkata | 8th June to 9th June 2017 at Kolkata | 1 | 0 | 1 | | | | | |
| | | 23rd October to 25th October 2017 | Nil | | | | | | | | |
| 4 | Assam | 8th June to 9th June 2017 at Kolkata | 8th June to 9th June 2017 at Kolkata | 4 | 0 | 4 | | | | | |
| | | 19th September to 26th September 2017 | 20th Sept to 22nd Sept 2017 | 3 | 0 | 3 | Karbianglong, Dimasaynao, Kamrup, Goalpara, Sonitpur | Sand and Gravel | 7 | Nil | The data brought was not the Cadastral Plan, only GPS Coordinates were given for plotting. Hence these coordinates were falling at some other places and without the cadastral plan, it was not validated. The Assam officials informed that in the case of Assam, it is the Forest Department that grant the lease and not the mining department and hence the data or cadastral plan is not available with them. |
| 5 | Bihar | 8th June to 9th June 2017 at Kolkata | 8th June to 9th June 2017 at Kolkata | 1 | 0 | 1 | | | | | |
| | | 9th October to 12th October 2017 | 9th October to 12th October 2017 | 1 | 1 | 2 | Sheikhpura & Aurangabad | Stone | 8 Sheikhpura and 2 Aurangabad | 8 Sheikhpura and 2 Aurangabad | |
| | | 3rd July 2017, MSS Workshop at New Delhi | 3rd July 2017, MSS Workshop at New Delhi | 1 | 0 | 1 | | | | | |
| 6 | Chandigarh | | | | | | | | | | |
| 7 | Chhattisgarh | 24th July to 28th July 2017 | 24th July to 28th July 2017 | 4 | 1 | 5 | Raigarh and Bilaspur | Dolomite | 11 Raigarh District and 10 Bilaspur | 11 Raigarh District and 10 Bilaspur | |
| | | 15th May to 16th May 2017, Workshop at Udaipur | 15th May to 16th May 2017, Workshop at Udaipur | 6 | | 6 | | | | | |
| | | 29th May to 29th May 2017, Workshop at Bangalore | 29th May to 29th May 2017, Workshop at Bangalore | 5 | | 5 | | | | | |
| | | 3rd July 2017, MSS Workshop at New Delhi | 3rd July 2017, MSS Workshop at New Delhi | | | | | | | | |
| 8 | Dadra and Nagar Haveli | | | | | | | | | | |
| 9 | Daman and Diu | | | | | | | | | | |
| 10 | Delhi | | | | | | | | | | |
| 11 | Goa | 29th May to 29th May 2017, Workshop at Bangalore | 29th May to 29th May 2017, Workshop at Bangalore | 5 | 0 | 5 | | | | | |
| | | 9th October to 12th October 2017 | 9th October to 12th October 2017 | 2 | 0 | 2 | North Goa | Stone, Murrum, Lignite | 29 | 29 | |

| | | | | | | | | | | | |
|----|-------------------|---|---|----|---|----|---|-----------------------------------|------|-------------------------|--|
| 12 | Gujarat | 7 th August to 11 th August 2017 | 8 th August to 11 th August and still plotting going on | 4 | 2 | 6 | Ahmednagar, Amrali, Bharuch, Bhavnagar, Boad, Duvbhuni Dwarka, Gandhinagar, Jamnagar, Koch, Navsari, Surendravnagar, Valsad, Malisana | Sand, Granite plus other minerals | 1026 | Plotting Still going on | Bisag being State Government Institute located in Gandhinagar, so these officer keep visiting in order to get these lease plotted |
| | | 15 th may to 16 th may 2017, Workshop at Udaipur | 15 th may to 16 th may 2017, Workshop at Udaipur | 1 | 1 | 2 | | | | | |
| | | 3 rd July 2017, MSS Workshop at New Delhi | 3 rd July 2017, MSS Workshop at New Delhi | 0 | 1 | 1 | | | | | |
| 13 | Haryana | 15 th may to 16 th may 2017, Workshop at Udaipur | 15 th may to 16 th may 2017, Workshop at Udaipur | 4 | 0 | 4 | | | | | |
| | | 8 th June to 9 th June 2017 at Kolkata Workshop | 8 th June to 9 th June 2017 at Kolkata Workshop | 2 | 0 | 2 | | | | | |
| | | 11 th September to 16 th September | 11 th Sept to 14 th Sep 2017 | 4 | 0 | 4 | Mahendargarh and Rewari | Stone and Sand | 37 | 37 | |
| | | 3 rd July 2017, MSS Workshop at New Delhi | 3 rd July 2017, MSS Workshop at New Delhi | 1 | 0 | 1 | | | | | |
| 14 | Himachal Pradesh | 15 th may to 16 th may 2017, Workshop at Udaipur | 15 th may to 16 th may 2017, Workshop at Udaipur | 1 | 0 | 1 | | | | | |
| | | 9 th October to 12 th October 2017 | Nil | | | | | | | | |
| 15 | Jammu and Kashmir | 21 st August to 25 th August 2017 | 9 th July to 11 th July 2017 | 2 | 0 | 2 | | | | | During the visit 17 maps of major minerals were validated. Officials of J & K informed that due to Minor mineral auction, they will not be able to come to BISAG on scheduled dated i.e 21 st to 25 th Aug 2017 |
| | | 29 th May & 30 th May 2017, Workshop at Bangalore | 29 th May & 30 th May 2017, Workshop at Bangalore | 2 | 0 | 2 | | | | | |
| 16 | Jharkhand | 8 th June to 9 th June 2017 at Kolkata Workshop | 8 th June to 9 th June 2017 at Kolkata Workshop | 4 | 0 | 4 | | | | | |
| | | 11 th September to 16 th September | 11 th Sept to 15 th Sep 2017 | 4 | 2 | 6 | Saraikila and Sahibganj | Stone | 51 | 51 | |
| 17 | Karnataka | 29 th May & 30 th May 2017, Workshop at Bangalore | 29 th May & 30 th May 2017, Workshop at Bangalore | 16 | 0 | 16 | | | | | |
| | | 19 th September to 26 th September 2017 | 19 th Sept to 22 nd Sep 2017 | 2 | 1 | 3 | Chikkaballapur | Granite and Building Stone | 99 | 99 | |
| 18 | Kerala | 29 th May & 30 th May 2017, Workshop at Bangalore | 29 th May & 30 th May 2017, Workshop at Bangalore | 1 | 0 | 1 | | | | | |
| | | | 12 th Nov to 15 th Nov 2017 | 1 | 0 | 1 | Thiruvananthapuram | Granite and Building Stone | 16 | 16 | |
| 19 | Lakshwadeep | | | | | | | | | | |
| 20 | Madya Pradesh | 14 th August to 18 th August 2017 | 16 th August to 18 th August 2017 | 2 | 0 | 2 | Badwam | Stone/Gitti | 61 | 29 | Single Khassa lease map have been brought, which can not be plotted and hence officer of MP have been requested to send the complete khassa maps. During the second visit from 25 th Oct to 27 th Oct, official had provided the required map and then plotting and validation of 29 lease was done. |

| | | | | | | | | | | | | |
|----|-------------|---|---|----|---|----|---|--|------|----|--|---|
| | | 29th May & 30th May 2017, Workshop at Bangalore | 29th May & 30th May 2017, Workshop at Bangalore | 1 | 0 | 1 | | | | | | |
| | | 8th June to 9th June 2017 at Kolkata Workshop | 8th June to 9th June 2017 at Kolkata Workshop | 1 | 0 | 1 | | | | | | |
| | | 3rd July 2017, MSS Workshop at New Delhi | 3rd July 2017, MSS Workshop at New Delhi | 1 | 0 | 1 | | | | | | |
| 21 | Maharashtra | 15th May to 16th May 2017 Workshop at Udaipur | 15th May to 16th May 2017, Workshop at Udaipur | 0 | 1 | 1 | | | | | | |
| | | 8th June to 9th June 2017 at Kolkata Workshop | 8th June to 9th June 2017 at Kolkata Workshop | 4 | 0 | 4 | | | | | | |
| | | 11th September to 16th September | 11th Sept to 14th Sep 2017 | 2 | 0 | 2 | Wardha, Beed, Palghar | Stone | 6 | 6 | | |
| 22 | Manipur | 8th June to 9th June 2017 at Kolkata Workshop | 8th June to 9th June 2017 at Kolkata Workshop | 1 | 0 | 1 | | | | | | |
| | | 23th October to 25th October 2017 | NR | | | | | | | | | |
| 23 | Meghalaya | 23th October to 25th October 2017 | Nil | | | | | | | | | |
| 24 | Mizoram | 8th June to 9th June 2017 at Kolkata Workshop | 8th June to 9th June 2017 at Kolkata Workshop | 2 | 0 | 2 | | | | | | |
| | | 23th October to 25th October 2017 | | | | | | | | | | |
| 25 | Nagaland | 8th June to 9th June 2017 at Kolkata Workshop | 8th June to 9th June 2017 at Kolkata Workshop | 1 | 0 | 1 | | | | | | |
| | | 23th October to 25th October 2017 | 23rd October 2017 | 1 | 0 | 1 | | | | | | Official visited informed that in the Nagaland State, so far No minor minerals granted by the Government and hence no data is available for plotting. |
| 26 | Odisha | 8th June to 9th June 2017 at Kolkata Workshop | 8th June to 9th June 2017 at Kolkata Workshop | 1 | 0 | 1 | | | | | | |
| | | 21st August to 30th August 2017 | 21st September to 21st September 2017 | 1 | 0 | 1 | Gajapati | Decorative Stone | 1 | 1 | | |
| | | 3rd July 2017, MSS Workshop at New Delhi | 3rd July 2017, MSS Workshop at New Delhi | | | | | | | | | |
| 27 | Punjab | 15th May to 16th May 2017 Workshop at Udaipur | 15th May to 16th May 2017, Workshop at Udaipur | 2 | 0 | 2 | | | | | | |
| | | 4th September to 9th September 2017 | 6th September to 8th Sept 2017 | 2 | 0 | 2 | Pathankot | Gravel | 10 | 10 | | |
| 28 | Puducherry | | | | | | | | | | | |
| 29 | Rajasthan | 15th May to 16th May 2017 Workshop at Udaipur | 15th May to 16th May 2017, Workshop at Udaipur | 14 | 0 | 14 | | | | | | |
| | | 4th September to 9th September 2017 | 4th September to 6th Sept 2017 | 4 | 0 | 4 | Ajmer, Banswara, Bारा, Barmer, Udhwa, Dausa, Chittorgarh, Dungarpur, Jaipur, Jaisalmer, Jaore, Jhunjhunu, etc | Quartz, Feldspars, Granite, Stone & Metals | 9810 | | | All points were in GIS with Coordinates, so straight way plotted |
| | | 3rd July 2017, MSS Workshop at New Delhi | 3rd July 2017, MSS Workshop at New Delhi | 3 | 0 | 3 | | | | | | |
| 30 | Sikkim | 23th October to 25th October 2017 | Nil | | | | | | | | | |
| | | 3rd July 2017, MSS Workshop at New Delhi | 3rd July 2017, MSS Workshop at New Delhi | 1 | 0 | 1 | | | | | | |
| 31 | Tamil Nadu | 31st July to 4th August 2017 | 31st July to 4th August 2017 | 3 | 2 | 5 | Medak | Quartz, Feldspars, Granite, Stone & Metals | 40 | 40 | | |

| | | | | | | | | | | | |
|-------|---------------|---|---|-----|----|-----|-------------|--------------------------|-------------------------------|-------------------------------|---------------------------------------|
| | | 29th May & 30th May 2017, Workshop at Bangalore | 29th May & 30th May 2017, Workshop at Bangalore | 5 | 0 | 5 | | | | | |
| 32 | Tripura | 8th June to 9th June 2017 at Kolkata Workshop | 8th June to 9th June 2017 at Kolkata Workshop | 1 | 0 | 1 | | | | | |
| | | 23th October to 25th October 2017 | Nil | | | | | | | | |
| 33 | Tamil Nadu | 21 August to 25 August 2017 | 21 August to 24 August | 2 | 0 | 2 | Kanchipuram | Stone | 35 | 35 | |
| | | 29th May & 30th May 2017, Workshop at Bangalore | 29th May & 30th May 2017, Workshop at Bangalore | 7 | 0 | 7 | | | | | |
| | | 3rd July 2017, MSS Workshop at New Delhi | 3rd July 2017, MSS Workshop at New Delhi | 2 | 0 | 2 | | | | | |
| 34 | Uttarakhand | 4th September to 10th September 2017 | Nil | | | | | | | | No officials from the State Attended. |
| 35 | Uttar Pradesh | 17th July to 21st July 2017 | 17th July to 21st July 2017 | 3 | 2 | 5 | Sonbhadara | Dolostone and sand/murum | 61 Dolostone and 5 sand/murum | 61 Dolostone and 5 sand/murum | |
| | | 8th June to 9th June 2017 at Kolkata Workshop | 8th June to 9th June 2017 at Kolkata Workshop | 2 | 0 | 2 | | | | | |
| | | 3rd July 2017, MSS Workshop at New Delhi | 3rd July 2017, MSS Workshop at New Delhi | 1 | 0 | 1 | | | | | |
| 36 | West Bengal | 8th June to 9th June 2017 at Kolkata Workshop | 8th June to 9th June 2017 at Kolkata Workshop | 1 | 0 | 1 | | | | | |
| | | 9th October to 12th October 2017 | Nil | | | | | | | | |
| Total | | | | 164 | 15 | 179 | | | | | |

Minutes of Meeting held under chairmanship of Shri Sujit Kumar Bajpayee, Joint Secretary MoEF&CC on 17.12.2019 at 2:30 PM in Narmada Conference Hall, MoEF&CC for Compliance of Hon'ble NGT, New Delhi Order dated 4th September, 2018 and 13th September, 2018 in OA No. 173/2018 & O.A. No. 186/2016 in the matters titled "Sudarsan Das Vs MoEF&CC"

At the Outset the Dr. Sujit Bajpayee, Joint Secretary, MoEF&CC welcomed all the participants and informed them about the direction given by Hon'ble NGT on 4th September, 2018 and 13th September, 2018 in OA No. 173/2018 & O.A. No. 186/2016 in the matters titled "Sudarsan Das Vs MoEF&CC". The following agenda points were discussed during the meeting.

