

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI
Original Application No. 109 of 2024**

In the matter of:

Akash Dubey

...Applicant

Versus

Union of India & Ors.

...Respondent(s)

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(Nazimuddin)
Scientist 'F'

Central Pollution Control Board

Date: 05.07.2024

Place: Delhi

REPORT OF THE JOINT COMMITTEE CONSTITUTED BY HON'BLE NATIONAL GREEN TRIBUNAL, PRINCIPAL BENCH IN ORIGINAL APPLICATION NO. 109/2024 IN THE MATTER OF AKASH DUBEY VS. UNION OF INDIA & ORS

1. Introduction:

In the present application, petitioner stated that the Respondent No. 10 i.e., M/s Rudra Mining and Company has committed act of forgery in filing its Form- I for Environmental Clearance (EC) for extraction of “Morrum Mining” on the river bed of Sone River at Arazi No. 15 Cha, Khand No. 02, Village Bhagwa, Tehsil-Obra, District Sonbhadra, Uttar Pradesh whereas there is no morrum in that area.

Hon'ble NGT vide its order, dated 01.04.2024 in this matter of Original Application No. 109/2024 in the matter of Akash Dubey Vs. Union of India & Ors constituted a Joint Committee comprising of representative of Member Secretary, CPCB and Advisor/JS in-charge of EIA Mining (Non-Coal) MoEF&CC. Hon'ble NGT in its order, dated 01.04.2024 observed that:

“3. the Joint Committee constituted by SEAC has found as under:

“1. At the time of site visit it was observed that the mining lease is plain/soil land with flora in which, agriculture was being done by local farmers. (Photographs of the farming attached).

2. The lease is located in the outer reach of the rear end of river bank, due to which there is very low possibility of the occurrence of mineral

deposit during floods in future and makes it unsustainable from mining point of view.

3. There are water bodies in the lease area at the time of inspection, hence no mineral can be excavated from the water bodies/submerged area. No mineable mineral (morrum) was observed in the lease area at the time of physical inspection.

4. Joint Committee report discloses a shocking fact that the mining lease is for the area which is an agricultural land area and in which there is no possibility of occurrence of mineral deposit during floods and which is unsustainable for mining point of view.

5. Stand of the Applicant is that on the basis of such mining lease in fact the mining operation is being done by lease holders in other areas where the mineral exists.

6. Having regard to the above position, we deem it proper at this stage to constitute a Joint Committee comprising of representative of Member Secretary, CPCB and Advisor/JS in-charge of EIA Mining (Non-Coal) MoEF&CC.

7. Representative of Member Secretary, CPCB will act as a nodal agency.

“8. Joint Committee will visit the site and ascertain the correct position on the spot and also the truthfulness of the allegations of modus operandi adopted by State officials/Project Proponent to carry out illegal mining on the basis of lease in respect of the area where no mineral exists...”

2. Policies / Rules / Guidelines with regard to River Sand Mining:

2.1 Mines and Minerals (Development and Regulation) (MMDR) Act, 1957

The Sand mining is regulated in terms of the Mines and Minerals (Development and Regulation) Act, 1957 [MMDR Act] and the Mineral Concession Rules (MCR) framed by the concerned State Governments. The Section 15 of the MMDR Act 1957 empowers the State Government to formulate rules for minor minerals. The State Government is empowered to formulate the rules for preventing illegal mining, transportation and storage of minerals by exercising the powers conferred by section 23(C) of the MMDR Act.

A copy of Mines and Minerals (Development and Regulation) (MMDR) Act, 1957 is marked and annexed herein as **ANNEXURE-1**.

2.2 Applicability of Environment Impact Assessment (EIA) Notification 2006 and its subsequent amendments with regard to Sand/RBM Mining

A prior Environmental Clearance (EC) is mandatory for mining of Sand/RBM in accordance with EIA Notification 2006 and its subsequent amendments. The Ministry vide amendment notification S.O. 1886 (E), dated 20.04.2022, has delegated the power to State Level Environment Impact Assessment Authority (SEIAA) to issue EC for all minor minerals irrespective of mine lease area.

A copy of the Environment Impact Assessment (EIA) Notification 2006 and Notification S.O. No. 1886 (E), dated 20.04.2022 is marked and annexed herein as **ANNEXURE-2**.

2.3 Sustainable Sand Management Guidelines (SSMG), 2016 and “Enforcement & Monitoring Guidelines for Sand Mining” (EMGSM), 2020

Ministry of Environment, Forest and Climate Change (MoEF&CC) has issued “Enforcement & Monitoring Guidelines for Sand Mining” (EMGSM), 2020 supplemental to the existing guidelines, i.e., Sustainable Sand Management Guidelines (SSMG), 2016, which focuses on the effective monitoring of the sand mining, from the identification of sand mineral sources to its dispatch and end-use by consumers and the general public. These guidelines also highlight the essential infrastructural requirements necessary for effective monitoring for Sustainable Sand Mining and to control illegal sand mining through the use of IT, night surveillance through Unmanned Aerial Vehicle (UAV)/Drone, etc.

A copy of the Sustainable Sand Management Guidelines (SSMG), 2016 is marked and annexed herein as **ANNEXURE-3** and A copy of the “Enforcement & Monitoring Guidelines for Sand Mining” (EMGSM), 2020 is marked and annexed herein as **ANNEXURE-4**

2.4 Uttar Pradesh State Policy for mining of minor minerals

The Uttar Pradesh Minor Minerals (Concession) Rules, 2021 apply to the entire state of Uttar Pradesh. These rules cover mining operations for minor minerals such as ordinary sand, morrum, gravel, building stones, and ordinary clay.

- a) Mining leases are granted by the District Magistrate of the concerned district, except for limestone marble and dimensional granite.

- b) Mining leases for sand, morrum, *bajri*, or boulder found in the river bed are granted for a maximum period of five years.
- c) Mining leases for other minor minerals are granted for a period not less than five years and not more than ten.
- d) The State Government may grant a mining lease for any period longer than 10 years, but not exceeding 15 years.

2.5 Monitoring Mechanism in the State of Uttar Pradesh

(i) Status of CCTV Cameras installation at mining points verify the amount of sand extracted and materials transported.

(a) Rule-36(2) of Uttar Pradesh Minor Mineral Regulations, 1963 provides that the mining lease holder whose mining lease area is more than 5 hectares, shall construct check-post / gate and install 4 CCTV cameras capable of recording at 360° visibilities at his own expense for monitoring under the supervision of the D.M.

(b) The same is also controlled by Central Command Surveillance Centre located at Headquarters, Lucknow.

(ii) Status of regular patrolling by the Task force inspect mining operations

For effective control over illegal mining and transportation of minerals, local task force comprising of District Revenue Department, District Mining Department and Police level officers act as task force which constantly monitor the activities.

(iii) Setting up of dedicated institutional mechanism for monitoring of conditions of Environmental Clearance as granted under ELA Notification, 2006 in respect of sand and gravel mining under the supervision of the DMs. The PCBs and departmental officers adhere to the compliance of the Environmental Clearance Certificate.

(iv) Control of Mines and Transportation using latest technology such as:

(a) The Department has established a Command Centre at the Directorate of Geology and Mines at Lucknow from where they operate the Integrated Mines Surveillance System for the entire State.

(b) Artificial Intelligence based software and taking the help of Drones and Cloud Services for monitoring mining activity in the State are used for controlling illegal acts by violators.

(c) Drone videography /coverage are done in sensitive districts.

(d) CCTV Cameras and check-gates and Radio Frequency Identification (RFID) tags are used to monitor the movement of vehicles.

(v) Punishment is imposed for illegal Acts are as follow:

(a) State has made a provision in the Rules to blacklist a person for up to 2 years if found guilty of illegal mining/illegal transportation.

(b) The Rules have been amended to allow storage of minerals only beyond 5 km radius from the river bed in order to prevent illegal mining from river bed under the excuse/name of storage.

(c) Vehicle Tracking System to check the misuse of Transport Pass and Overloading has been introduced and under full scale implementation.

(d) Any new areas identified are based on survey conducted according to Sustainable Mining Guidelines, Mineral Exploration and then included in the District Survey Report (DSR).

(e) Instead of Physical Mineral Dispatch Permits, electronic permits (called MM11) with security features have been introduced which are controlled by OTP validation from online servers.

(f) For control of illegal mining and transportation, District Task Force has been constituted comprising District Magistrate, SSP, DFO, SDM, C.O., RTO and Mines Officers.