Agenda Item No. 1: Compliance of Para 25 (i) i.e. "Mining Surveillance System (MSS) discussed in para 23 above be finalized in consultation with ISRO Hyderabad." of Hon'ble NGT Order dated 4.09.2018.

It was briefed to the participants that in this regard a meeting was conducted on 13.08.2019 with representatives of Ministry of Mines, BISAG and ISRO, Hyderabad and were asked to provide their comments. The Ministry of Mines in its letter dated 24.10.2019 informed that "To initiate the System Mining Leases of minerals administered under MCDR were plotted. Thereafter the **State Governments were also asked to use the MSS by plotting mining lease of minor mineral on this platform for detecting/curbing illegal mining.** Various DO letter have been sent by the Ministry for training/capacity building of States, as a result various States have deputed their officers to have training and plotting leases and have hands-on training/experience of MSS.

Director Non-Coal Mine also informed the participants about the reply received from the ISRO, Hyderabad which clarified that Satellite Based Monitoring of Illegal Sand is not feasible due to reflective index of Sand.

After the deliberation on the issue the Chairman asked all the participants to provide their written comments on the issue within a weeks' time.

Action Point: State Government of Gujarat, Karnataka, Telengana, Uttrakhand, Rajasthan and Haryana are required to provide the status of implementation of MSS or any other portal which is capable of monitoring the instance of illegal mining remotely through satellite. Participants are also required to provide their comments on feasibility of using MSS for monitoring of illegal sand mining in the country. Participants are also requested to provide other suggestions which can solve the purpose. The information needs to be submitted by 26.12.2019.

Agenda Item No. 2: Compliance of Para 25 (ii) i.e. "Safeguards suggested in Sustainable Sand Mining Guidelines published by the MoEF&CC in the year 2016" of Hon'ble NGT Order dated 4.09.2018.

The Chairman informed the participants that Hon'ble NGT in its various orders [order dated 4.09.2018 in O.A. 173/2018 in the matter of Sudarsan Das Vs. State of West Bengal & Ors.; order dated 5.09.2018 in O.A. 44/2016 in the matter of Mushtakeem Vs. MoEF & CC & Ors. ; order dated 10.09.2018 in O.A. 304/2015 in the matter of Jai Singh & Anr.Vs. Union of India & Ors.; order dated 5.04.2019 in O.A. 360/2015 in the matter of National Green Tribunal Bar Association & Anr.Vs. Union of India & Ors.] raised its concern regarding failure of present monitoring mechanism and for setting up an effective monitoring mechanism for curbing illegal mining and accordingly directed for revising Sustainable Sand Mining Management Guidelines (SSMMG), 2016.

On the issue of illegal mining the State Government of Telangana gave a presentation on Telangana Sand Sale Management & Monitoring System which helps the state government in reducing the instance of illegal mining. The Telangana Government has adopted the safeguards suggested in Sustainable Sand Mining Management Guidelines (SSMMG), 2016 while carrying out mining operation. The salient features of the model are online tracking of sand excavation, sale, dispatch, storage and transportation.

Some of the participants raised their concern about the model adopted by State Government of Telangana, as in the state of Telangana the complete sand mining is

being done by government agency but in other states the lease is being granted to private mine owners and it's difficult to replicate the same model in other states.

Action Points:

- a) State Government is requested to submit their Comments by 26.12.2019 on i) the details of the existing monitoring mechanism being followed in their states for curbing illegal mining, ii) till what extent Telangana model can be adopted in their states, iii) suggestion for framing an effective monitoring mechanism which is suitable for controlling the illegal sand mining across the country.
- b) Non-Coal Mining Sector may formulate the draft Sand Monitoring Guidelines based on the Comments received from State Government.

Agenda Item No. 3: Compliance of Para 25 (iv) i.e. "Suggestions in the High Power Committee Report" of Hon'ble NGT Order dated 4.09.2018.

During the meeting the Suggestions/Recommendation made in High Power Committee Report were presented and discussed in details with the participants. As the recommendation made in HPC report was mainly pertaining to State of Haryana and Uttar Pradesh, the participants suggested that recommendation may be circulated to all so that detailed comments about its feasibility for implementation in their states may be explored and accordingly comments will be provided.

Action Point: a) Ministry will forward the recommendation of HPC to all the participants and State Govt. representative will provide their comments by 26.12.2019.

Agenda Item No. 4: Compliance of Para 25 (iv) i.e. "Requirement of demarcation of boundaries being published in respect of different leases in public domain" of Hon'ble NGT Order dated 4.09.2018.

The Ministry of Mines in its letter dated Ministry of Mines vide its letter dated 24.10.2019 informed that "*Ministry of mines has no role on issuing of LOI. Issuing LOI is state subject and there was already a provision for precise demarcation of the concession area in MCR 1960. In case of auctioning of mineral concession blocks the precise demarcation is mentioned in notification and tender document as per extant statutory provision. Grant of Mining Leases, illegal mining, precise demarcation of the mining lease boundary comes under the sole control of the State Government.*"

The State Government Representative informed that they are in process of demarcation of mining lease in the public domain. Participants also informed that the mining leases so far uploaded on the Mining Surveillance System (MSS) developed by Indian Bureau of Mines (IBM) is not in public domain.

Action Point: The State Government by 26.12.2019 shall provide the details of portal developed so far for placing the details of the mining leases in the public domain. In case all the mining leases are not uploaded so far then timeline for completion of the same needs to be submitted. In addition to this if any other suggestion for compliance of the above direction of Hon'ble NGT then same may also be communicated to the Ministry.

Agenda Item No. 5: Compliance of Para 25 (v) i.e. "*Need to issue SOP laying down mechanism to evaluate loss to the ecology and to recover the cost of restoration of such damage from the legal or illegal miners. Such evaluation must include cost of mining material as well as cost of ecological restoration and net present value of future eco system services forgone*" of Hon'ble NGT Order dated 4.09.2018.

The Director Non-Coal Mining informed that he is already a member of the Committee constituted by Hon'ble NGT and the Committee submitted its final report to CPCB and the same will be submitted to Hon'ble NGT by CPCB.

Action Point: Dir (NCM) to provide the status of filing of the report before the Hon'ble NGT by CPCB.

Agenda Item No. 6: Compliance of Para 25 (vi) i.e. *"Need to set up a dedicated institutional mechanism for effective monitoring of sand and gravel mining which may also take care of mining done without any Environmental Clearance as well as mining done in violation of Environmental Clearance conditions"* of Hon'ble NGT Order dated 4.09.2018.

In the previous meeting held on 13.08.2019 the Additional Director, Monitoring Cell, MoEF&CC informed that the Hon'ble NGT vide its order dated 23.07.2019 in Original Application No.837/2018 in the matter of Sandeep Mittal vs MoEF&CC inter-alia directed to submit an action plan for Environmental Clearance Monitoring.

The Director Non-Coal Mining informed that Ministry has devised a plan and submitted to Hon'ble NGT on 25.09.2019. The activities proposed in action plan for the month of August & September 2019 has been initiated by the MoEF&CC

Action Point: a) The copy of Minutes of Meeting shall be circulated to Monitoring Cell to provide the latest status by 26.12.2019 of the execution of the above mentioned action plan.

b) State Govt will provide the detail of monitoring mechanism being followed by them take care of mining done without any Environmental Clearance as well as mining done in violation of Environmental Clearance conditions by 26.12.2019.

Agenda Item No. 7: Compliance of Para 25 (vii) i.e. *"The Mining Department may make a provision for keeping apart at least 25% of the value of mined material for restoration of the area affected by the mining and also for compensating the inhabitants affected by the mining"* of Hon'ble NGT Order dated 4.09.2018.

The Ministry of Mines in its reply submitted on 24.10.2019 inter-alia mentioned that
a) Section 9B introduced through the MMDR Amendment Act, 2015, prescribes the

establishment of District Mineral Foundation (DMF) in any district affected by mining related operations, the object of which is to work for the interest and benefit of persons, and areas affected by mining related operations. Directions have been issued under section 20A of Mines and Minerals (Development and Regulation) (MMDR) Act - on 16.09.2015 to all States to incorporate the Pradhan Mantri Khanij Kshetra Kalyan Yojna (PMKKKY) into the rules framed by them for the District Mineral Foundations (DMFs), b) PMKKKY is a scheme for transforming the living standards, social upliftment of people and for development of areas affected by the Mining related operations. At least 60% of PMKKKY ' funds are being utilized for projects in high priority areas like [(i) drinking water supply; (ii) environment preservation and pollution control measures; (iii) health: care; iv) education; (v) welfare of women and children; (vi) welfare of aged and disabled people; (vii) skill development; and (viii) Sanitation.], c) The rest of the funds are utilized for the carrying out projects in the field of: (i) physical infrastructure; (ii) irrigation; (iii) energy and watershed development; and (iv) any other measures for enhancing environmental quality in mining district, and d) As on 30th August 2018 more than Rs. 31,830 Crores has been collected under this scheme. Total 13,3217 projects have been taken up under the scheme out of which. 45,517 projects have been completed. Total 9,555 Crore has been spent so far.

Action Point: The State Government is requested to provide their inputs for compliance of above mentioned direction of Hon'ble NGT by 26.12.2019.

Agenda Item No. 8: Compliance of Para 25 (viii) i.e. *"One of the conditions of every lease of mine or minerals would be that there will be independent environmental audit at least once in a year by reputed third party entity and report of such audit be placed in public domain"* of Hon'ble NGT Order dated 4.09.2018."

The above direction was briefed to members present in the meeting. The Chairman was of the view that State Government shall provide their comments on compliance of above mentioned condition as mining leases are being granted by State Government.

Action Point: The State Government shall provide their comment on the compliance of above mentioned direction or any other particular issue in compliance to the above mentioned condition. The current status and timeline for implementation of the same shall be submitted by 26.12.2019.

Agenda Item No. 9: Compliance of Para 25 (ix) i.e. *"In the course of such environmental audit, a three member committee of the local inhabitants will also be associated. Composition of three members committee may preferably include ex-servicemen, former teacher and former civil servant. The Committee will be nominated by the District Magistrate"* of Hon'ble NGT Order dated 4.09.2018.

The Chairman was of the view that as the three-member Committee is being nominated by the District Magistrate. Thus, the State Government shall take necessary steps for compliance of the above direction.

Action Point: a) State Government shall issue necessary directions to all the District Magistrate for compliance of direction of Hon'ble NGT. The Status report shall be submitted by 26.12.2019.

Agenda Item No. 10: Compliance of Para 26 i.e. *"Such steps may be worked out within two months and circulated to all States. The Mechanism may provide for a report of implementation from the concerned States every quarter. The matter may be reviewed after every six months by the MoEF&CC"* of Hon'ble NGT Order dated 4.09.2018.

The chairman observed that representative of some of the states attended the meeting and Ministry may circulate the Minutes to all the States/UTs so that they can provide their comments/inputs. The Chairman is of the view that next meeting to be scheduled in the month of January to review the compliance and to record the suggestion of all the State/UT.

Action Point: The State Government will provide their comments on the compliance of direction of Hon'ble NGT made by its orders mentioned in para 1 of Agenda Item No 2 above.

Agenda Item No. 11: Compliance of Para 27 i.e. *"The direction with regard to setting up of dedicated institutional mechanism for monitoring of conditions of Environmental Clearance as granted under EIA Notification, 2006 in respect of sand and gravel mining as directed in para (vi) may be an Over-Encompassing Body to monitor the conditions of Environmental Clearance with respect to all development projects"* of Hon'ble NGT Order dated 4.09.2018.

Already discussed in agenda item no 6 above.

Action Point: a) The copy of Minutes of Meeting shall be circulated to Monitoring Cell to provide the latest status by 26.12.2019 on execution of action plan.

b) State Govt. will provide the detail of monitoring mechanism being followed by them take care of mining done without any Environmental Clearance as well as mining done in violation of Environmental Clearance conditions by 26.12.2019.

Agenda Item No 12: Use of Satellite/UAV for controlling illegal mining and for conducting replenishment study.

In addition to compliance of direction of Hon'ble NGT the chairman also asked the member about the best practices being followed in their respective states for curbing illegal mining by using the latest surveillance technology. The State Government of Gujrat reported that they are using drones for the curbing illegal mining and technology is supporting in curbing illegal mining.

Action Point: a) State Government of Gujrat to provide the complete details of the above mentioned project with specification of the drone used and advantage obtained so far by using this monitoring mechanism. The information shall be provided by 26.12.2019.

Agenda Item No 13: Views of State Government on Cumulative Impact Assessment/Regional Impact Assessment for the entire District/contiguous clusters.

Director IA Non-Coal Mining also sought the comments of State Government for Cumulative environmental impact assessment of the district. The State Government of Gujrat reported that they have initiated the cumulative/regional impact assessment of the of districts.

Action Point: a) State will provide their detailed comments & suggestion by 26.12.2019, on the advantage of Regional/Cumulative Impact Assessment district wise so as to address the various environmental issues related to mining.

The meeting ended with thanks to Chair.

Annexure - 9

Annex - 9

9.1

APPENDIX I
(See paragraph - 6)
FORM 1

VI(a) "(I) Basic Information

| Serial Number | Item | Details |
|---------------|---|--|
| 1. | Name of the project/s | |
| 2. | S. No. in 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 | |
| | Plot/Survey/Khasra No. | |
| | Village | |
| | Tehsil | |
| | District | |
| | 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, Zilla 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. Location of these sites should be shown on a topc sheet. | Village-District-State 1. 2. 3. |
| 17. | Interlinked Projects | |
| 18. | Whether separate application of interlinked project has been submitted? | |

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b), (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

| | | |
|-----|---|--|
| 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. (a) The Forest (Conservation) Act, 1980 ? (b) The Wildlife (Protection) Act, 1972 ? (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 propose to be set up ? (a) Name of the Court. (b) Case No. (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 | | |

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b), (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

| | | | |
|------|---|--|--|
| 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 from 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? | | |

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b), (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

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

I; II; III (f), (h); IV (a), (b); V (i), (ii), (ii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b), (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

9.5

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 | | |

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b), (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

| | | | |
|-----|---|--|--|
| 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 |
|-------|---|--------|--|
| 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? | | |

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b), (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

9.7

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. Ities, ancillary development or development stimulated by the project which could have impact on the environment e.g.: <ul style="list-style-type: none"> • Supporting infrastructure (roads, power supply, waste or waste water treatment, etc.) • housing development • extractive industries • supply industries • other | | |
| 9.2 | Lead to after-use of the site, which could have an 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 | | |

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b), (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

(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, esting, 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 (<i>hospitals, schools, places of worship, community facilities</i>) | | |
| 10 | Areas containing important, high quality or scarce Resources (<i>ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals</i>) | | |
| 11 | Areas already subjected to pollution or environmental damage. (<i>those where existing legal environmental standards are exceeded</i>) | | |
| 12 | Areas susceptible to natural hazard which could cause the project to present environmental Problems (<i>earthquakes, subsidence, landslides, erosion, Flooding or extreme or adverse climatic conditions</i>) | | |

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b), (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

9.9

(IV). Proposed Terms of Reference for EIA studies

^{vi(b)} "I hereby given 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 give, 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/Authorised Signatory)

NOTE:

1. The projects involving clearance under Coastal Regulation Zone Notification, 1991 shall submit with the application a C.R.Z. 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 the requisite clearance under the provisions of the C.R.Z. Notification, 1991 for the activities to be located in the CRZ.
2. The projects to be located within 10 km of the National Prks, Sancturies, Biosphere Reserves, Migratory Corridors of Wile Animals, the project proponenet shall submit the map duly authenticated by Chief Wildlife Warden showing these features vis-à-vis the project location and the recommendations 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 clarifications, 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 and authorized signatory for the specific project."

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b), (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

152

910



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Application for EC

Note : Fields marked with (*) are mandatory. Do not use any special symbol (i.e space, , , & , _ , / , \$, # , ... etc.) in naming of PDF file and the size of any file to be uploaded should not be greater than 1 MB.

| PROJECT COST :- | | | |
|--|--|---|--------------|
| Funds Allocated for Environment Management (Capital) (In crores):* | | Funds Allocated for Environment Management Capital(%):* | 0.00 |
| Funds Allocated Towards ESC (Entrepreneur Social Commitment) (In crores):* | | Funds Allocated for Environment Management Plan (EMP) (Recurring per Annum) (In crores):* | |
| Total Cost of the Project at Price Level (In crores):* | 10 | | |
| LOCATION OF THE PROJECT :- | | | |
| Plot No./Survey No./Khasta No. of the Project Location:* | | Distance of Nearest HFL from the Project Boundary within the study area (kilometres):* | |
| Pincode:* | | Bounded Latitudes (North):* | From: To: |
| Bounded Longitudes (East):* | From: To: | No. of Sd/Survey of India Topo Sheet No.: | |
| Upload Topo Sheet File:* | <input type="button" value="Choose File"/> No file chosen <small>(Upload Pdf only)</small> <input type="button" value="Choose File"/> No file chosen | Maximum Elevation Above Mean Sea Level(AMSL):* | |

9.11

| | |
|--|---|
| Level (ANSI): | |
| Upload (km) File: | <input type="button" value="Choose File"/> No file chosen <small>(Upload km file only)</small> |
| Seismic Zone: | Select |
| DETAILS OF EARLIER EAC MEETING :- | |
| Meeting No. of EAC: | |
| Deliberations: | |
| Meeting Date of EAC from: | Meeting Date of EAC to: |
| DETAILS OF CONSENT TO OPERATE (CTO) :- | |
| Whether CTO obtained? | Select |
| Date of Issue: | Valid upto: |
| File No.: | Application No.: |
| Upload Copy of CTO valid as on date: | <input type="button" value="Choose File"/> No file chosen <small>(Upload pdf copy)</small> |
| <input type="button" value="BACK"/> <input type="button" value="SAVE AS DRAFT"/> <input type="button" value="CONTINUE"/> | |

Item No.03

Court No. 1

**BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI**

Original Application No.837/2018
(M.A. No. 1549/2018 &I.A. No. 290/2019)

Sandeep Mittal

Versus

Applicant(s)

Ministry of Environment, Forests &
Climate Change &Ors.

Respondent(s)

(Report filed by the joint Committee with M.A. No. 1549/2018 for exemption from filing typed copy of dim illegible annexures&I.A. No. 290/2019 for compliance supervision, monitoring, analysis and sanction as per order on EIA conditions)

Date of hearing: 23.07.2019

CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE S.P. WANGDI, JUDICIAL MEMBER
HON'BLE MR. JUSTICE K. RAMAKRISHNAN, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER

For Applicant(s): Mr. P. Mishra, Advocate

For Respondent (s): Ms. Shivani Luthra Lohiya, Advocate with Ms. Geeta Menon, JS, MoEF and Dr. Shruti Rai Bhardwaj

ORDER

1. The question for consideration is the effectiveness of monitoring mechanism for compliance of Environmental Clearance (EC) conditions as per Notification dated 14.09.2006 under the Environment (Protection) Act, 1986. Environment Impact

Assessment is an essential component of the 'Precautionary' principle as well as the 'Sustainable Development' principle under Section 20 of the National Green Tribunal Act, 2010 which are to be enforced by this Tribunal under Section 15 of the Act. Such impact assessment is regulated by statutory notification dated 14.09.2006. Laying down conditions for EC is not enough unless compliance thereof is duly monitored.

2. Faced with the grievance that there was flagrant violation of conditions of Environmental Clearance and adequate monitoring was not taking place, vide order dated 30.10.2018, the Tribunal observed that compliance of conditions of Environmental Clearance must be monitored on periodical basis, atleast once in a quarter. Accordingly, the Ministry of Environment, Forest and Climate Change (MoEF&CC) was directed to evolve an appropriate mechanism to that effect and furnish a report.

3. The matter was thereafter listed for further consideration on 29.04.2019 and it was observed:-

"4. On due consideration of status of monitoring, we find the same to be highly inadequate. There is no monitoring to the extent of 92% of category -B projects and 33% of category-A projects. Further, the 3 monitoring mechanism only involves issuance of show cause notices and seeking action taken reports but there is no application of 'Polluter Pays' principle by assessing and recovering compensation where violations are found. Apart from there being no data from the Chennai, there is no separate data with

regard to category A and B projects. In respect of compliance status, we find that even where major non-compliance has been found, no compensation has been recovered even for such major violations. This calls for urgent remedial action.

5. Let remedial measures be taken forthwith by incorporating the requirement of recovery of compensation for the violation of environmental conditions on laid down scale and method of online maintenance of data with regard to category A and B projects separately. In spite of repeated adjournments, MoEF&CC has not been able to give adequate and correct data which shows that urgent measures need to be taken.
6. We also note that there is plea of inadequate staff which is sought to be remedied by outsourcing from empanelled institutions. Primary and essential regulatory functions must be discharged by the statutory authorities and it is only validation which may be outsourced. Wholesale outsourcing may make it difficult to have any accountable mechanism.
7. Let remedial measures be taken by the MoEF&CC for meaningful compliance of environmental Rule of law and protection of environment. The mechanism may provide for 100% checking of Environmental Clearance conditions with respect to category-A projects and a reasonable percentage of category-B projects in view of 4 significance of the subject. A revised affidavit be filed by the concerned Joint Secretary, MoEF&CC who may remain present in person for assistance of the Tribunal on the next date of hearing.

8. *In respect of the project involved in the present case, a Joint Committee of representatives of SPCB, CPCB, SEIAA and Regional Office of MoEF&CC may furnish a report of the status of compliance of Environmental Clearance conditions with reference to the allegations in the application within two months by e-mail at ngt.filing@gmail.com. The nodal agency will be the SIEAA for coordination and compliance.*"

4. Accordingly, an affidavit has been filed by Ms. Geeta Menon, Joint Secretary, MoEF&CC on 20.07.2019 who is also present in person. The affidavit acknowledges the need to enhance and maximize the monitoring mechanism as follows:

(a) *We acknowledge the direction of Hon'ble NGT that primary and essential regulatory functions as monitoring should be discharged by the statutory and it is validation which may be outsourced. That accordingly as elaborated at para (B) above Ministry is working towards empowering the SPCBs and increasing the number of ROs/manpower in CPCB/SPCB/ROs, which has been considered as more acceptable than exclusively engaging outside agencies.*

(b) *That in consonance with the direction of Hon'ble NGT it is to submit that the major objective of Third Part Monitoring Mechanism is validation of 6 monthly compliance reports submitted by the Project Authority.*

(c) *The third-party monitoring mechanism will be mainly for monitoring of Category-B projects through*

validation of their 6 monthly and Category-A projects will continue to be monitored by ROs of the Respondent. Taking into account the quantum of ECs to be monitored, third-party monitoring will be used only to supplement essential to supplement existing efforts of the Respondent towards strengthening the existing Monitoring mechanism for EC and to improve compliance through comprehensive validation and technical expertise.

(d) That the third-party monitoring mechanism will involve government organization, research institutes, universities, etc of repute which will also serve to fill the technological and information gaps that may exist.

(e) We acknowledge the significance of "Polluter Pays" principle by assessing and recovering compensation where violation are found. That in case of directions of Hon'ble NGT to the Ministry for implementation of the same in specific cases, such directions can be implemented with the involvement of CPCB, utilizing their reports and guidelines."

5. During interaction, the Tribunal has conveyed to the Joint Secretary that with regard to category 'A' projects, the data validation has to be the primary concern of the MoEF&CC and ought not be outsourced. For category 'B' projects, such data validation may be done through SEIAA. It is necessary to have an action plan providing for revamping the existing mechanism by providing 100% monitoring of category 'A' projects through the mechanism of regional offices of MoEF&CC and CPCB. The

Monitoring of category 'B' projects may be done through instrumentalities of the SEIAA and the State Boards in the same manner. Accordingly both the regional offices of MoEF&CC and the CPCB for category 'A' projects and SEIAAs and State Boards/PCCs for category 'B' projects need to be strengthened by way of gap analysis and providing of adequate man force/human resources/scientific/technical personnel as and when needed. The action plan in this regard may be prepared within one month which may be implemented in two phases of three months each.

- 6. Let such an action plan be filed in above terms. The need for 100% monitoring of category 'A' projects is necessary in view of serious challenges of environment faced by the country in the form of there being 100 polluted industrial clusters, 351 polluted river stretches and 102 non-attainment cities (which issues are being dealt by this Tribunal)¹ apart from other serious issues.²

¹ Order dated 13.12.2018 in Original Application No. 1038/2018, News item published in "The Asian Age" Authored by Sanjay Kaw Titled "CPCB to-rank industrial units on pollution levels"
Order dated 20.09.2018 in Original Application No. 673/2018, NEWS ITEM PUBLISHED IN THE HINDU AUTHORED BY SHRI. JACOB KOSHY Titled "More river stretches are now critically polluted: CPCB"
Order dated 08.10.2018 in Original Application No. 681 of 2018, News Item Published In The Times of India' Authored by Shri. Vishwa Mohan Titled "NCAP with Multiple Timelines to Clear Air in 102 Cities to be released around August 15"

² [https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196\(18\)30261-4/fulltext](https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196(18)30261-4/fulltext). This study shows that in 2017, 1.24 million deaths occurred in India, which were 12.5% of the total deaths, all attributable to air pollution, including 0.67 million from ambient particulate matter pollution and 0.48 million from household air pollution. Of these deaths attributable to air pollution, 51.4% were in people younger than 70 years. India contributed 18.1% of the global population but had 26.2% of the global air pollution DALYs in 2017.
<http://unicef.in/Story/1219/World-Water-Day-2018-How-Sanitation-Can-Help-the-Environment-This-study-indicates-that-lack-of-access-to-safe-water-annually-contributes-to-over-117,000-children-dying-from-diarrhoea,-and-37.7-million-Indians-being-affected-by-waterborne-diseases-such-as-typhoid-and-cholera>

List for further consideration on 27.09.2019.