3. Joint Committee as per Hon'ble NGT order dated 01.04.2024:

In compliance to the Hon'ble NGT order dated 01.04.2024, (Para 6), a Joint Committee was constituted comprising of the following Officers:

1. Joint Committee Member:

- i. Shri Nazimuddin, Scientist 'F', Divisional Head IPC-II, Central Pollution Control Board, HO, Delhi
- ii. Shri Pankaj Verma, Scientist 'E', MoEF&CC, Impact Assessment Division and Member Secretary, Expert Appraisal Committee (non-coal mining), New Delhi

2. Assisting Team Member:

- i. Dr. (Ms) Satya, Scientist 'E', MoEF&CC, Regional Office- Lucknow
- ii. Shri Kamal Kumar, Scientist 'E', CPCB Regional Directorate, Lucknow
- iii. Shri Subham, JRF, UPPCB, Sonbhadra
- iv. Shri Yogesh Shukla, Surveyor, Mining Department, Sonbhadra

4. Site Visit by the Joint Committee:

The Joint Committee undertook a site visit to site in Village- Bhagwa Tehsil- Obra, District- Sonbhadra , Uttar Pradesh on 21.05.2024 followed by the meeting with State Officials of Uttar Pradesh. The photographs of the site visit are as follows;



Fig.1. Location of Pillar No. A



Fig.2. Location of Pillar No. B



Fig.3. location of Pillar No. C



Fig.4. Location of Pillar No. D



Fig.5. Mining site of M/s Rudra Mining



Fig.6. Mining site of M/s Rudra Mining



Fig.7. Mining site & Plot side cut



Fig.8. Mining Site Area 1



Fig.9. Mining Site Area



Fig.10. Mining Site Area



Fig. 11 Water Pond in Mining Site Area

Figures: Site Reconnaissance photographs



Figure: Site Image

8. Observations and Recommendations of the Joint Committee:

The mining lease area is located at Arazi No. 15 च)Khand 02), Village- Bhagwa Tehsil- Obra, District- Sonbhadra, Uttar Pradesh. LoI for the mine lease was issued by DM, Sonbhadra on 16.02.2023 on the basis of e-tendering in favour of M/s Rudra Mining and Company, Prop. Shri Bhupendra Pratap Singh S/o -Shri Ram Pratap Singh for excavation of morrum from Riverbed of Son River located at Arazi No. 15 च , Khand No. 02, Village- Bhagwa, Tehsil- Obra, District- Sonbhadra, Uttar Pradesh. ToR was issued by SEIAA on the EC application for the mining lease/project on 01.07.2023. Subsequently, in reference to a complaint dated 11.10.2023 and in compliance of the decision of SEAC in meeting held on 13.10.2023, a joint committee formed by SEAC visited the site on 15.10.2023 and submitted its report by letter dated 05.03.2024, with observations as quoted in Para 3 of order dated 01.04.2024 in the present O.A.

The land use of the mine lease area as per revenue records is non-agricultural government land. The coordinates of each pillar of the mining lease area have been demarcated with the help of GPS as per khasra map and subsequently shown in Khasra map. The GPS reading of all corner pillars are given below:

Co-ordinates of Mine Lease Area

Pillar No.	Latitude	Longitude
A	24°31'56.51"N	82°59'15.58"E
B	24°32'2.93"N	82°59'27.23"E
C	24°31'53.16"N	82°59'34.37"E
D	24°31'48.53"N	82°59'23.81"E

The Son River flows through the Sonbhadra district from west to east direction, which forms the main drainage system of the area. The lease area along Son river has mild slope towards south-east. The proposed lease area lies on right bank of Son River, which flows from west to east direction in the area, and it is in the upstream of the confluence point of Rihand River with Son River.

1. As per revenue records of Govt. of Uttar Pradesh, the land in question is not agricultural land. The lease area is non-agricultural government land. A copy BHULEKH record account no. 00017 of Govt. of Uttar Pradesh record is enclosed at **Annexure-5**.
2. No agriculture/crops were observed in lease area during the site visit.
3. As per District Survey Report (DSR) amendment letter dated 01.04.2021 and Letter of Intent (LOI) dated 16.02.2023 provided by state department official, mineral is available in the lease area. As per these document, the geological reserve is 364380 cubic meters, and the minable reserve is 218628 cubic meters in the lease area of 12.146 ha. A copy of Letter of Intent (LOI) dated 16.02.2023 and District Survey Report (DSR) amendment letter dated 1.04.2021 are enclosed at **Annexure- 6 & 7** respectively.
4. It was observed that there is a water pond near the river which is formed by mining carried out illegally in the past. A part of this water body overlaps a small part of the lease area.
5. It was observed that the mining lease area is plain land on right bank of Son River. The exposed cross sections at the edges of water pond indicated that

sand/morrum is available in the lease area below a layer of earth of variable thickness.

The joint committee recommends that a grid-based survey of the lease area regarding sand/morrum reserve in the lease area may be carried out by Project Proponent through a reputed expert institute and reviewed by SEIAA, Uttar Pradesh, to provide grid wise details about layers of earth and sand/morrum. The red line level i.e. the level below which mining not to be carried out may also be fixed by the survey to enable proper estimation of annual replenishment and permissible mining in subsequent years.

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(Nazimuddin)

Scientist-F &

Divisional Head IPC-II,

CPCB

(Pankaj Verma)

Scientist-E &

MS, EAC(Non-coal),

MoEF & CC &

**Government of India
Ministry of Mines**

**MINES AND MINERALS
(DEVELOPMENT AND REGULATION) ACT, 1957
(No. 67 of 1957)**

(As amended up to 10th May, 2012)

Issued by

**CONTROLLER – GENERAL,
INDIAN BUREAU OF MINES,
NAGPUR**

August, 2012

LIST OF AMENDING ACTS

1. The Mines and Minerals (Regulation and Development) Amendment Act, 1958 (15 of 1958)
2. The Repealing and Amending Act, 1960 (58 of 1960)
3. The Mines and Minerals (Regulation and Development) Amendment Act, 1972 (56 of 1972)
4. The Repealing and Amending Act, 1978 (38 of 1978)
5. The Mines and Minerals (Regulation and Development) Amendment Act, 1986 (37 of 1986)
6. The Mines and Minerals (Regulation and Development) Amendment Act, 1994 (25 of 1994)
7. The Mines and Minerals (Regulation and Development) Amendment Act, 1999 (38 of 1999)
8. The Mines and Minerals (Regulation and Development) Amendment Act, 2010 (34 of 2010)

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**THE MINES AND MINERALS (DEVELOPMENT AND
REGULATION) ACT, 1957**

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**MINES AND MINERALS
(DEVELOPMENT AND REGULATION) ACT, 1957
(No. 67 of 1957)**

An Act to provide for the ¹[development and regulation of mines and minerals] under the control of the Union.

BE it enacted by Parliament in the Eighth Year of the Republic of India as follows: -

PRELIMINARY

Short title, extent and commencement.

1. (1) This Act may be called the Mines and Minerals ²[(Development and Regulation)] Act, 1957.
- (2) It extends to the whole of India.
- (3) It shall come into force on such date as the Central Govt. may, by Notification in the Official Gazette, appoint.

Declaration as to the expediency of Union control.

2. It is hereby declared that it is expedient in the public interest that the Union should take under its control the regulation of mines and the development of minerals to the extent hereinafter provided.

Definitions.

3. In this Act, unless the context otherwise requires:-
 - (a) "minerals" includes all minerals except mineral oils;
 - (b) "mineral oils" includes natural gas and petroleum;
 - (c) "mining lease" means a lease granted for the purpose of undertaking mining operations, and includes a sub-lease granted for such purpose;
 - (d) "mining operations" means any operations undertaken for the purpose of winning any mineral;

¹ Substituted by M M (R D) Amendment Act, 1999, vide G.O.I. Ext. Part II, Section 1, No. 51, dated 20.12.99 (No. 38 of 1999).

² Ibid.