Adarsh Kumar Goel, CP

S.P. Wangdi, JM

K. Ramakrishnan, JM

Dr. Nagin Nanda, EM

July 23, 2019

Original Application No.837/2018

(M.A. No. 1549/2018 &I.A. No. 290/2019)

AK



सत्यमेव जयते

Enforcement & Monitoring Guidelines for Sand Mining



Ministry of Environment, Forest and Climate change

January, 2020

Table of Content

| Sl. No. | Contents | Page |
|----------------|--|-------------|
| 1 | Introduction | 02 |
| 2 | Need for Policy Guidelines | 04 |
| 3 | Objective of Guidelines | 09 |
| 4 | Requirements for Monitoring & Enforcement | 10 |
| 5 | Replenishment Study | 27 |
| 6 | Enforcement Provisions | 34 |
| 7 | Recommendation of High Power Committee | 41 |
| 8 | General Approach for Sustainable Sand Mining | 45 |
| 9 | Monitoring Mechanism | 48 |

Table of Annexure

| Annexure | | Page |
|-----------------|--|-------------|
| Annexure - I | Details of Sand/M-Sand Sources | 64 |
| Annexure - II | List of Potential Mining Leases (Expiring & Proposed) | 65 |
| Annexure - III | Cluster & Contiguous Cluster details | 66 |
| Annexure - IV | Transportation Routes for individual leases and leases in Cluster | 67 |
| Annexure - V | Final List of Potential Mining Leases (Existing & Proposed) | 68 |
| Annexure - VI | Final List of Cluster & Contiguous Cluster | 69 |
| Annexure - VII | Final Transportation Routes for individual leases and leases in Cluster | 70 |
| Annexure - VIII | Salient provision for sand mining in the state of Tamil Nadu | 71 |

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.

2.0 NEED FOR POLICY GUIDELINES

The Ministry of Environment, Forest & Climate Change (MoEF&CC) published Environmental Impact Assessment Notification 1994 which is only applicable for the Major Minerals more than 5 ha. In order to cover the minor minerals also into the preview of EIA, the MoEF&CC issued EIA Notification 2006 for Major & Minor Mineral more than 5 Ha. The Hon'ble Supreme Court in its Judgment 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. made prior environment clearance mandatory for mining of minor minerals irrespective of the area of mining lease. In order to comply with the judgment of Hon'ble Supreme Court, the Ministry issued S.O.141 (E) dated 15.01.2016. Further, MoEF&CC published Sustainable Sand Mining Management Guidelines 2016 for scientific and sustainable sand mining in the Country. The recommendations for the management of sustainable sand extraction are the key objective of the Guidelines. Special emphasis is given on monitoring of the mined out material, which is key to the success of the environmental management plan. Use of IT and IT-enabled services for effective monitoring of the quantity of mined out material and transportation along with process re-engineering has been made a part of the Guidelines. Guidelines support the fundamental concept, promote environmental protection, limit negative physiological, hydrogeological and social impacts underpinning sustainable economic growth.

The Hon'ble NGT in its order dated 04.09.2018 in O.A. 173/2018 in the matter of Sudarsan Das vs. State of West Bengal & Ors. Inter-alia observed that ***"There can be no two views that an effective institutional monitoring mechanism is required not only at the stage when Environmental Clearance is granted but also at subsequent stages". "The guidelines focus on the preparation of District Survey Report and the Management Plan" ... We are of the view that all the safeguards which are suggested***

in sustainable sand mining guidelines as well as notification dated 15.01.2016 ought to be scrupulously followed."...It is a known fact that in spite of the above-suggested guidelines being in existence, on the ground level, illegal mining is still going on. The existing mechanism has not been successful and effective in remedying the situation." ..." Since there is an utter failure in the current monitoring mechanism followed by the State Boards, SEIAAs and DEIAAs, it is required to be revised for effective monitoring of sand and gravel mining and a dedicated monitoring mechanism be set up."

The Hon'ble NGT in its order dated 04.09.2018 in O.A. 173/2018 in the matter of Sudarsan Das vs. State of West Bengal & Ors. directed that ***MoEF&CC has issued directions from time to time under Section 3 and 5 of the Environment (Protection) Act, 1986. The MoEF&CC needs to revise its directions keeping in mind the following:***

- *Mining Surveillance System discussed in para 23 above be finalized in consultation with ISRO Hyderabad.*
- *Safeguards suggested in Sustainable Sand Mining Guidelines published by the MoEF&CC in the year 2016.*
- *Suggestions in the High Power Committee Report.*
- *The requirement of demarcation of boundaries being published in respect of different leases in the public domain.*
- *Need to issue SOP laying down mechanism to evaluate loss to the ecology and to recover the cost of restoration of such damage from the legal or illegal miners. Such evaluation must include the cost of mining material as well as the cost of ecological restoration and the net present value of future ecosystem services forgone.*
- *Need to set up a dedicated institutional mechanism for effective monitoring of sand and gravel mining which may also take care of mining done without any Environmental Clearance as well as mining done in violation of Environmental Clearance conditions.*

- *The Mining Department may make a provision for keeping apart at least 25% of the value of mined material for the restoration of the area affected by the mining and also for compensating the inhabitants affected by the mining.*
- *One of the conditions of every lease of mine or minerals would be that there will be independent environmental audit at least once in a year by reputed third party entity and report of such audit be placed in the public domain.*
- *In the course of such an environmental audit, a three-member committee of the local inhabitants will also be associated. Composition of three members committee may preferably include ex-servicemen, a former teacher and former civil servant. The Committee will be nominated by the District Magistrate.*

The Hon'ble NGT in its order dated 05.09.2018 in O.A. 44/2016 in the matter of Mushtakeem Vs. MoEF & CC & Ors. Inter-alia observed the following:

"Para 20. In Original Application No. 481/2016, the allegation is that there is the connivance of the District Administration with the miners and mining is going in violation of conditions of Environmental Clearance. According to the applicant, an effective mechanism is required to be evolved so that illegal mining does not place."

*"Para 22. We proceed to consider the main question proposed for the consideration stated earlier hereinabove as to **how to ensure the protection of the environment by checking illegal mining.**"*

"Para 23. We have dealt with the identical issue relating to the illegal sand mining in the border districts in the State of West Bengal and Odisha in the order dated 04th September 2018 in Sudarsan Das Vs. State of West Bengal & Ors., Original Application No. 173 of 2018. We have directed the MoEF&CC to revise the guidelines on the subject for an effective mechanism for sand mining, relevant portions of which are reproduced below: -..."

The Hon'ble NGT in its order dated 10.09.2018 in O.A. 304/2015 in the matter of Jai Singh & Anr.Vs. Union of India Ors. inter-alia observed the following:

*"Para 6. After disposal of the above matters, a disturbing event widely reported in media which took place on 07th September 2018 has been brought to our notice. **A Deputy Ranger who tried to stop illegal mining was killed by mining mafia at Morena in the State of M.P.***

"Para 7. The above disturbing event may also be kept in mind by the MoEF, while considering the issuance of revised guidelines in light of the judgment dated 05th September 2018 (Supra)."

The Hon'ble NGT in its order dated 05.04.2019 in O.A. 360/2015 in the matter of National Green Tribunal Bar Association & Anr.Vs. Union of India & Ors. inter-alia observed the following:

"The 2016 Guidelines need revision in the light of the report of High Powered Committee in September 2016, failure of Monitoring mechanism followed by State Boards, SEIAs, DEIAAs and MSS system developed by Ministry of Mines & IBM with the assistance of BISAG and MAITY and other observations quoted in paras 12 to 15 above.

50. As noted earlier in paras 17, 23, 27, 31 and 35, States of West Bengal, Odisha, Gujarat, Karnataka, Maharashtra, Punjab, Haryana and Uttar

Pradesh are required to follow SSMG, 2016 as may be revised by MoEF&CC and even other States where illegal sand mining is taking place.

The States may review the monitoring mechanism in terms of several directions of the Tribunal and guidelines of MoEF&CC.

The international conservation concern regarding natural wealth is a universal demand. Article 51(a) subsection (G) of the constitution requires every citizen of India to protect and improve the natural environment including forest, lakes, rivers, wildlife and to have compassion for the living creature.

The Hon'ble Supreme Court in the case of M.C. Mehta Vs. Kamal Nath (1997) 1 SCC 388 held that under Article of Indian Constitution incorporates the "Public Trust Doctrine" and as such extends to the protection of all-natural resources which includes the protection of flora and fauna.

The Hon'ble Supreme Court in the case of Vellore Citizens Welfare Forum Vs. Union of India & Ors (1996) held that the precautionary principle is part of the Environmental Law in India. It further stated that onus of proof is on the actor of the developer/industrialize to show that its actions are environmentally benign."

3.0 OBJECTIVE OF GUIDLINES

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

4.0 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/Lol. The guidelines emphasize detailed procedure to be followed for the purpose of identification of areas of aggradation/ deposition where mining can be allowed and identification of areas of erosion and proximity to infrastructural structures and installation where mining should be prohibited. Calculation of annual rate of replenishment, allowing time for replenishment after mining, identification of ways of scientific and systematic mining; identifying measures for protection of environment and ecology and determining measures for protection of bank erosion, benchmark (BM) with respect to mean Sea Level (MSL) should be made essential in mining channel reaches (MCR) below which no mining shall be allowed.

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 providing 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 $\frac{3}{4}$ th part of the river, width needs to be identified on a map. Out of the $\frac{3}{4}$ th part area, where there is a deposition/aggradation of the material needs to be identified. The remaining $\frac{1}{4}$ 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 Lol/Lease area shall be placed in public domain along with Lol/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 $\frac{1}{4}$ 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 pre 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

imagery to the block file, marking of GCPs, generation of tie points and refining of the model.

- c) **Interior orientation:** - The interior orientation of the stereo pair rational polynomial coefficients (RPC) used, which should be bundled with the scenes. RPCs are coefficient, which is used by photogrammetric software to represent the ground to-image viewing geometry.
- d) **Exterior orientation:** For exterior orientation, ground control points shall be used, which are collected from the DGPS survey.
- e) **Aero Triangulation:** - A critical phase in photogrammetric mapping is to rectify the satellite imagery at an appropriate tract on the surface of the earth. This is accomplished by collecting horizontal and vertical data [GCP's] to ascertain the spatial location of a number of features that are visible and measurable on the aerial images – this process is often called control bridging, which refers to passing horizontal and vertical information from one aerial image to the next.
- f) **Ortho Generation:** - After running the above steps; the software shall automatically generate orthorectified imagery.
- g) **DTM extraction:** For extraction of DTM, Generated point cloud data classified manually to extract bare earth.

5.2.3 Accuracy Assessment of Aerial Data:

To check the accuracy of DTM generated by Aerial data, few points are selected and compared with on-site by using DGPS instrument for the ground-truthing purpose. It is preferred to do ground-truthing at minimum 5 locations spread evenly across the lease area. The readings from the DGPS instrument are then compared with the Drone data for accuracy assessment

purpose. A comparative chart will be prepared in comparison of Data related to ground-truthing (by DGPS) and from Drone. Such accuracy assessment report shall a chapter of the replenishment study.

5.2.4 Replenishment study shall have the details of

- List of instruments
- List of software
- Establishment of Benchmark by putting No. of pillar points and various Ground Control Points (GCP) at the site.
- Ground Control Points (GCP) Collection: - Various GCPs were observed by using DGPS for Permanent Benchmarks and for control points.
- The summary of the elevation data from each section's profile based on the post-monsoon the survey should have mentioned in the table form.
- The detail of post-monsoon survey data in the tabular form shall be
- The detailed comparison of both pre-monsoon and post-monsoon elevation data shall be attached
- Cross-sectional depiction of deposition and erosion for each section in pre and post-deposition season shall be given supported by relevant field study data and plan.

6.0 ENFORCEMENT

6.1 Mining Operation:

The mining operations should be strictly carried out in accordance with the approved mining plan and after complying with all the conditions stipulated in Environmental & Other Statutory Clearance. Mine owner shall follow the operational procedure (for sale, dispatch, storage, reserve reconciliation and transportation) as may be defined by the concerned state government in its monitoring guidelines. Mine owner should comply with the recommendation and suggestion made by the High Power Committee as applicable.