- (e) "minor minerals" means building stones, gravel, ordinary clay, ordinary sand other than sand used for prescribed purposes, and any other mineral which the Central Government may, by notification in the Official Gazette, declare to be a minor mineral;
- (f) "Prescribed" means prescribed by rules made under this Act;
- (g) "prospecting licence" means a licence granted for the purpose of undertaking prospecting operations;
- (h) "prospecting operations" means any operations undertaken for the purpose of exploring, locating or proving mineral deposit; ¹[Omitted]
- ²[(ha) "reconnaissance operations" means any operations undertaken for preliminary prospecting of a mineral through regional, aerial, geophysical or geochemical surveys and geological mapping, but does not include pitting, trenching, drilling (except drilling of bore holes on a grid specified from time to time by the Central Government) or sub-surface excavation;
- (hb) "reconnaissance permit" means a permit granted for the purpose of undertaking reconnaissance operations; and]
- (i) the expressions "mine" and "owner" have the meanings assigned to them in the Mines Act, 1952.

GENERAL RESTRICTIONS ON UNDERTAKING PROSPECTING AND MINING OPERATIONS

Prospecting or mining operations to be under licence or lease.

4. (1) ³[No person shall undertake any reconnaissance, prospecting or mining operations in any area, except under and in accordance with the terms and conditions of a reconnaissance permit or of a prospecting licence or, as the case may be, a mining lease, granted under this Act and the rules made thereunder]:

Provided that nothing in this sub-section shall affect any prospecting or mining

¹ Omitted by M M (R D) Amendment Act, 1999, vide G.O.I. Ext. Part II, Section 1, No. 51, dated 20.12.99 (No. 38 of 1999).

² Inserted by M M (R D) Amendment Act, 1999, vide G.O.I. Ext. Part II, Section 1, No. 51, dated 20.12.99 (No. 38 of 1999).

³ Substituted by M M (R D) Amendment Act, 1999, vide G.O.I. Ext. Part II, Section 1, No. 51, dated 20.12.99 (No. 38 of 1999).

operations undertaken in any area in accordance with the terms and conditions of a prospecting licence or mining lease granted before the commencement of this Act which is in force at such commencement.

Provided further that nothing in this sub-section shall apply to any prospecting operations undertaken by the Geological Survey of India, the Indian Bureau of Mines, ¹[the Atomic Minerals Directorate for Exploration and Research] of the Department of Atomic Energy of the Central Government, the Directorates of Mining and Geology of any State Government (by whatever name called), and the Mineral Exploration Corporation Limited, a Government Company within the meaning of Section 617 of the Companies Act, 1956.

²[Provided also that nothing in this sub-section shall apply to any mining lease (whether called mining lease, mining concession or by any other name) in force immediately before the commencement of this Act in the Union territory of Goa, Daman and Diu.]

³[(1A) No person shall transport or store or cause to be transported or stored any mineral otherwise than in accordance with the provisions of this Act and the rules made thereunder.]

(2) ⁴[No reconnaissance permit, prospecting licence or mining lease] shall be granted otherwise than in accordance with the provisions of this Act and the rules made thereunder.

(3) Any State Government may, after prior consultation with the Central Government and in accordance with the rules made under Section 18, ⁵[undertake reconnaissance, prospecting or mining operations with respect to any mineral specified in the First Schedule in any area within that State which is not already held under any reconnaissance permit, prospecting licence or mining lease.]

Termination of prospecting licences or mining leases.

4A. (1) Where the Central Government, after consultation with the State Government, is of opinion that it is expedient in the interest of regulation of mines and mineral

¹ Substituted by M M (R D) Amendment Act, 1999, vide G.O.I. Ext. Part II, Section 1, No. 51, dated 20.12.99 (No. 38 of 1999).

² Inserted by Goa, Daman and Diu Mining Concessions (Abolition & Declaration as Mining Leases) Act, 1987 (No. 16 of 1987) with retrospective effect from the first day of October, 1963.

³ Inserted by M M (R D) Amendment Act, 1999, vide G.O.I. Ext. Part II, Section 1, No. 51, dated 20.12.99 (No. 38 of 1999).

⁴ Substituted by M M (R D) Amendment Act, 1999, vide G.O.I. Ext. Part II, Section 1, No. 51, dated 20.12.99 (No. 38 of 1999).

⁵ Ibid.

development, preservation of natural environment, control of floods, prevention of pollution, or to avoid danger to public health or communications or to ensure safety of buildings, monuments or other structures or for conservation of mineral resources or for maintaining safety in the mines or for such other purposes, as the Central Government may deem fit, it may request the State Government to make a premature termination of a prospecting licence or mining lease in respect of any mineral other than a minor mineral in any area or part thereof, and, on receipt of such request, the State Government shall make an order making a premature termination of such prospecting licence or mining lease with respect to the area or any part thereof.

- (2) Where the State Government is of opinion that it is expedient in the interest of regulation of mines and minerals development, preservation of natural environment, control of floods, prevention of pollution, or to avoid danger to public health or communications or to ensure safety of buildings, monuments or other structures or for such other purposes, as the State Government may deem fit, it may, by an order, in respect of any minor mineral, make premature termination of prospecting licence or mining lease with respect to the area or any part thereof covered by such licence or lease.

¹[Omitted].

- (3) No order making a premature termination of a prospecting licence or mining lease shall be made except after giving the holder of the licence or lease a reasonable opportunity of being heard.
- (4) Where the holder of a mining lease fails to undertake mining operations for a period of two years after the date of execution of the lease or having commenced mining operations, has discontinued the same for a period of two years, the lease shall lapse on the expiry of the period of two years from the date of execution of the lease or, as the case may be, discontinuance of the mining operations:

Provided that the State Government may, on an application made by the holder of such lease before its expiry under this sub-section and on being satisfied that it will not be possible for the holder of the lease to undertake mining operations or to continue such operations for reasons beyond his control, make an order, subject to such conditions as may be prescribed, to the effect that such lease shall not lapse:

Provided further that the State Government, may on an application by the holder

¹ Omitted by M M (R D) Amendment Act, 1999, vide G.O.I. Ext. Part II, Section 1, No. 51, dated 20.12.99 (No. 38 of 1999).

of a lease submitted within a period of six months from the date of its lapse and on being satisfied that such non commencement or discontinuance was due to reasons beyond the control of the holder of the lease, revive the lease from such prospective or retrospective date as it thinks fit but not earlier than the date of lapse of the lease:

Provided also that no lease shall be revived under the second proviso for more than twice during the entire period of the lease.

Restrictions on the grant of prospecting licences or mining leases.

5. (1) A State Government shall not grant a ¹[reconnaissance permit, prospecting licence or mining lease] to any person unless such person –
- (a) is an Indian national, or a company as defined in sub-section (1) of Section 3 of the Companies Act, 1956; and
 - (b) satisfies such conditions as may be prescribed:

Provided that in respect of any mineral specified in the First Schedule, no ¹[reconnaissance permit, prospecting licence or mining lease] shall be granted except with the previous approval of the Central Government.

Explanation - For the purposes of this sub-section, a person shall be deemed to be an Indian national, -

- (a) in the case of a firm or other association of individuals, only if all the members of the firm or members of the association are citizens of India; and
 - (b) in the case of an individual, only if he is a citizen of India.
- (2) No mining lease shall be granted by the State Government unless it is satisfied that-
- ²[(a) there is evidence to show that the area for which the lease is applied for has been prospected earlier or the existence of mineral contents therein has been established otherwise than by means of prospecting such area; and
 - (b) there is a mining plan duly approved by the Central Government or by the State Government, in respect of such category of mines as may be

¹ Substituted by M M (R D) Amendment Act, 1999, vide G.O.I. Ext. Part II, Section 1, No. 51, dated 20.12.99 (No. 38 of 1999).

² Ibid.

specified by the Central Government, for the development of mineral deposits in the area concerned.]

Maximum area for which a prospecting licence or mining lease may be granted.

6. (1) No person shall acquire in respect of any mineral or prescribed group of associated minerals ¹[in a State] –

(a) one or more prospecting licences covering a total area of more than twenty-five square kilometres; or

²[(aa) one or more reconnaissance permit covering a total area of ten thousand square kilometres:

Provided that the area granted under a single reconnaissance permit shall not exceed five thousand square kilometres; or]

(b) one or more mining leases covering a total area of more than ten square kilometres;

Provided that if the Central Government is of opinion that in the interests of the development of any mineral, it is necessary so to do, it may, for reasons to be recorded by it, in writing, permit any person to acquire one or more prospecting licences or mining leases covering an area in excess of the aforesaid total area;

(c) ³[any reconnaissance permit, mining lease or prospecting licence in respect of any area which is not compact or contiguous:

Provided that if the State Government is of opinion that in the interests of the development of any mineral, it is necessary so to do, it may, for reasons to be recorded in writing, permit any person to acquire a reconnaissance permit, prospecting licence or mining lease in relation to any area which is not compact or contiguous.]

(2) For the purposes of this section, a person acquiring by, or in the name of, another person a ⁴[reconnaissance permit, prospecting licence or mining lease] which is intended for himself shall be deemed to be acquiring it himself.

(3) For the purposes of determining the total area referred to in sub-section(1), the area held under a ⁴[reconnaissance permit, prospecting licence or mining lease] by

¹ Inserted by M M (R D) Amendment Act, 1999, vide G.O.I. Ext. Part II, Section 1, No. 51, dated 20.12.99 (No. 38 of 1999).

² Ibid.

³ Substituted by M M (R D) Amendment Act, 1999, vide G.O.I. Ext. Part II, Section 1, No. 51, dated 20.12.99 (No. 38 of 1999).

⁴ Ibid.

a person as a member of a co-operative society, company or other corporation or a Hindu undivided family or a partner of a firm, shall be deducted from the area referred to in sub-section (1) so that the sum total of the area held by such person, under a ¹[reconnaissance permit, prospecting licence or mining lease], whether as such member or partner, or individually, may not, in any case, exceed the total area specified in sub-section (1).

Periods for which prospecting licences may be granted or renewed.

7. (1) The period for which a ²[reconnaissance permit or prospecting licence] may be granted shall not exceed three years.
- (2) A prospecting licence shall, if the State Government is satisfied that a longer period is required to enable the licensee to complete prospecting operations be renewed for such period or periods as that Government may specify:

Provided that the total period for which a prospecting licence is granted does not exceed five years;

Provided further that no prospecting licence granted in respect of ³[a mineral included in Part A and Part B to] the First Schedule shall be renewed except with the previous approval of the Central Government.

Periods for which mining leases may be granted or renewed.

8. (1) The maximum period for which a mining lease may be granted shall not exceed thirty years:

Provided that the minimum period for which any such mining lease may be granted shall not be less than twenty years.

- (2) A mining lease may be renewed for a period not exceeding twenty years.
⁴[Omitted].

- ⁵[(3) Notwithstanding anything contained in sub-section (2), if the State Government is of opinion that in the interests of mineral development it is necessary so to do, it may, for reasons to be recorded, authorise the renewal of a mining lease in respect of minerals not specified in Part A and Part B of the First Schedule for a further period or periods not exceeding twenty years in each case.

¹ Substituted by M M (R D) Amendment Act, 1999, vide G.O.I. Ext. Part II, Section 1, No. 51, dated 20.12.99 (No. 38 of 1999). ² Ibid. ³ Ibid.

⁴ Omitted by M M (R D) Amendment Act, 1999, vide G.O.I. Ext. Part II, Section 1, No. 51, dated 20.12.99 (No. 38 of 1999).

⁵ Substituted by M M (R D) Amendment Act, 1999, vide G.O.I. Ext. Part II, Section 1, No. 51, dated 20.12.99 (No. 38 of 1999).

- (4) Notwithstanding, anything contained in sub-section (2) and sub-section (3), no mining lease granted in respect of mineral specified in Part A or Part B of the First Schedule shall be renewed except with the previous approval of the Central Government.]

Royalties in respect of mining leases.

9. (1) The holder of a mining lease granted before the commencement of this Act shall, notwithstanding anything contained in the instrument of lease or in any law in force at such commencement, pay royalty in respect of any mineral removed or consumed by him or by his agent, manager, employee, contractor or sub-lessee from the leased area after such commencement, at the rate for the time being specified in the Second Schedule in respect of that mineral.
- (2) The holder of a mining lease granted on or after the commencement of this Act shall pay royalty in respect of any mineral removed or consumed by him or by his agent, manager, employee, contractor or sub-lessee from the leased area at the rate for the time being specified in the Second Schedule in respect of that mineral.
- (2A) The holder of a mining lease, whether granted before or after the commencement of Mines and Minerals (Regulation and Development) Amendment Act, 1972, shall not be liable to pay any royalty in respect of any coal consumed by a workman engaged in a colliery provided that such consumption by the workman does not exceed one-third of a tonne per month.
- (3) The Central Government may, by notification in the Official Gazette, amend the Second Schedule so as to enhance or reduce the rate at which royalty shall be payable in respect of any mineral with effect from such date as may be specified in the notification:

Provided that the Central Government shall not enhance the rate of royalty in respect of any mineral more than once during any period of three years.

Dead rent to be paid by the lessee.

- 9A. (1) The holder of a mining lease, whether granted before or after the commencement of the Mines and Minerals (Regulation and Development) Amendment Act, 1972, shall notwithstanding anything contained in the instrument of lease or in any other law for the time being in force, pay to the State Government, every year, dead rent at such rate as may be specified, for the time being, in the Third Schedule, for all the areas included in the instrument of lease:

Provided that where the holder of such mining lease becomes liable, under section 9, to pay royalty for any mineral removed or consumed by him or by his agent, manager, employee, contractor or sub-lessee from the leased area, he shall be

liable to pay either such royalty, or the dead rent in respect of that area, whichever is greater.

- (2) The Central Government may, by notification in the Official Gazette, amend the Third Schedule so as to enhance or reduce the rate at which the dead rent shall be payable in respect of any area covered by a mining lease and such enhancement or reduction shall take effect from such date as may be specified in the notification:

Provided that the Central Government shall not enhance the rate of the dead rent in respect of any such area more than once during any period of three years.

PROCEDURE FOR OBTAINING PROSPECTING LICENCES OR MINING LEASES IN RESPECT OF LAND IN WHICH THE MINERALS VEST IN THE GOVERNMENT

Application for prospecting licences or mining leases.

10. (1) An application for ¹[a reconnaissance permit, prospecting licence or mining lease] in respect of any land in which the minerals vest in the Government shall be made to the State Government concerned in the prescribed form and shall be accompanied by the prescribed fee.
- (2) Where an application is received under sub-section (1), there shall be sent to the applicant an acknowledgement of its receipt within the prescribed time and in the prescribed form.
- (3) On receipt of an application under this section, the State Government may, having regard to the provisions of this Act and any rules made thereunder, grant or refuse to grant the ²[permit, licence or lease].

Preferential right of certain persons

- ³[11. (1) Where a reconnaissance permit or prospecting licence has been granted in respect of any land, the permit holder or the licensee shall have a preferential right for obtaining a prospecting licence or mining lease, as the case may be, in respect of that land over any other person:

¹ Substituted by M M (R D) Amendment Act, 1999, vide G.O.I. Ext. Part II, Section 1, No. 51, dated 20.12.99 (No. 38 of 1999).

² Ibid.

³ Ibid.

Provided that the State Government is satisfied that the permit holder or the licensee, as the case may be, -

- (a) has undertaken reconnaissance operations or prospecting operations, as the case may be, to establish mineral resources in such land;
 - (b) has not committed any breach of the terms and conditions of the reconnaissance permit or the prospecting licence;
 - (c) has not become ineligible under the provision of this Act; and
 - (d) has not failed to apply for grant of prospecting licence or mining lease, as the case may be, within three months after the expiry of reconnaissance permit or prospecting licence, as the case may be, or within such further period as may be extended by the said Government.
- (2) Subject to the provisions of sub-section (1), where the State Government has not notified in the Official Gazette the area for grant of reconnaissance permit or prospecting licence or mining lease, as the case may be, and two or more persons have applied for a reconnaissance permit, prospecting licence or a mining lease in respect of any land in such area, the applicant whose application was received earlier, shall have a preferential right to be considered for grant of reconnaissance permit, prospecting licence or mining lease, as the case may be, over the applicant whose application was received later:

Provided that where an area is available for grant of reconnaissance permit, prospecting licence or mining lease, as the case may be, and the State Government has invited applications by notification in the Official Gazette for grant of such permit, licence or lease, all the applications received during the period specified in such notification and the applications which had been received prior to the publication of such notification in respect of the lands within such area and had not been disposed of, shall be deemed to have been received on the same day for the purposes of assigning priority under this sub-section.

Provided further that where any such applications are received on the same day, the State Government, after taking into consideration the matters specified in sub-section (3), may grant the reconnaissance permit, prospecting licence or mining lease, as the case may be, to such one of the applicants as it may deem fit.