6.2 Post Environment Clearance Monitoring:

It's the responsibility of the EC Holder to comply with the Environmental Clearance conditions and upload the six-monthly EC compliance report on the website of the Ministry. For the category, 'A' mines (>100 Ha individual & cluster) Regional Office of the MoEF&CC are entrusted to carry out EC Monitoring and for the Category 'B' Mines by SEIAA. The monitoring shall be carried out as per the procedure/schedule suggested by MoEF&CC from time to time. MOEF&CC vide its notification S.O. 637(E) dated 28.02.2014 has delegated the power to State/Union Territory Environmental Impact Assessment Authority to issue show cause notice to project proponent in case of violation of Conditions of Environmental Clearance issued by the said authority and to issue direction for keeping the said EC in abeyance or withdrawing it. Thus, for category 'B' (0 to 100 Ha) projects SEIAAs are responsible for EC monitoring.

6.3 Environment Audit:

The Hon'ble NGT in its order dated 04.09.2018 in O.A. 173/2018 in the matter of Sudarsan Das vs. State of West Bengal & Ors. Inter-alia directed

that "One of the conditions of every lease of mine or minerals would be that there will be independent environmental audit at least once in a year by reputed third party entity and report of such audit be placed in the public domain. In the course of such an environmental audit, a three-member committee of the local inhabitants will also be associated. Composition of three member's committee may preferably include ex-servicemen, a former teacher and former civil servant. The Committee will be nominated by the District Magistrate.

The gazette notification on environmental audit has been issued by the Ministry of Environment and Forests on March 13, 1992 (amended vide notification GSR 386 (E) dated April 22, 1993). This notification applies to every person carrying on an industry, operation or process requiring consent to operate under Section 25 of the Water (Prevention and Control of Pollution) Act, 1974 (6 of 1974) or under section 21 of the Air (Prevention and Control of Pollution) Act, 1981 (14 of 1981), or both, or authorization under the Hazardous Waste (Management and Handling) Rules, 1989, issued under the Environment (Protection) Act, 1986 (29 of 1986). The notification requires that an Environmental Statement for the financial year ending the 31st March be submitted to the concerned State Pollution Control Board, on or before the 30th September of the same year.

It is suggested that NABET Accredited consultant may be engaged for Environment Audit and during the course of the audit, a three-member committee nominated by District Magistrate shall be associated.

6.4 Monitoring of Sale & Purchase of Sand:

6.4.1 In order to curb illegal mining it is very necessary that the general public is aware of the legal source of sand and RBM suppliers. The Ministry of Mines issued **Sand Mining Framework 2018** wherein it has proposed two mechanisms for the online sale of sand depending on whether there is a free market for sand in the State or the prices are regulated by the Government.

Para 1.2.12.2 Under the market model

In the case of the market model, all the lessees/ certified dealers in the State should register themselves on the online portal/ mobile app. For registering, the lessee/ certified dealer will have to enter the details of its concession/ stockyard, location, the quantity of sand expected on a weekly basis, as per the approved mining plan. Once registered, the online portal/ app will display the name of the reach/ stockyard and sand could be booked by the consumer from those leases/ stockyards and prices up to the delivery level. Further, the lessee/ certified dealer needs to regularly update the sand available in the reach/ stockyard, and they can decide the price at which they want to sell their sand. Anyone who wishes to purchase sand in the State will have the following options for buying:

1. Mobile app
2. Online portal
3. Customer care/ telephone call
4. Licensed traders

The consumer needs to register on the portal and log in using his/her credentials (Aadhar card based only). After logging in, the portal will display the entire list of reaches/ stockyards along with the quantity of sand available in those reaches/ stockyards and the quality and price of

sand. The consumer can filter/ sort the reaches/ stockyards based on such parameters as location, quality and price, and book from the lease/ stockyard he/she wishes to. The consumer should also have the option to purchase the sand by ordering at customer care. Also, stockyards should be made around all the major consumption hubs in the State based on their estimated demand.

Para 1.2.12.3 Controlled market prices

In case the prices are regulated by the State Government, the only difference from the previous model is that the price of sand at the river reach/ stockyard shall be uniform across the State/ district based on the quality and transportation lead. A consumer after logging in may choose the reach/ stockyard from which he/she wishes to purchase the sand. The payment for booking the sand in both the cases should be made on the portal/ app so that proper accounting of the sale of sand can be maintained by the Government. Also, stockyards should be made around all the major consumption hubs in the State based on their estimated demand.

It is suggested that the State Government should develop an online portal for sale and purchase of Sand & RBM. In addition to this State Government shall decide on the model viz. *Under market model or Controlled market prices or both* to be adopted for their respective States. The State Government shall accordingly modify their Minor Mineral Concession Rules within 6 months of publication of these guidelines. It is suggested that the controlled price model is more effective in controlling illegal sand mining. Because if the State Government is the only agency to provide the sand in the State, then price and supply of sand can be controlled more effectively. There will be no confusion in the consumers about legality of the purchase as the only source of sand provider is the State Government through its network of registered stockiest, retailers and transporters. The consumers

can fill the online request, pay the amount, select the transporter and give its feedback after the receipt of the sand. The transportation can also be controlled as the tippers used for transportation is registered tippers with GPS facility, the transportation route is well defined for easy monitoring, control over overloading of tippers, control over spillage of mineral etc. The State Govt. shall also make provision for penalizing the persons/agency buying the sand and RBM from the illegal sources.

6.4.2 The Ministry of Mines in its Sand Mining Framework also mentioned the following different level of monitoring:

Para 1.2.13.1 Level 1- Reach/ Stockyard level monitoring

For monitoring of the active reaches:

- a. *Quantity of sand to be extracted from the reach should be based on the quantity of sand assessed in the reach by the Joint Inspection Team.*
- b. *The lease boundary should be demarcated with geo-coordinates or geo-fenced to ensure that sand extraction is going on only within the permitted area.*
- c. *De-casting from river beds should be monitored on a regular basis to keep a track of excavated quantity.*
- d. *After every two years, a mandatory audit of the quantity extracted and quantity permitted along with the replenishment rate.*
- e. *Mandatory e-pass/ e-permit should be made available at reach level for transportation of any sand by any GPS enabled vehicle with the provision of entering the vehicle number of the sand carrying vehicle and expected delivery address and customer name/ mobile number. Also, provision should be made available for stockyards/ stockiest of sand. In the case of*

nomination based (controlled pricing) business model, the margin of private stockist should be capped over a fixed percentage of notified prices.

- f. At the stockyard, the stock supervisor should verify the authenticity of online payment receipt before issuing the transit pass. The loading of sand should be monitored electronically and all transporting vehicles should pass through an electronically monitored weighbridge. g. Real-time data capture for transportation*

Para 1.2.13.2 Level 2 - Transportation monitoring

To make transportation monitoring effective and useful, all the sand carrying vehicles (tractors/ trucks) should be registered with the department and GPS equipment should be installed in all the sand carrying vehicles. Weighbridges with CCTV should be installed at all the stockyards, active reaches to ascertain the exact quantity of sand being transported in the vehicle. Check posts with CCTV cameras should be established near all major consumption centres to check if all the transporting vehicles are carrying a valid transport permit. The transport permit generated should contain the security features mentioned under section 5.11 so that one permit cannot be re-used by generating photocopies of the permit.

Para 1.2.13.3 Level 3 - End consumer monitoring/ bulk consumer

For end consumer monitoring, a customer grievance redressal center should be established to enquire about the grievances faced by the sand consumers. The telephone number of the call center should be advertised so that it reaches the general public through which anyone in the State can register his/her complain related to the sand, be it in terms of price or any other grievance. Additionally, profiles of customers should be analyzed such as the delivery of sand at the same address, usage pattern and its comparison with the estimated usage, as mentioned in purpose, etc. Further, surprise checking

should be conducted by the district level committee staff as per instructions of the monitoring agency.

Para 1.2.13.4 Level 4 - Indirect monitoring

Indirect monitoring can be done by determining sand consumption through the quantum of cement sales in the State, as the sale of cement is quite organized and data is easily available at the State level and district levels for the same. From district-wise cement consumption, the further trend of sand consumption can be derived. Any anomalies in the sand consumption/demand can be analyzed further.

Note: *The above monitoring mechanism is just a suggestion and the States may visit Andhra Pradesh and Telangana to study the monitoring mechanism in greater detail.*

It is suggested that State Government may consult with concern department of State of Telangana and Tamil Nadu to have better understanding on their experience and knowledge in adopting best sand mining enforcement provisions and monitoring practices and frame their own regulatory regime and monitoring framework. The framework of monitoring should essential include online sale & purchase of River Bed Material/ Auction of leases, Sand from rivers and other sources, online monitoring of excavation, storage and transportation of mineral for control of illegal mining.

The respective State Governments shall develop the online Sale & Purchase System after defining the model viz. Under market model or Controlled market prices model. The level of monitoring needs to be defined and guidelines need to be finalized by the respective State Governments as per their requirement with due consideration of suggestive guideline in this document. These all measure will help in curbing illegal mining.

7.0 Recommendations of High Power Committee:

A high power committee (HPC) was constituted by Hon'ble National Green Tribunal to assess the status of illegal mining the stretch of River Yamuna, under the chairmanship of Secretary, Ministry of Environment Forest & Climate Change. The committee after exhaustive field survey and interaction with stakeholders and having surprise visits submitted a comprehensive report on river sand mining along with certain recommendations on enforcement requirements and monitoring essentials. The same is provided in the following section for consideration of monitoring / regulatory authority to adopt applicable provisions in their monitoring framework and also to ensure that the infrastructural requirements recommended by the HPC are put in use at all locations including the lease area.

7.1 Recommendations of High Power Committee (HPC)

The following recommendation of the High Power Committee shall be considered while framing the monitoring mechanism by the State Government.

- i. Project Proponent must ensure that following security features are included in the Transport Permission/Permits (TP) so that duplicate/fraudulent/forged TPs for transport, not accounted for in the IT-based system, is not possible.:
 - (a) Printed on Indian Bank Association (IBA) approved
 - (b) Magnetic Ink Character Recognition Code (MICR) paper;
 - (c) Unique Barcode;
 - (d) Unique Quick Response Code (QR);
 - (e) Fugitive Ink Background;
 - (f) Invisible Ink Mark;
 - (g) Void Pantograph;
 - (h) Watermark.

- ii. Project Proponent must ensure that CCTV camera, Personal Computer (PC) or laptop, Internet Connection, Power Back up, access control of mine lease site; and arrangement for weight or approximation of weight of mined out mineral on basis of volume of the trailer of vehicle used at mine lease site are available.
- iii. The PP has to enter the destination, distance between plot and destination, vehicle number etc in the system. After scanning, unique bar code number, invoice date time and validity date-time are generated by the software which gets printed individually on each TP. Validity of TP is calculated based on the distance between plot and destination. After validity time is over the TP stands invalid.
- iv. The officers involved in monitoring should be provided with mobile application and/or bar code scanners using which the TP can be checked anywhere on road. As soon as the bar or QR code on TP gets scanned through using the mobile application and/or scanner or vehicle number is entered into the application or sent by SMS to a predefined number, all details of TP such as plot details, vehicle details, validity time, etc. should be fetched from the server. This means if anything is re-written on TP and attempt is made to reuse the same, it can be traced immediately. Various reports can be generated using the system showing daily lifting reports and user performance report. This way the vehicles carrying sand can be tracked from source to destination.
- v. The facility to fetch details using mobile app, website and SMS may be made available to the general public as well. However, they shall not be allowed to stop the vehicles to check the transportation. The only option that they should have is to check vehicle numbers of the passing vehicle in the mobile app or SMS for the validity of the pass. The only result that should be available to them should be if the vehicle carrying sand has a

valid permit at the relevant point of time or not. If the citizen finds that the vehicle doesn't have such a permit, as ascertained from mobile app or website or SMS, he should alert local authorities, who shall then take further action as per the law.

- vi. In case, the vehicle break-down, the validity of Transport Permit or Receipt shall be extended by sending SMS by the driver in specific format to report the breakdown of the vehicle. The server will register this information and register the breakdown. The State can also establish a call center, 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/call center.
- vii. The route of the vehicle from source to destination shall be tracked through the system using checkpoints, Radio-frequency identification (RFID) tags, and Global Positioning System (GPS) tracking.
- viii. The system shall enable the Authorities to develop a periodic report on different parameters like daily lifting report, vehicle log/ history, lifting against allocation, and total lifting. The system can be used to generate auto mails/SMS. This will enable the District Collector / Magistrate and other authorities to get all the relevant details and will 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 should be tracked.
- ix. It is necessary to prevent any truck/vehicle from transporting sand out of the identified plot bypassing the strong IT enabled system. Therefore, at each of the sand plot, the following additional measures should be taken.

- (a) There shall be one entry and exit point provided for trucks/vehicles. The said entry point should have facilities as mentioned above. In case, it is necessary to have more than one entry/exit points, all such points shall have checkpoints with facilities as mentioned above. All other possible ways of entry/exit should be closed using barriers like compound, trench, etc. All provisions shall be made to not make it possible for any vehicle to enter or exit without entry into the computerized system.
- (b) All such points should have 24X7 CCTV coverage, the footage of which should be made available online to the district administration. In cases, where sufficient internet bandwidth is not available, it may be deposited with the district administration on a weekly basis. If possible, the entry/exit points should have boom barriers which will record the vehicles entering and exiting the plot.