- (3) The matters referred to in sub-section (2) are the following:-
- (a) any special knowledge of, or experience in, reconnaissance operations, prospecting operations or mining operations, as the case may be, possessed by the applicant;
 - (b) the financial resources of the applicant;
 - (c) the nature and quality of the technical staff employed or to be employed by the applicant;
 - (d) the investment which the applicant proposes to make in the mines and in the industry based on the minerals;
 - (e) such other matters as may be prescribed.
- (4) Subject to the provisions of sub-section(1), where the State Government notifies in the Official Gazette an area for grant of reconnaissance permit, prospecting licence or mining lease, as the case may be, all the applications received during the period as specified in such notification, which shall not be less than thirty days, shall be considered simultaneously as if all such applications have been received on the same day and the State Government, after taking into consideration the matters specified in sub-section(3), may grant the reconnaissance permit, prospecting licence or mining lease, as the case may be, to such one of the applicants as it may deem fit.
- (5) Notwithstanding anything contained in sub-section (2), but subject to the provisions of sub-section (1), the State Government may, for any special reasons to be recorded, grant a reconnaissance permit, prospecting licence or a mining lease, as the case may be, to an applicant whose application was received later in preference to an applicant whose application was received earlier:

Provided that in respect of minerals specified in the First Schedule, prior approval of the Central Government shall be obtained before passing any order under this sub-section.]

Granting of reconnaissance permit, prospecting licence or mining lease in respect of coal or lignite.

¹[11A. The Central Government may, for the purpose of granting reconnaissance permit, prospecting licence or mining lease in respect of an area containing coal or lignite, select through auction by competitive bidding on such terms and conditions as may be prescribed, a company engaged in -

- (i) production of iron and steel;
- (ii) generation of power;

¹ Inserted by M M (R D) Amendment Act, 2010, vide G.O.I. Ext. Part II, Section 1, No. 43, dated 9.9.2010 (No. 34 of 2010).

S.O. 263(E) Ext. Part II Section 3 Sub Section (ii) Govt. dt.13 Feb. 2012 appoints 13th Feb 2012 as the date of which the provisions of Section 11A shall come into force.

(iii) washing of coal obtained from a mine; or

(iv) such other end-use as the Central Government may, by notification in the Official Gazette, specify,

and the State Government shall grant such reconnaissance permit, prospecting licence or mining lease in respect of coal or lignite to such company as selected through auction by competitive bidding under this section:

Provided that the auction by competitive bidding shall not be applicable to an area containing coal or lignite –

- (a) where such area is considered for allocation to a Government company or corporation for mining or such other specified end-use;
- (b) where such area is considered for allocation to a company or corporation that has been awarded a power project on the basis of competitive bids for tariff (including Ultra Mega Power Projects).

Explanation- For the purposes of this section, “company” means a company as defined in Section 3 of the Companies Act, 1956 and includes a foreign company within the meaning of Section 591 of that Act]

Registers of reconnaissance permits, prospecting licences and mining leases

12. (1) The State Government shall cause to be maintained in the prescribed form -
- (a) a register of applications for prospecting licences;
 - (b) a register of prospecting licences;
 - ¹[(c) a register of applications for mining leases;
 - (d) a register of mining leases;
 - (e) a register of applications for reconnaissance permits; and
 - (f) a register of reconnaissance permits;]

¹ Substituted by M M (R D) Amendment Act, 1999, vide G.O.I. Ext. Part II, Section 1, No. 51, dated 20.12.1999 (No. 38 of 1999).

in each of which shall be entered such particulars as may be prescribed.

- (2) Every such register shall be open to inspection by any person on payment of such fee as the State Government may fix.

RULES FOR REGULATING THE GRANT OF RECONNAISSANCE PERMITS, PROSPECTING LICENCES AND MINING LEASES

Power of Central Government to make rules in respect of minerals.

13. (1) The Central Government may, by notification in the Official Gazette, make rules for regulating the grant of ¹[reconnaissance permits, prospecting licences and mining leases] in respect of minerals and for 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) the person by whom, and the manner in which, applications for ¹[reconnaissance permits, prospecting licences or mining leases] in respect of land in which the minerals vest in the Government 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 application may be sent;
 - (c) the matters which may be considered where applications in respect of the same land are received on the same day;
 - (d) ²[The terms and conditions of auction by competitive bidding for selection of the company under section 11A;]
 - (e) the authority by which ¹[reconnaissance permits, prospecting licences or mining leases] in respect of land in which the minerals vest in the Government may be granted;

¹ Substituted by M M (R D) Amendment Act, 1999, vide G.O.I. Ext. Part II, Section 1, No. 51, dated 20.12.99 (No. 38 of 1999).

² Inserted by MMDR Amendment Act, 2010 vide G.O.I Ext. Part II, Section-I No.43 dated 9.9.2010 (No.34 of 2010).

- (f) the procedure for obtaining ¹[a reconnaissance permit, a prospecting licence or a mining lease] in respect of any land in which the minerals vest in a person other than the Government and the terms on which, and the conditions subject to which, such ²[a permit, licence or lease] may be granted or renewed;
- (g) the terms on which, and the conditions subject to which, any other ³[reconnaissance permit, prospecting licence or mining lease] may be granted or renewed;
- (h) the facilities to be afforded by holders of mining leases to persons deputed by the Government for the purpose of undertaking research or training in matters relating to mining operations;
- (i) the fixing and collection of fees for ⁴[reconnaissance permits, prospecting licences or mining leases], surface rent, security deposit, fines, other fees or charges and the time within which and the manner in which the dead rent or royalty shall be payable;
- (j) the manner in which rights of third parties may be protected (whether by payment of compensation or otherwise) in cases where any such party may be prejudicially affected by reason of any ⁵[reconnaissance, prospecting or mining operations];
- (k) the grouping of associated minerals for the purposes of section 6;
- (l) the manner in which, and the conditions subject to which, ¹[a reconnaissance permit, a prospecting licence or a mining lease] may be transferred;
- (m) the construction, maintenance and use of roads, power transmission lines, tramways, railways, aerial ropeways, pipelines and the making of passages for water for mining purposes on any land comprised in a mining lease;
- (n) the form of registers to be maintained under this Act;

¹ Substituted by M M (R D) Amendment Act, 1999, vide G.O.I. Ext. Part II, Section 1, No. 51, dated 20.12.99 (No. 38 of 1999).

² Ibid.

³ Ibid.

⁴ Ibid.

⁵ Ibid.

- (o) (omitted);
- (p) the reports and statements to be submitted by holders of ¹[reconnaissance permits or prospecting licences] or owners of mines and the authority to which such reports and statements shall be submitted;
- (q) the period within which applications for revision of any order passed by a State Government or other authority in exercise of any power conferred by or under this Act, may be made, the fees to be paid therefor and the documents which shall accompany such applications and the manner in which such applications shall be disposed of;
- (qq) the manner in which rehabilitation of flora and other vegetation, such as trees, shrubs and the like destroyed by reason of any prospecting or mining operations shall be made in the same area or in any other area selected by the Central Government (whether by way of reimbursement of the cost of rehabilitation or otherwise) by the person holding the prospecting licence or mining lease; and
- (r) any other matter which is to be, or may be, prescribed under this Act.

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.

- 13A. (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.

¹ Substituted by M M (R D) Amendment Act, 1999, vide G.O.I. Ext. Part II, Section 1, No. 51, dated 20.12.99 (No. 38 of 1999).

[Sections 5 to 13] not to apply to minor minerals.

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

Power of State Governments to make rules in respect of minor minerals

15. (1) The State Government may, by notification in the Official Gazette, make rules for regulating the grant of quarry leases, mining leases or other mineral concessions in respect of minor minerals and for purposes connected therewith.
- (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 the 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 the rehabilitation of flora and other vegetation, such as trees, shrubs and the like destroyed by reasons 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, aerial ropeways, 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 therefor, 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 quarry leases, mining leases or other mineral concessions in respect of minor minerals which are in force immediately before the commencement of this Act shall continue in force.
- (3) The holder of a mining lease or any other mineral concession granted under any rule made under subsection (1) shall pay 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:

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

Power to modify mining leases granted before 25th Oct., 1949

16. (1) (a) All mining leases granted before the commencement of the Mines and Minerals (Regulation and Development) Amendment Act, 1972 if in force at the date of commencement of the Mines and Minerals (Regulation and Development) Amendment Act, 1994 shall be brought in conformity with the provisions of this Act and the rules made thereunder within two years from the date of 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, 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 two years from the commencement of the Mines and Minerals (Regulation and Development) Amendment Act, 1994, or within such further time as the Central Government may, by general or special order, specify in this behalf.
- (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
- (c) for the principles on which, the manner in which, and the authority by which, the said compensation shall be determined.

**SPECIAL POWERS OF CENTRAL GOVERNMENT TO UNDERTAKE
PROSPECTING OR MINING OPERATIONS IN CERTAIN CASES**

Special powers of Central Government to undertake prospecting or mining operations in certain lands.

17. (1) The provisions of this section shall apply in respect of land in which the minerals vest in the Government of a State or any other person.
- (2) Notwithstanding anything contained in this Act, the Central Government, after consultation with the State Government, may undertake ¹[reconnaissance, prospecting or mining operations] in any area not already held under any ²[reconnaissance permit, prospecting licence or mining lease], and where it proposes to do so, it shall, by notification in the Official Gazette-
- (a) specify the boundaries of such area;
- (b) state whether ¹[reconnaissance, prospecting or mining operations] will be carried out in the area; and
- (c) specify the mineral or minerals in respect of which such operations will be carried out.
- (3) Where, in exercise of the powers conferred by sub-section (2), the Central Government undertakes ³[reconnaissance, prospecting or mining operations] in any area, the Central Government shall be liable to pay ⁴[reconnaissance permit fee or prospecting fee], royalty, surface rent or dead rent, as the case may be, at the same rate at which it would have been payable under this Act, if such ³[reconnaissance, prospecting or mining operations] had been undertaken by a private person under a ⁵[reconnaissance permit, prospecting licence or mining lease].
- (4) The Central Government, with a view to enabling it to exercise the powers conferred on it by sub-section (2) may, after consultation with the State Government, by notification in the Official Gazette, declare that no ⁶[reconnaissance permit, prospecting licence or mining lease] shall be granted in respect of any land specified in the notification.

¹ Substituted by M M (R D) Amendment Act, 1999, vide G.O.I. Ext. Part II, Section 1, No. 51, dated 20.12.99 (No. 38 of 1999).

² Ibid. ³ Ibid. ⁴ Ibid. ⁵ Ibid. ⁶ Ibid.

Reservation of areas for purposes of conservation.

- 17A. (1) The Central Government, with a view to conserving any mineral and after consultation with the State Government, may reserve any area not already held under any prospecting licence or mining lease and, where it proposes to do so, it shall, by notification in the Official Gazette, specify the boundaries of such area and the mineral or minerals in respect of which such area will be reserved.
- (1A) The Central Government may in consultation with the State Government, reserve any area not already held under any prospecting licence or mining lease, for undertaking prospecting or mining operations through a Government company or corporation owned or controlled by it, and where it proposes to do so, it shall, by notification in the Official Gazette, specify the boundaries of such area and the mineral or minerals in respect of which such area will be reserved.
- (2) The State Government may, with the approval of the Central Government, reserve any area not already held under any prospecting licence or mining lease, for undertaking prospecting or mining operations through a Government company or corporation owned or controlled by it and where it proposes to do so, it shall, by notification in the Official Gazette, specify the boundaries of such area and the mineral or minerals in respect of which such areas will be reserved.
- (3) Where in exercise of the powers conferred by sub-section(1A) or sub-section (2) the Central Government or the State Government as the case may be undertakes prospecting or mining operations in any area in which the minerals vest in a private person, it shall be liable to pay prospecting fee, royalty, surface rent or dead rent, as the case may be, from time to time at the same rate at which it would have been payable under this Act if such prospecting or mining operations had been undertaken by a private person under prospecting licence or mining lease.

DEVELOPMENT OF MINERALS**Mineral Development.**

18. (1) It shall be the duty of the Central Government to take all such steps as may be necessary for the conservation and systematic development of minerals in India and for the protection of environment by preventing or controlling any pollution which may be caused by prospecting or mining operations and for such purposes the Central Government may, by notification in the Official Gazette, make such rules as it thinks fit.
- (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) the opening of new mines and the regulation of mining operations in any area;
- (b) the regulation of the excavation or collection of minerals from any mine;
- (c) the measures to be taken by owners of mines for the purpose of beneficiation of ores, including the provision of suitable contrivances for such purpose;
- (d) the development of mineral resources in any area;
- (e) the notification of all new borings and shaft sinkings and the preservation of bore-hole records, and specimens of cores of all new bore-holes;
- (f) the regulation of the arrangements for the storage of minerals and the stocks thereof that may be kept by any person;
- (g) the submission of samples of minerals from any mine by the owner thereof and the manner in which and the authority to which such samples shall be submitted; and the taking of samples of any minerals from any mine by the State Government or any other authority specified by it in that behalf;
- (h) the submission by owners of mines of such special or periodical returns and reports as may be specified, and the form in which and the authority to which such returns and reports shall be submitted;
- (i) the regulation of prospecting operations;
- (j) the employment of qualified geologists or mining engineers to supervise prospecting or mining operations;
- (k) the disposal or discharge of waste slime or tailings arising from any mining or metallurgical operations carried out in a mine;
- (l) the manner in which and the authority by which directions may be issued to the owners of any mine to do or refrain from doing certain things in the interest of conservation or systematic development of minerals or for the protection of environment by preventing or controlling pollution which may be caused by prospecting or mining operations;
- (m) the maintenance and submission of such plans, registers or records as may be specified by the Government;
- (n) the submission of records or reports by persons carrying on prospecting or mining operations regarding any research in mining or geology carried out by them;

- (o) the facilities to be afforded by persons carrying out prospecting or mining operations to persons authorised by the Central Government for the purpose of undertaking research or training in matters relating to mining or geology;
 - (p) the procedure for and the manner of imposition of fines for the contravention of any of the rules framed under this section and the authority who may impose such fines; and
 - (q) the authority to which, the period within which, the form and the manner in which applications for revision of any order passed by any authority under this Act and the rules made thereunder may be made, the fee to be paid and the documents which should accompany such applications.
- (3) All rules made under this section shall be binding on the Government.

Power to authorise Geological Survey of India, etc. to make investigation.

- 18A. (1) Where the Central Government is of opinion that for the conservation and development of minerals in India, it is necessary to collect as precise information as possible with regard to any mineral available in or under any land in relation to which any prospecting licence or mining lease has been granted, whether by the State government or by any other person, the Central Government may authorise the Geological Survey of India, or such other authority or agency as it may specify in this behalf, to carry out such detailed investigations for the purpose of obtaining such information as may be necessary:

Provided that in the cases of prospecting licences or mining leases granted by a State Government, no such authorisation shall be made except after consultation with the State Government.

- (2) On the issue of any authorisation under sub-section (1), it shall be lawful for the Geological Survey of India or the specified authority or agency, and its servants and workmen –
- (a) to enter upon such land,
 - (b) to dig or bore into the sub-soil,
 - (c) to do all other acts necessary to determine the extent of any mineral available in or under such land,
 - (d) to set out boundaries of the land in which any mineral is expected to be found,

- (e) to mark such boundaries and line by placing marks,
- (f) where otherwise the survey cannot be completed on the boundaries and line marked, to cut down and clear away any part of any standing crop, fence or jungle:

Provided that no such authority or agency shall enter into any building or upon any 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 its intention to do so.

- (3) Whenever any action of the nature specified in sub-section (2) is to be taken, the Central Government shall, before or at the time when such action is taken, pay or tender payment for all necessary damage which is likely to be caused, and in case of dispute as to the sufficiency of the amount so paid or tendered or as to the person to whom it should be paid or tendered, the Central Government shall refer the dispute to the principal civil court of original jurisdiction having jurisdiction over the land in question.
- (4) The fact that there exists any such dispute as is referred to in sub-section (3) shall not be a bar to the taking of any action under sub-section (2).
- (5) After the completion of the investigation, the Geological Survey of India or the specified authority or agency by which the investigation was made shall submit to the Central Government a detailed report indicating therein the extent and nature of any mineral which lies deposited in or under the land.
- (6) The costs of the investigation made under this section shall be borne by the Central Government.

Provided that where the State Government or other person in whom the minerals are vested or the holder of any prospecting licence or mining lease applies to the Central Government to furnish to it or him a copy of the report submitted under sub-section (5), that State Government or other person or the holder of a prospecting licence or mining lease, as the case may be, shall bear such reasonable part of the costs of investigation as the Central Government may specify in this behalf and shall, on payment of such part of the costs of investigation, be entitled to receive from the Central Government a true copy of the report submitted to it under sub-section (5).