8.0 GENERAL APPROACH TO SUSTAINABLE SAND MINING**8.1 Pre-requisite for starting sand mining operation**

- i) All district to prepare a comprehensive mining plan for the district as per the provision of District Survey Report. These reports shall be put on the website of District Administration. No mining shall be allowed in the area which has not been identified in the comprehensive mining plan of the District.
- ii) Replenishment study should be conducted on regular basis.
- iii) All potential rivers mining zone/area shall be identified and put for auction with proper geo-tagged details by the auctioning authority concerned.
- iv) The latitude and longitude of each mining lease shall be clearly mentioned in Letter of Intent issued to the potential mine lease. Such information shall be provided on the website of the district administration.
- v) The provision of these guidelines shall be considered while identifying the potential stretches /locations and boundaries of the leases for the minable area.
- vi) The Lol holder shall seek Environmental Clearance as per the provision of EIA Notification, and the regulatory authority shall ensure that the provision suggested in "Sustainable Sand Mining & Management 2016" and in this documents, as applicable are part of the clearance conditions.
- vii) There shall be no river bed mining operation allowed in monsoon

period. The period as defined by IMD Nagpur for each state shall be adhered with.

- viii) The monitoring infrastructures including weighbridge and adequate fencing of the lease area, CCTV, Transport permits, etc, as suggested in this document shall be ensured in order to reduce unrecorded dispatch.
- ix) Regular monitoring of mined minerals and its transportation and storage shall be ensured and all information shall be captured at centralized database so that easy tracking of illegal material can be done.
- x) Annual audit of each mining lease shall be carried out wherein three independent member of repute, nominated by District administration shall also participate.

8.2 Mining of Sand from Agricultural Fields

This practice is prevalent in Haryana; to ensure that mining from outside doesn't affect rivers, no mining is permitted in an area up to a width of 100 meters from the active edge of embankments or distance prescribed by Irrigation department whichever is critical. The top layer of soil varying between 1 and 2 meters is removed and stacked separately and thereafter the sand deposit which maybe 10-15 meter deep is mined. After removing the sand layer up to a maximum depth of 09 meters or the maximum mineable minerals, as permitted by competent authority. The topsoil stacked is spread out on the field and the same is brought under the cultivation. Though the level of this land (mined out area) is lowered to the depth of the excavation and in initial years of cultivation the productivity is low, but the productivity of the fields improves with continued cultivation and addition of organic manure in the field. In Haryana, some leases are of large area

(ranging from 1000 hectare to 2000 hectare) and agricultural fields and river bed both are included in the same lease for mining.

The following recommendations should be kept in mind for mining in such leases:

1. Mining of sand in such mine leases will require environment clearance.
2. The lease should be of sand mining either from the agricultural field or river. In the same lease, both types of area should not be included.
3. The sand mining from the agricultural field is being done in Haryana for a long time and it can be done in a more sustainable manner without adverse impact on agricultural productivity if proper environmental safeguards are taken.
4. The slope of mining area adjacent to agricultural fields should be proper (preferably 45 degree) and adequate gap (minimum 10 feet) be left from adjacent agricultural field to avoid erosion and scouring.

The provision for sand mining in agricultural field may be permitted, whenever replenishment of sand occurs due to natural phenomena.

Permission may also be granted by competent authority (District administration) for excavation of sand/Soil from agricultural fields, after due diligence of this prevailing condition in order to avoid any unacceptable impact on the environment and nearby livelihood from agriculture provided such objective of such excavation mining of Soil/Sand in limited increase the productivity of sand agricultural field.

9.0 MONITORING MECHANISM

9.1 Illegal Mining

The Hon'ble Supreme Court in its Judgment dated 2.08.2017 in W.P 114 of 2014 in the matter of Common Cause Vs Union of India & Ors, inter-alia passed the following:

Para 128. *The simple reason for not accepting this interpretation is that Rule 2(ii-a) of the MCR was inserted by a notification dated 26th July 2012 while we are concerned with an earlier period. That apart, as mentioned above, the holder of a mining lease is required to adhere to the terms of the mining scheme, the mining plan and the mining lease as well as the statutes such as the EPA, the FCA, the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981. If any mining operation is conducted in violation of any of these requirements, then that mining operation is illegal or unlawful. Any extraction of a mineral through an illegal or unlawful mining operation would become illegally or unlawfully extracted mineral."*

In view of above Judgement, any mining activities which are not governed under the provision of Environment (Protection) Act, 1985, The Water (Prevention & Control of Pollution Act, 1974, The Air (Prevention & Control of Pollution) Act, 1981, Forest Conservation Act-1980, Wildlife Protection Act - 1972, shall be considered as illegal mining within the provision of section 21(5) of Mines and Minerals (Development & Regulation) Act, 1957 (MMDR Act) and the concerned authority shall take necessary action within the provision of MMDR Act.

As per the provision of 23(C) of MMDR Act, the State Government is empowered to make rules for preventing illegal mining, and transportation

& storage of Illegal minerals. All such mining which qualifies under illegal, shall be dealt with in the provision of MMDR Act by the concern authorities.

State Pollution Control Board (SPCB) is the nodal authority in the State for dealing with cases related to pollution or environment management coming under the purview of the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981 and the Environment Protection Act 1986. SPCB shall initiate appropriate action under the provision of these acts for non-compliance or violation of the provisions.

9.2 Environmental Damage due to illegal mining

The environmental damages incurred or resulting due to illegal mining shall be assessed by a committee constituted by District Administration having expertise from relevant fields, and also having independent representation of locals and State Pollution Control Board. Guidelines for assessment of ecological damages prescribed by the State Government or Concerned Pollution Control Boards or any other authority shall be applicable and compensation as fixed shall be paid by the project proponent, in light of Hon'ble National Green Tribunal orders.

9.3 Monitoring of Mining near Inter-district or inter-state boundary

There are situations where bifurcated river becomes district boundaries or state boundaries in such situation it is difficult to assess the mining potential, or to have close monitoring and enforcement of the regulatory provision. Such challenges have been identified and dealt with in SSMG-2016. However, in the absence of any standardized procedure, the monitoring has not been effectively practiced. This has been highlighted by the High Power Committee constituted by NGT in the matter pertaining to illegal mining.

The districts/state sharing the boundary shall constitute the combined task force for monitoring of mined materials, mining activity and also should actively participate in the preparation of DSR by providing appropriate inputs. In such cases, the draft DSR so prepared shall be put up for public consultation in both the districts through respective district administration website.

The task force shall meet every quarter to reconcile the data collected during the period and identify any gap/ lapses based on the outcome of such meeting. The respective district shall take action/ corrective measures. Effort shall be made for real-time data sharing between both the district.

The task –force shall include essentially the representative of respective districts from the mining department, transport department, regional office of SPCB concerned and a reputed citizen nominated by district administration. The Taskforce shall be headed by officer not less than ADM rank and quarterly outcome shall be submitted to District administration.

In addition to the above, there is a need for strict surveillance, particularly at night. The State of Gujarat has already initiated a program called '*Trinetra*' for night surveillance by using night-vision drones to control illegal mining incidents. This program is giving satisfactory results. Such type of system may also be developed by each State within a reasonable time.

A typical standard operating procedure for assessing illegal mining by the committee constituted shall, but not limited to, include the steps given in the following table. However, the process of assessing can be modified based on site-specific conditions and any deviation shall be recorded in the report with proper justification.

Suggestive standard Practice for assessing illegal mining

| | |
|--------|---|
| Step 1 | The assessment team should collect the information and documents prescribed in the Pre-Requisite section. |
| Step 2 | The assessment team should verify the applicability/validity of statutes under EPA-1986, Air and Water Act, MMDR 1957, State Mines and Mineral Rules, etc. |
| Step 3 | Field visit should be conducted for identification of mining lease area (in hectare) and boundary pillar constructed to indicate the same. |
| Step 4 | With the help of GPS instrument, the team should assess the area where any extraction or mining have been carried out on the day of visit and calculate the mined-out area in a hectare. |
| Step 5 | If available, the team may avail the use of latest satellite images for calculating the total mined out area. |
| Step 6 | The team should verify the Ground / Surface Level (in meter above MSL) of at least 04 highest points in or around the area where mining has been done. The Ground/surface level will then be computed based on averaging of 04 highest points verified by the team. |
| Step 7 | With the help of Depth Measurement kit or any depth measuring instruments, the depth should be measured for at least 04 points in the mined-out area. For computing, the depth, averaging of the value obtained at 04 points should be done. |
| Step 8 | Verification of compliance conditions of Environmental Clearance and Consent to operate, mining methodology under Mining Plan |
| Step 9 | Identification of vulnerable impacts observed on the field and non-compliance of conditions of Environmental Clearance and Consent to Operate. |

| | |
|---------|---|
| Step 10 | Field Survey for identification, monitoring and verification of ecological species based on the information available and documents mentioned in the Pre-requisite section. |
| Step 11 | Preparation of inventory of machinery used/observed on the field (optional) |
| Step 12 | Preparation of inventory of hydraulic structures observed on the field (optional) |
| Step 13 | Water sampling for assessment of water quality including physical and biological parameters. (optional) |
| Step 14 | Reconciliation collation of data/information and compilation to maintain violation. |
| Step 15 | Identification of restoration plan and computation of cost of the restoration plan. |

9.4 Monitoring Mechanism

A uniform monitoring mechanism is required to assess the regulatory provision in quantitative terms, with robust institutional and legal framework. Based on past experience and suggestions available, the following requirements are suggested for defining a mechanism for monitoring of mining activities which will help in identification of mining which is operating either illegally or are violating the regulatory provisions. Some suggestion will facilitate direct or indirect information to help in such an assessment.

1. All precaution shall be taken to ensure that the water stream flows unhindered and process of Natural river meandering doesn't get affected due to mining activity.
2. River mining from outside shall not affect rivers, no mining shall be permitted in an area up to a width of 100 meters from the active edge of embankments or distance prescribed by the Irrigation department.

3. The mining from the area outside river bed shall be permitted subject to the condition that a safety margin of two meters (2 m) shall be maintained above the groundwater table while undertaking mining and no mining operation shall be permissible below this level unless specific permission is obtained from the Competent Authority. Further, the mining should not exceed nine-meter (9 m) at any point in time.
4. Survey shall be carried out for identifying the stretches having habitation of freshwater turtles or turtle nesting zones. Similarly, stretches shall be identified for other species of significant importance to the river ecosystem. Such stretch with adequate buffer distance shall be declared as no-mining zone and no mining shall be permitted. The regulatory authority as defined for granting Environmental Clearance, while considering the application of issuance of ToR and/or EC for the adjacent block (to non-mining zone) of mining shall take due precaution and impose requisite conditions to safeguard the interest of such species of importance.
5. District administration shall provide detailed information on its website about the sand mines in its district for public information, with an objective to extend all information in public domain so that the citizens are aware of the mining activities and can also report to the district administration on any deviation observed. Appropriate feedback and its redressal mechanism shall also be made operational. The details shall include, but not limited to, lease area, geo-coordinates of lease area and mineable area, transport routes, permitted capacity, regulatory conditions for operation including mining, environmental and social commitments etc.

6. A website needs to be maintain to track the movement of centralised sand mining and a Centralised server system should be made to manage the data related to sand mining across India.
7. The mineral concession holders shall maintain electronic weighbridges at the appropriate location identified by the district mining officer, in order to ensure that all mined minerals from that particular mine are accounted for before the material is dispatched from the mine. The weighing bridge shall have the provision of CCTV camera and all dispatch from the mine shall be accounted for.
8. The mineral movement shall be monitored and controlled through the use of transit permit with security features like printing on IBA approved MICR papers, Unique bar/QR, fugitive ink background, invisible ink mark, void pantographs and watermarks papers or through use of RFID tagged transit permits and IT /IT-enabled services. Such monitoring system shall be created and made operationalised by State Mining department and district level mining officer shall be responsible for ensuring that all legal and operational mines are connected and providing the requisite information on the system. Regular check and associated report shall be submitted to DLTF and uploaded on the website.
9. State Government shall constitute a District Level Task Force (DLTF) under the Chairmanship of Deputy Commissioner/District Magistrate/Collector with Superintendents of Police and other related senior functionaries (District Forest Officer, District transport officer, Regional officer- SPCBs, Senior Officer of Irrigation Department, District Mining Officer) with one/two independent member nominated by the Commissioner concerned. The independent member shall be retired government officials/teacher or ex-serviceman or ex-judiciary member.

The DLTF shall keep regular watch over the mining activities and movement of minerals in the district. The DLTF shall have its regular meeting, preferably every month to reconcile the information from the mining activity, and other observations made during the month and take appropriate corrective and remedial action, which may include a recommendation for revoking mining lease or environmental clearance. The DLTF may constitute an independent committee of the expert to assess the environmental or ecological damage caused due to illegal mining and recommend recovery of environmental compensation from the miner's concern. The recommendation may also include action under the provision of E(P) Act, 1986.