MISCELLANEOUS**Prospecting licences and mining leases to be void if in contravention of Act.**

19. Any ¹[reconnaissance permit, prospecting licence or mining lease] granted, renewed or acquired in contravention of the provisions of this Act or any rules or orders made thereunder shall be void and of no effect.

Explanation:- Where a person has acquired more than one ¹[reconnaissance permit, prospecting licence or mining lease] and the aggregate area covered by such ²[permits, licences or leases], as the case may be, exceeds the maximum area permissible under section 6, only that ¹[reconnaissance permit, prospecting licence or mining lease] the acquisition of which has resulted in such maximum area being exceeded shall be deemed to be void.

Act and rules to apply to all renewals of prospecting licences and mining leases.

20. The provisions of this Act and the rules made thereunder shall apply in relation to the renewal after the commencement of this Act of any prospecting licence or mining lease granted before such commencement as they apply in relation to the renewal of a prospecting licence or mining lease granted after such commencement.

Penalties.

21. ³[(1) Whoever contravenes the provisions of sub-section (1) or sub-section (1A) of section 4 shall be punished with imprisonment for a term which may extend to two years, or with fine which may extend to twenty-five thousand rupees, or with both.]
- (2) Any rule made under any provision of this Act may provide that any contravention thereof shall be punishable with imprisonment for a term which may extend to one year or with fine which may extend to five thousand rupees, or with both, and in the case of a continuing contravention, with an additional fine which may extend to five hundred rupees for every day during which such contravention continues after conviction for the first such contravention.
- (3) Where any person trespasses into any land in contravention of the provisions of

¹ Substituted by M M (R D) Amendment Act, 1999, vide G.O.I. Ext. Part II, Section 1, No. 51, dated 20.12.99 (No. 38 of 1999).

² Ibid.

³ Ibid.

sub-section (1) of section 4, such trespasser may be served with an order of eviction by the State Government or any authority authorised in this behalf by that Government and the State Government or such authorised authority may, if necessary, obtain the help of the police to evict the trespasser from the land.

- ¹[(4) Whenever any person raises, transports or causes to be raised or transported, without any lawful authority, any mineral from any land, and, for that purpose, uses any tool, equipment, vehicle or any other thing, such mineral, tool, equipment, vehicle or any other thing shall be liable to be seized by an officer or authority specially empowered in this behalf.
- (4A) Any mineral, tool, equipment, vehicle or any other thing seized under sub-section (4), shall be liable to be confiscated by an order of the court competent to take cognizance of the offence under sub-section (1) and shall be disposed of in accordance with the directions of such court.]
- (5) Whenever any person raises, without any lawful authority, any mineral from any land, the State Government may recover from such person the mineral so raised, or, where such mineral has already been disposed of, the price thereof, and may also recover from such person, rent, royalty or tax, as the case may be, for the period during which the land was occupied by such person without any lawful authority.
- (6) Notwithstanding anything contained in the Code of Criminal Procedure, 1973, an offence under sub-section (1) shall be cognizable.

Cognizance of offences.

22. No court shall take cognizance of any offence punishable under this Act or any rules made thereunder except upon complaint in writing made by a person authorised in this behalf by the Central Government or the State Government.

Offences by companies.

23. (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

¹ Substituted by M M (R D) Amendment Act, 1999, vide G.O.I. Ext. Part II, Section 1, No. 51, dated 20.12.99 (No. 38 of 1999).

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.

Compounding of offences.

- 23A. (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.

Power to search.

- 23B. If any gazetted officer of the Central or a State Government authorised by the Central Government ¹[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 ²[or vehicle,] he may search for such mineral, document or thing and the provisions of section 100 of the Code of Criminal Procedure, 1973 shall apply to every such search.

¹ Inserted by M M (R D) Amendment Act, 1999, vide G.O.I. Ext. Part II, Section 1, No. 51, dated 20.12.99 (No. 38 of 1999).

²Ibid.

¹[Power of State Government to make rules for preventing illegal mining, transportation and storage of minerals.

- 23C. (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;
 - (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).]

¹ Inserted by M M (R D) Amendment Act, 1999, vide G.O.I. Ext. Part II, Section 1, No. 51, dated 20.12.99 (No. 38 of 1999).

Power of entry and inspection.

24. (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[omitted] 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 ³[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.

Rights and liabilities of a holder of prospecting licence or mining lease.

- 24A. (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

¹ Substituted by M M (R D) Amendment Act, 1999, vide G.O.I. Ext. Part II, Section 1, No. 51, dated 20.12.99 (No. 38 of 1999).

² Omitted by M M (R D) Amendment Act, 1999, vide G.O.I. Ext. Part II, Section 1, No. 51, dated 20.12.99 (No. 38 of 1999).

³ Substituted by M M (R D) Amendment Act, 1999, vide G.O.I. Ext. Part II, Section 1, No. 51, dated 20.12.99 (No. 38 of 1999).

⁴ Ibid.

¹[holder of such permit, licence or lease], his agents or his servants or workmen to enter the lands over which ² [such permit, lease or licence had been granted] at all times during its currency and carry out all such ³[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 ⁵[such permit, licence or lease] for any loss or damage which is likely to arise or has arisen from or in consequence of the ⁶[reconnaissance, mining or prospecting operations].
- (3) The amount of compensation payable under sub-section (2) shall be determined by the State Government in the manner prescribed.

Recovery of certain sums as arrears of land revenue.

25. (1) Any rent, royalty, tax, fee or other sum due to the Government under this Act or the rules made thereunder or under the terms and conditions of any ⁷[reconnaissance permit, prospecting licence or mining lease] may, on a certificate of such officer as may be specified by the State Government in this behalf by general or special order, be recovered in the same manner as an arrear of land revenue.
- (2) Any rent, royalty, tax, fee or other sum due to the Government either under this Act or any rule made thereunder or under the terms and conditions of any ⁷[reconnaissance permit, prospecting licence or mining lease] may, on a certificate of such officer as may be specified by the State Government in this behalf by general or special order, be recovered in the same manner as if it were an arrear of land revenue and every such sum which becomes due to the Government after the commencement of the Mines and Minerals (Regulation and Development)

¹ Substituted by M M (R D) Amendment Act, 1999, vide G.O.I. Ext. Part II , Section 1, No.51, dated 20.12.99 (No. 38 of 1999).

² Ibid

³ Ibid.

⁴ Ibid.

⁵ Ibid.

⁶ Ibid.

⁷ Ibid.

Amendment Act, 1972, together with the interest due thereon shall be a first charge on the assets of the holder of the ¹[reconnaissance permit, prospecting licence or mining lease], as the case may be.

Delegation of powers.

26. (1) The Central Government may, by notification in the Official Gazette, direct that any power exercisable by it under this Act may, in relation to such matters and subject to such conditions, if any, as may be specified in the notification be exercisable also by -
- (a) Such officer or authority subordinate to the Central Government; or
 - (b) Such State Government or such officer or authority subordinate to a State Government, as may be specified in the notification.
- (2) The State Government may, by notification in the Official Gazette, direct that any power exercisable by it under this Act may, in relation to such matters and subject to such conditions, if any, as may be specified in the notification, be exercisable also by such officer or authority subordinate to the State Government as may be specified in the notification.
- (3) Any rules made by the Central government under this Act may confer powers and impose duties or authorise the conferring of powers and imposition of duties upon any State Government or any officer or authority subordinate thereto.

Protection of action taken in good faith.

27. No suit, prosecution or other legal proceedings shall lie against any person for anything which is in good faith done or intended to be done under this Act.

Rules and notifications to be laid before parliament and certain rules to be approved by parliament.

28. (1) Every rule and every notification made by the Central Government under this Act shall be laid, as soon as may be after it is made, before each House of Parliament while it is in session for a total period of thirty days which may be comprised in one session or in two or more successive sessions, and if, before the expiry of the session immediately following the session or the successive sessions aforesaid, both Houses agree in making any modification in the rule or notification or both Houses agree that the rule or notification should not be made, the rule or notification shall thereafter have effect only in such modified form or be of no

¹ Substituted by M M (R D) Amendment Act, 1999, vide G.O.I. Ext. Part II, Section 1, No. 51, dated 20.12.99 (No. 38 of 1999).

effect, as the case may be; so, however, that any such modification or annulment shall be without prejudice to the validity of anything previously done under that rule or notification.