10. The area not identified for mining due to restriction or otherwise are also to be monitored on a regular basis by the DLTF. Any observations of mining activity from the restricted area shall be reported and corrective measures shall be initiated on an urgent basis by the DLTF.
11. The dispatch routes shall be defined in the Environmental Clearance and shall be avoided through densely habituated area and the increase in the number of vehicle movement on the road shall be in agreement with the IRC guidelines / carrying capacity of the road. The alternate and dedicated route shall be explored and preferred for movement of mining to avoid inconvenience to the local habitat. The mining production capacity, by volume/weight, shall be governed by total permissible dispatch calculated based on the carrying capacity of dispatch link roads and accordingly, the production should be regulated.
12. The movement of minerals shall be reconciled with the data collected from the mines and various Naka/check posts. Other measures may also include a general survey of the potential mineable area in the district

which has not been leased/auctioned or permitted for mining due to regulatory or other reasons.

13. The location and number of check post requirement shall be reviewed by DLTF on a regular basis so that appropriate changes in location/number could be made as per the requirement. Such review shall be carried out on a regular basis for the district on inter-state boundary or district providing multiple passages between two districts of different states.
14. The district administration shall compile the information from their district of the permitted and legal mined out minerals and other details and share such information and intelligence with the officials of the adjoining district (Inter or/and Intra State) for reconciliation. The information shall include the area of operation, permissible quantity, mined out minerals (production) the permitted route etc., and other observations, especially where the mine lease boundary is congruent with the district boundary. Such coordination meeting shall be held on a quarterly basis, alternatively in two district headquarters or any other site in two districts decided mutually by the District Magistrate.
15. The mining department shall include submission of an annual environmental audit report as one of the conditions in the mining lease agreement. The annual audit for each river bed mining lease shall be carried out and the audit report shall be uploaded on the website of district administration. The audit shall be carried out by an independent team of 3 members nominated by District Collector/Magistrate/Commissioner comprising of Ex-Serviceman, Ex-Government officials of repute, Professor or Person having experience of mining/environment. The guidelines and method of the audit shall reflect adequately the monitor-able parameters and output and reflect

the compliance status with respect to the conditions imposed by the regulatory authorities including conditions of Environmental clearance.

16. The in-situ and ex-situ environmental mitigative measures stipulated as EMP, CER, CSR and other environmental and safety conditions in mines including the welfare of labours shall properly reflect in the audit report.

9.5 Suggestive additional requirements are

i. The requirement at the Mine Lease Site:

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

ii. 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 a smartphone. It will require internet availability on SIM card;
- c. SMS: Transport Permit or Receipt shall be uploaded on the server even by sending SMS through mobile. Once Transport Permit or Receipt get uploaded, a unique invoice code gets generated with its validity period.

iii. Proposed working of the system:

The State Mining Department should print the Transport Permit or Receipt with security features and issue them to the mining leaseholder 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 preferable 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.

iv. 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 the website, Android Application and SMS.

v. Breakdown of Vehicle:

In case the vehicle break-down, the validity of Transport Permit or Receipt shall be extended by sending SMS by the driver in specific format to report the breakdown of the vehicle. The server will register this information and register the breakdown. The State can also establish a call center, 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 center.

vi. Tracking of Vehicles:

The route of the vehicle from source to destination can be tracked through the system using checkpoints, RFID Tags, and GPS tracking.

vii. Alerts or Report Generation and Action Review:

The system will enable the authorities to develop a 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 regulatory authority and the State Pollution Control Board or Committee. The monitoring arrangements envisaged above shall be put in place. 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.

Some of the State has followed the SSMMG-2016 and has also improvised or customized on the provisions given therein, and are successfully in operation. Salient provision adopted at different stages of sand mining in the state of Tamil Nadu is given as **Annexure VIII**.

9.6 Actions against illegal excavation and transport

Solapur district administration in Maharashtra had adopted a multi-pronged strategy to penalize the persons involved in illegal excavation and transport which resulted in a significant increase in revenue earned by the state. Following rules and procedures as mentioned in these guidelines will add to the costs of PP. Those involved in illegal activities are not required to bear these costs and this will make their supply in the market cheaper (though illegal). This will put the players running their business by following rules and procedures laid down by the government to disadvantage as far as the selling price is considered. Therefore, it is necessary to come down heavily on those involved in illegal excavation/transport, so that there is no incentive for players to abide by the rules.

The following action may be taken to achieve this deterrence against illegal business:

1. The action should be taken under all legal options available simultaneously. Thus, after identifying the case of illegal excavation, storage and/or transport of minor minerals (including sand), fine should be levied as per the land revenue laws/code(s) of the state. In addition, FIR should be lodged in the police station under relevant sections of law including sec 379 IPC. In addition, action under the Motor Vehicle Act, 1989 and relevant rules should initiate to cancel/suspend the driving license of the driver and permit of the vehicle. Further, action should be initiated under provisions in the Income Tax Act, 1961 for unaccounted income and under the Central Goods and Services Act, 2017 for non-payment of GST. (Earlier this was done under the state act pertaining to Value Added Tax/Sales Tax). Habitual offenders should also be taken up under local state laws for externment and/or preventive action. It is clarified that as per law, it is possible to take all actions under various laws

simultaneously for one offence. What is prohibited in law is an action under the same law for the same act more than once.

2. The action should be taken against all persons responsible. Often, there is a tendency to penalize only the drivers of the vehicles. The mafia of illegal mining and transport is much bigger and drivers are only one part of the system. It is necessary to identify all those involved in the offence. It is usually not possible to reach the place of excavation without creating a motorable pathway up to the same through land which may be private land. Such role of such landowners needs to be looked into for each offence and proceeded against simultaneously. Further, the role of vehicle owners needs to be probed. Role of the person who allowed his land to be used for illegal excavation and storage should also be examined. Lastly, the person who purchases such sand should also be probed. The legal proceedings stated above needs to be initiated against all of these together. An attempt should be made to fix the financial responsibility in joint and several ways so that recovery is easier.
3. There may be discretion available in law about the extent of the penalty to be levied. If such discretion is very wide, then it is advisable that guidelines may be laid down to reduce such discretion in law for levying penalties. For example, in Maharashtra, Land Revenue Code, fine of any amount of penalty up to thrice the value of the sand can be levied. Solapur district administration had instructed Tahsildars and SDMs not to use discretion and levy the fine of three times the value. Availability of discretion makes junior level functionaries susceptible to pressures and it may also lead to corrupt practices.
4. It is emphasized that actions, as stated above, are most important to ensure that the IT-based system works. If these exemplary actions are not taken against everyone, it shall create a strong disincentive to those

involved in legal excavation and transportation. For IT-based (or any other) legal system to work, it is necessary to ensure that illegal system stops working altogether.

Annexure-I**Details of Sand/M-Sand Sources****a) Rivers:**

| River Name/M-Sand Plant | Total Stretch of River (in KM) | Type of River (Perennial or Non-Perennial) |
|-------------------------|--------------------------------|--|
| | | |

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

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

c) Patta Lands/Khatedari Land:

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

d) M-Sand Plants:

| Plant Name | Owner | District | Tehsil | Village | Geo-location | Quantity Tonnes/Annum |
|------------|-------|----------|--------|---------|--------------|-----------------------|
| | | | | | | |

Note: For inclusion of M-Sand Plant/Patta Land in DSR the plant/landowners need to submit the request to the Mining Department with complete details. Inclusion in DSR does not give them the right to operate the M-Sand Plant/Sand Mining lease.

Annexure-II**List of Potential Mining Leases (existing & proposed)****Rivers**

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

Patta Lands/Khatedari Land: (existing & proposed)

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

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

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

M-Sand Plants :(existing & proposed)

| Plant Name | Owner | District | Tehsil | Village | Geo-location | Quantity Tonnes/Annum | Existing/Proposed |
|------------|-------|----------|--------|---------|--------------|-----------------------|-------------------|
| | | | | | | | |

Annexure-III**Cluster & Contiguous Cluster details****Clusters:**

| River Name | Cluster No. | Lease No | Location (Riverbed / Patta Land) | Village | Area (in Ha) | Total Excavation (Ton) | Total Mineral Excavation (Ton) |
|------------|-------------|----------|----------------------------------|---------|--------------|------------------------|--------------------------------|
| | | | | | | | |
| | | | | | | | |

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) |
|------------|------------------------|------------|---------------------------------|----------------------------------|---------------------------|---------|-----------------------|--------------------------------|
| | | | | | | | | |
| | | | | | | | | |

Annexure-IV

Transportation Routes for individual leases and leases in Cluster

| Lease No | Transportation Route No | Number of tipper s /day of lease | Number of tipper s /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 |
|----------|-------------------------|----------------------------------|---|-----------------------|--------------------------------------|---|---|----------------------|
| | | | | | | | | |
| | | | | | | | | |

| Cluster No | Transportation Route No | Number of tipper s /day of cluster | Number of tipper s /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 |
|------------|-------------------------|------------------------------------|--|-----------------------|--------------------------------------|---|---|----------------------|
| | | | | | | | | |
| | | | | | | | | |

Annexure-V**Final List of Potential Mining Leases (existing & proposed)****Rivers**

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

Patta Lands/Khatedari Land: (existing & proposed)

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

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

| Name of Reservoir/ Dams | Maintain/ Controlled by State Govt./PSU etc. | Location | Distt. | Tehsil | Village | Size(Ha) | Quantity MT/Year | Existing/ Proposed |
|-------------------------|--|----------|--------|--------|---------|----------|------------------|--------------------|
| | | | | | | | | |

M-Sand Plants :(existing & proposed)

| Plant Name | Owner | District | Tehsil | Village | Geo-location | Quantity MT/Annum | Existing/Proposed |
|------------|-------|----------|--------|---------|--------------|-------------------|-------------------|
| | | | | | | | |

Annexure-VI**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) |
|------------|-------------|----------|----------------------------------|---------|--------------|------------------------|--------------------------------|
| | | | | | | | |
| | | | | | | | |

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 (in Ha) | Total Mineral Excavation (Ton) |
|------------|------------------------|------------|---------------------------------|---------------------------------|---------------------------|---------|-------------------------|--------------------------------|
| | | | | | | | | |
| | | | | | | | | |

Annexure-VII**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 |
|----------|-------------------------|---------------------------------|--|-----------------------|-------------------------------------|---|--|----------------------|
| | | | | | | | | |
| | | | | | | | | |

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

Annexure VIII**Salient provision for sand mining in the state of Tamil Nadu****STEPS TO BE FOLLOWED BEFORE EXECUTION:**

- The state as a policy should endeavor to have single authority/agency responsible for all river sand mining in the state with an objective to ease the gap in demand and supply and accordingly, take necessary measures including planning, monitoring of mined material and its transport, and to curb illegal mining and sale of materials.
- The prospective site for sand quarry may be identified based on the availability of adequate sand deposits along the river beds, which hinders the free flow of water and results in flooding during monsoon seasons. Emphasis may be given to such quarry sites which is more viable for replenishment.
- A detailed study may be conducted by engaging expert from reputed Institutions to identify prospective sand reaches, assessment of the impact of sand quarrying on the Ground Water Table and water availability, conduct bore log details and study the social and environmental aspects. The generic requirement for replenishment study is to be followed.
- Once the site is identified for prospective sand quarry site based on the detailed replenishment study, the concerned department shall submit the proposal with the geo-tagged boundary of the proposed mining Precise Area Proposal to the District Collector for approval.
- A joint inspection may be carried out by the RDO/Sub-Collector, Assistant/Deputy Director,

- Executive Engineer, TWAD Board and the PWD officials to consider the various factors before giving consent to the proposal.
- The RDO concerned along with Revenue officials may verify the revenue records of the proposed sand quarrying area and give the NOC.
- The AD/DD Mines may verify the presence of permanent structures such as tower line, bridge, monuments if any, in the vicinity of the proposed mining site as per Tamil Nadu Minor Mineral Concession Rules, 1959 (As per Rule 36 " there shall be no quarrying of sand in any river bed or adjoining area or any other area which is located within 500 meter radial distance from the location of any bridge, water supply system, infiltration well or pumping installation of any of the local bodies or Central or State Government Department or the Tamil Nadu Water Supply and Drainage Board head works or any area identified for locating water supply schemes by any of the above mentioned Government Department or other bodies" and " The distance of 50 meter shall be measured in the case of railway, reservoir or canal horizontally from the outer toe of the bank or the outer edge of the cutting, as the case may be "). Also, the availability of minerals may be cross verified with the available DSR.
- The TWAD officials may verify the drinking water schemes located nearby the proposed quarry site and the minimum distance required as per statutory norms.
- Based on the feasibility report of the joint inspection by the Revenue, Tamil Nadu Water Supply and Drainage Board and Mining officials/experts, the District Collector may give consent for the Precise Area proposal.

- After getting Precise Area approval, a detailed Mining Plan and sketch shall be prepared by the Executive Engineer, PWD using the services of a NABET accredited consultant who holds the pivotal role in the preparation of mining plan. Due responsibility will be expected on the concerned consultant in the mining plan preparation taking care of adhering to all mining rules, existing as on date. The mining plan shall contain the details of quantity to be excavated, the period of mining, method of excavation, deployment of required machinery, Environment Management Plan (EMP), proposed number of laborers to be deployed and Conceptual Mining Plan, as per Rule 41 of TNMMC Rules 1959. It is also the duty of the consultant to give the safe distance of 50 m or twice the bank height from the toe of the riverbank, whichever is higher and fixing the Geo coordinates for boundaries using DGPS instruments.
- The concerned Executive Engineer, PWD shall submit the Mining Plan prepared by the NABET accredited consultant to the concerned Assistant/Deputy Director, Department of Geology and Mines for approval, as per Rule 42 of TNMMC 1959. After scrutiny, the Assistant/Deputy Director, Department of Geology will present the Mining plan before the State Level Environment Impact Assessment Authority (SEIAA) for granting Environmental Clearance.
- The Executive Engineer, PWD shall prepare Form I and Pre-feasibility report with the help of the consultant and submit to SEIAA for an area less than 50 Ha. or to the Ministry of Environment and Forest and Climate Change (MoEF&CC) for the area more than 50 Ha.
- The State Expert Appraisal Committee (SEAC) under SEIAA, consisting of experts from renowned fields such as Mines, Environment, Sociology etc. shall conduct a site inspection of the proposed sand quarry site and after intense scrutiny, may recommend the proposal to SEIAA for approval.

- SEIAA shall grant Environmental Clearance for the sand quarry proposal after analyzing all the statutory provisions and based on the recommendation of the SEAC.
- The Environmental Clearance shall be informed to the public with basic details through advertisement in at least two widely circulated local newspapers with at least one in the vernacular language of the locality, within 7 days of the receipt of the clearance.
- On receipt of the Environmental Clearance, the Executive Engineer, PWD shall apply for Consent to Establish (CTE), from the Tamil Nadu Pollution Control Board as per the Air and Water Act, to enter upon the sand quarry site and commence the preliminary works such as construction of temporary sheds, bio-toilets, formation of biodegradable road using sugar cane leaves etc., drilling of bore wells etc. as per the statutory requirements. After all the preliminary works are completed, the Executive Engineer, PWD shall apply for the Consent to Operate (CTO) from the Tamil Nadu Pollution Control Board. Earmarking boundary of the identified land site through the concrete posts along with red flags need to be established.
- On receipt of the CTO, the Executive Engineer, PWD shall request the consent of the District Collector to commence the quarries. The District Collector shall request the Taluk Level Task Force comprising of Tahsildar, Inspector of Police, Officials from the Departments of Geology and Mining, Transport and Forest, Assistant Engineer, PWD and the Village Administrative Officer concerned, to verify the compliance of all preconditions mentioned in the Environmental Clearance and grant necessary permission to start the functioning of new sand quarries.

II. STEPS TO BE FOLLOWED DURING EXECUTION:

- Before the commencement of mining operations, the depth of sand quarrying needs to be measured accurately using Advanced technology and new gadgets like Total Stations, Global Positioning System (GPS) instruments etc. The Total Station and GPS instruments also need to be calibrated before measurement. Both the traditional and modern techniques may be infused in the right blend to get an accurate measure of the depth. A clear contour map (0.25m interval) of the levels within 2Km (one Km U/s and one Km D/s) needs to be prepared and submitted to both the Project Director, Sand Quarrying Operations and all the Monitoring Committee members. The depth of sand quarrying shall be restricted to 1 m from the theoretical/design bed level.
- The mining area must be demarcated at a minimum distance of at least 50 m away from the river embankment on either side. The boundaries of the quarries may be fixed with reference to the existing survey marks from the survey fields adjacent to the river. Sand quarrying lease area shall be demarcated on the ground with pucca stone or concrete pillars to show the present natural bed level and the depth of mining allowed.
- Modern techniques such as drone survey may be adopted to assess the depth and quantity of the mined area. Boundary pillars shall be erected at an interval of 50 m each on all four sides of the sand quarry site with red flags on every pillar and also in site pillars. The levels of shoal height, river bed height and depth to be excavated up to one meter downwards shall be marked in the pillars to avoid any deviation from the approved depth of excavation.
- It shall be ensured that no sand quarrying of any type is undertaken within 50m of the distance mentioned in the proposal (whichever is higher)

from both the banks of the river to control and avoid erosion of river banks.

- Temporary access roads or Katcha roads shall be formed between the banks of the river and the mining area with locally available bio-degradable materials such as sugarcane waste (bagasse), hay, etc.
- Proper entry and exit point for the movement of loading vehicles in and out of the sand quarry site shall be carefully located taking into consideration the habitations/settlements in the area.
- To monitor the groundwater level during sand quarrying operations, a network of existing wells may be established around the sand quarrying area and new piezometers must be installed at all sand quarry sites. Monitoring of Ground Water Quality in the vicinity (one Km radius from the sand quarrying site) shall be carried out once in two months.
- Periodic Monitoring (at least four times in a year – pre-monsoon, Monsoon, Post monsoon and winter) once in each season shall be carried out by PWD and the data thus collected may be sent regularly to SEIAA/TNPCB. If at any stage, it is observed that the groundwater table is getting depleted due to the mining activity; necessary corrective measures shall be carried out, which includes immediate stopping of mining.
- Similar to the Baseline studies for data on water, soil and air etc., that is being done before the sand quarrying operations, the air and water quality may be checked periodically by Tamil Nadu Pollution Control Board to ensure that no pollution is caused due to Sand Quarrying Operations. 10. Safety gadgets such as earplugs, goggles, respiratory

devices, luminescent vests etc. may be provided to the workers at the sand quarry site.

- First aid kit with all essentials shall be kept ready at all quarry/depot site, in case of any emergency.
- To prevent air pollution due to the dust during sand quarrying operations and safeguard the persons in the sand quarry and depot site, constant water sprinkling on the pathways and dust prone areas may be done. The sand loaded vehicles are to be covered with a tarpaulin before moving out of the quarries/depots.
- Suitable depots shall be located in the vicinity of the sand quarry site to facilitate the sale of sand. While selecting the site for depots, it must be ensured that the site is within 25 km from the sand quarry site and has an area of around 10-15 Acres with parking facilities and proper entry and exit for smooth movement of the vehicles. The depot site shall preferably be a Government poramboke land, foreshore area of tank bund etc., near an NH/SH/MDR/ODR. In the absence of any Government land in the vicinity, private Patta land may be leased out and rent fixed as per the approved Government rates applicable therein.
- Permission must be obtained from the Electricity Board for power supply to operate the CCTV cameras at sand quarry site and depots.
- Minimum of two CCTV cameras, one each at the entry and exit point and one PTZ camera may be installed at all quarries/depots to monitor illegality if any taking place in the sand quarry/depot.
- To ensure uninterrupted seamless live streaming of videos from the surveillance cameras, a high-speed Internet Lease Line connection may

be made available at all quarries/depots. Arrangements may also be made for online monitoring of the sand quarrying, Centre for Assessing Real-Time Sand Mining (CARS) that could be located at the office of the Project Director in Chennai.

- The live streaming of the videos shall be monitored at a Centralised control room and the data shall be stored in the Server for future references. A robust Customer Care may also be functional 24 x 7 at the Control Room, to redress the grievance of the public.
- Drop gates shall be installed at the entry and exit points of all quarries/depots.
- Display boards shall be erected in local vernacular language at sand quarry/depot site, in the nearest village by which sand transportation will be carried and at the entrance of the village road from the main road.
- The concerned authority of PWD shall call for e-tender to select the contractors for loading/raising of sand at the quarry site, transporting contractors to transport sand from the quarry site to depots and loading/maintenance contractors at depots.
- Sand shall be loaded in the quarries in the PWD tendered GPS fitted vehicles and online transmit permit shall be issued by the competent authorities in PWD to the transporting vehicles to transport sand from the quarry to depots.
- On the arrival of the sand shunting vehicles from quarry to the depot, an online authentication shall be done to confirm the arrival of the

appropriate quantity of sand mentioned in the transport permit into the depot.

- The loading of sand from the depots shall be carried out by booking through the online portal "www.tnsand.in" as done presently. Online transit passes will also be issued to the loaded vehicles which could be verified by using an Android app "TNSand Investigator".
- During operation of the quarries, the PWD officers shall ensure that at no point in time, the depth of quarry exceeds 1 m depth from the river bed level and quarrying is done in a uniform manner over the entire mining area to avoid overexploitation and formation of pits at fixed places.
- Proper registers may be maintained at the entry and exit points of the sand quarry/depot sites and a Loading Register may be made available during inspection. An Inspection Register and a Complaint Register may be made available at the sand quarry/depot site.
- The functioning time of quarries/depots shall be from 7.00 AM to 6.00 PM. No sand transporting vehicles to be parked inside the quarry/depot site during night time.
- A copy of the approved mining plan may be kept at the quarry site for ready reference.
- Photographs and sketch showing the pit dimensions, depth etc. may be recorded every week and maintained in the sand quarry. The Executive Engineer, PWD may inspect each sand quarry on a weekly basis and ensure that mining activities are taking place within the approved boundaries/depth.

- The sand quarrying activity shall be stopped if the entire quantity is quarried even before the expiry of the sand quarry lease period and the same shall be mentioned by the PWD authorities.
- The Taluk Level Taskforce shall inspect the quarries every fortnight, as per G.O. (Ms) No. 135 of Industries Department, dated 13.11.2009 and record the status of the compliance in the registers maintained at the sand quarry site.
- The Taluk Level Task Force has to submit its inspection report to the District Level Task Force chaired by the District Collector. The District Level Task Force has to be convened every month to discuss cases of illegal quarrying. An Environmentalist from reputed State / Central Institution and a legal expert on environmental matters may be part of the District Level Task Force. The District Level Task Force shall also dispose of the petitions on illegal sand quarrying after due enquiry and scrutiny, and pass orders within a period of two months from the date of receipt of the complaint. If any person is aggrieved with the orders passed by the District Level Task Force, an appeal may be preferred before the Appellate Forum.
- The District Collector shall take necessary steps to strengthen the existing District and Taluk Level Committees and act on the complaints received, if any, on illegal sand quarrying and take strict remedial measures to rectify the same in a time-bound manner. The District Level Task Force may send its monthly report to the Appellate Forum formed as per G.O. (Ms) No. 27 of Industries Dept. dated 17.02.2015.
- The Appellate Forum shall hear the appeals filed against the orders passed by the District Level Task Force. The Appellate Forum comprises

of the Secretaries to Government from Industries Department, Public Works Department, Revenue Department, Environment and Forests Department, Commissioner of Geology and Mining and an Expert from a reputed Government Institution.

- The Appellate Forum may convene once in 2 months to deliberate on the reports from the District Level Task Force and shall dispose of the appeals made by the petitioners aggrieved with the orders passed by the District Level Task Force.
- Periodical Capacity building and sensitization of PWD officials on the environmental and legal aspects of sand quarrying may be made mandatory. Continuous training and awareness programs shall be scheduled and conducted by IIT/Anna University for the PWD staff to keep themselves aware of the best practices in this field. It may be ensured that the enforcement officials from the Departments of Revenue, Police, Geology and Mining and Transport in the districts where quarries are situated are given adequate training and capacity building on their duties and responsibilities with respect to inspection of sand quarries and sand transporting vehicles at specified time intervals.
- No blasting shall be carried out any point in time.
- It is the obligation of the Public Works Department to run the quarry in an environmentally friendly and ecologically sustainable manner.
- The Hon'ble High Court-appointed Monitoring Committee shall inspect the sand quarries periodically and submit a report to the Hon'ble High Court.

- The PWD should explore/take necessary steps to introduce Mining Surveillance System (MSS) in line with MSS evolved by the Indian Bureau of Mines and Bhaskaracharya Institute for Space Applications and Geo-informatics (BISAG).

III. STEPS TO BE FOLLOWED AFTER EXECUTION:

- A Judicious mine closure plan may be formulated once the quarry is closed after exhaustion of the quantity of sand.
- Reclamation works may be factored into the contract agreement and strict monitoring by the PWD officials may be initiated to scrupulously follow up the mine closure plan.
- It may be ensured that the total quantity of sand permitted in the EC shall not be exceeded in any case.
- After the exhaustion of the quantity of sand, the sheds constructed at the quarry site may be removed. All the roads and pathways may be levelled so that there is no obstruction for the normal flow in the river.
- All the records/registers may be carefully maintained by the PWD for future reference.



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"Enforcement & Monitoring Guidelines for Sand Mining" in compliance of Hon'ble NGT Order dated 04.09.2018 in O.A. No. 173/2018

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27 January 2020 at 17:12

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Dear Sir/Madam

MoEF&CC has published "Enforcement & Monitoring Guidelines for Sand Mining" in compliance of Hon'ble NGT Order dated 04.09.2018 in O.A. No. 173/2018 in the matters titled "Sudarsan Das Vs. State of West Bengal & Ors". The same is available at MoEF&CC "http://moef.gov.in/wp-content/uploads/2020/01/EM_Guidelines_Sand-Mining.pdf" and Parivesh website

"<http://environmentclearance.nic.in/writereaddata/SandMiningManagementGuidelines2020.pdf>" respectively.

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3. It is also requested that other stakeholders viz. SPCB, District Administration may also be informed accordingly, for implementation of provisions made in the Guidelines. For ready reference the same document is attached herewith.

--
with regards

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