- (2) Without prejudice to the generality of the rule making power vested in the Central Government, no rules made with reference to clause (c) of sub-section (2) of section 16 shall come into force until they have been approved, whether with or without modifications, by each House of Parliament.
- (3) Every rule and every notification made by the State Government under this Act shall be laid, as soon as may be after it is made, before each House of the State Legislature where it consists of two Houses, or where such Legislature consists one House, before that House.

Existing rules to continue.

29. All rules made or purporting to have been made under the Mines and Minerals (Regulation and Development) Act, 1948, shall, in so far as they relate to matters for which provision is made in this Act and are not inconsistent therewith, be deemed to have been made under this Act as if this Act had been in force on the date on which such rules were made and shall continue in force unless and until they are superseded by any rules made under this Act.

Power of revision of Central Government.

30. The Central Government may, of its own motion or on application made within the prescribed time by an aggrieved party, revise any order made by a State Government or other authority in exercise of the powers conferred on it by or under this Act with respect to any mineral other than a minor mineral.

Special provisions relating to mining leases for coal granted before 25th October, 1949.

- 30A. Notwithstanding anything contained in this Act, the provisions of sub-section (1) of section 9 and sub-section (1) of section 16 shall not apply to or in relation to mining leases granted before the 25th day of October, 1949, in respect of coal, but the Central Government, if it is satisfied that it is expedient so to do, may, by notification in the Official Gazette, direct that all or any of the said provisions (including any rules made under sections 13 and 18) shall apply to or in relation to such leases subject to such exceptions and modifications, if any, as may be specified in that or in any subsequent notification.

Relaxation of rules in special cases.

31. The Central Government may, if it is of opinion that in the interests of mineral development it is necessary so to do, by order in writing and for reasons to be recorded,

authorise in any case the grant, renewal or transfer of any ¹[reconnaissance permit, prospecting licence or mining lease], or the working of any mine for the purpose of searching for or winning any mineral, on terms and conditions different from those laid down in the rules made under section 13.

32. [Amendments to Act 53 of 1948] Rep. by the Repealing and Amending Act, 1960 (58 of 1960), S. 2 and Sch. I.

Validation of certain acts and indemnity.

33. All acts of executive authority done, proceedings taken and sentences passed under the Mines and Minerals (Regulation and Development) Act, 1948, with respect to the regulation of mines and the development of minerals during the period commencing on the 26th day of January, 1950, and ending with the date of commencement of this Act by the Government or by any officer of the Government or by any other authority, in the belief or purported belief that the acts, proceedings or sentences were being done, taken or passed under the said Act, shall be as valid and operative as if they had been done, taken or passed in accordance with law, and no suit or other legal proceeding shall be maintained or continued against any person whatsoever, on the ground that any such acts, proceedings or sentences were not done, taken or passed in accordance with law.

¹ Substituted by M M (R D) Amendment Act, 1999, vide G.O.I. Ext. Part II, Section 1, No. 51, dated 20.12.99 (No. 38 of 1999).

THE FIRST SCHEDULE

[See section 4(3), 5(1), 7(2) and 8(2)]

SPECIFIED MINERALS**PART A. Hydro Carbons Energy Minerals**

1. Coal and Lignite.

PART B. Atomic Minerals

1. Beryl and other beryllium-bearing minerals.
2. Lithium-bearing minerals.
3. Minerals of the "rare earths" group containing Uranium and Thorium.
4. Niobium-bearing minerals.
5. Phosphorites and other phosphatic ores containing Uranium.
6. Pitchblende and other Uranium ores.
7. ¹[Titanium bearing minerals and ores (ilmenite, rutile and leucoxene)].
8. Tantalum-bearing minerals.
9. Uraniferous allanite, monazite and other thorium minerals.
10. Uranium bearing tailings left over from ores after extraction of copper and gold, ilmenite and other titanium ores.
11. ¹[Zirconium bearing minerals and ores including zircon.]

PART C. Metallic and Non-Metallic Minerals

1. Asbestos.
2. Bauxite.
3. Chrome ore.
4. Copper ore.
5. Gold.
6. Iron ore.
7. Lead.
8. ²[Omitted]
9. Manganese ore.
10. Precious stones.
11. Zinc.

¹Substituted by MM(RD) Amendment Act, 1999, Vide G.O.I Ext. Part II, Section I, No. 51, dated 20.12.1999(No. 38 of 1999).

²Omitted by MM(RD) Amendment Act, 1999, Vide G.O.I Ext. Part II, Section I, No. 51, dated 20.12.1999(No. 38 of 1999).

¹THE SECOND SCHEDULE

(See section 9)

RATES OF ROYALTY**RATES OF ROYALTY IN RESPECT OF MINERALS AT ITEM 1 TO 9, 11 TO 37 AND 39 TO 51 APPLICABLE IN ALL STATES AND UNION TERRITORIES EXCEPT THE STATE OF WEST BENGAL**

- | | |
|--|--|
| 1. Apatite and Rock Phosphate : | |
| (i) Apatite : | Five per cent of sale price on ad valorem basis. |
| (ii) Rock Phosphate : | |
| (a) Above 25 per cent P ₂ O ₅ | Eleven per cent of sale price on ad valorem basis. |
| (b) Up to 25 per cent P ₂ O ₅ | Six per cent of sale price on ad valorem basis. |
| 2. Asbestos : | |
| (a) Chrysotile | Eight hundred eighty rupees per tonne. |
| (b) Amphibole | Fifteen per cent of sale price on ad valorem basis. |
| 3. Barytes | Five and half per cent of sale price on ad valorem basis. |
| 4. Bauxite and Laterite | (a) Zero point five zero per cent of London Metal Exchange Aluminium metal price chargeable on the contained aluminium metal in ore produced for those dispatched for use in alumina and aluminium metal extraction. |
| | (b) Twenty five percent of sale price on ad valorem basis for those dispatched for use other than alumina and aluminium metal extraction and export. |
| 5. Brown Ilmenite (Leucoxene), Ilmenite, Rutile and Zircon | Two per cent of sale price on ad valorem basis. |

¹Substituted by G.S.R.574 (E) dated 13.8.2009

6. Cadmium	Fifteen per cent of sale price on ad valorem basis.
7. Calcite	Fifteen per cent of sale price on ad valorem basis.
8. China clay/Kaolin (including ball clay, white shale and white clay) :	
(a) Crude	Eight per cent of sale price on ad valorem basis.
(b) Processed (including washed)	Ten per cent of sale price on ad valorem basis.
9. Chromite	Ten per cent of sale price on ad valorem basis.

“10.* COAL (including Lignite)

A. Coal produced in all the States and Union territories except the State of West Bengal.

(1) Royalty on Coal:

The rate of royalty on coal shall be @ 14% (Fourteen percent) ad-valorem on price of coal, as reflected in the invoice, excluding taxes, levies and other charges.

(2) Royalty on Lignite:

The rate of royalty on lignite shall be @ 6% (Six percent) ad-valorem on transfer price of lignite, as ratified by the Central Electricity Regulatory Commission (CERC) and for lignite sold to other consumers, the royalty shall be @ 6% (Six percent) ad valorem on the price of lignite as reflected in the invoice, excluding taxes, levies and other charges.

(3) Royalty on coal and lignite produced from captive mines:

For calculating royalty on coal and lignite produced from captive mines, the price of coal and lignite shall mean the basic pithead price of Run of Mine (ROM) coal and lignite, as notified by the Coal India Ltd. / Singareni Collieries Company Ltd. / Neyveli Lignite Corporation, for similar Gross Calorific Value (GCV) of coal or lignite for the mines, nearest to that captive mine;

Provided that for the coal and lignite produced from the coal and lignite blocks, allocated under the Government dispensation route for commercial use, the respective ad-valorem royalty shall be applicable on the price notified by the respective State Governments.

* Substituted by G.S.R.349 (E) dated 10.5.2012.

(4) Adjustment of royalty against levying of cess:

For the States other than West Bengal, for the levy of cess or other taxes specific to coal bearing lands, the royalty allowed shall be adjusted for the local cesses or such taxes, so as to limit the overall revenue yield.

B. Coal produced in the State of West Bengal.

Group	Quality of Coal	Royalty on coal in Rupees per tonne
Group – I	Steel Gr-I	Seven rupees only per tonne
	Steel Gr.II	
	Washery-I	
	Direct Feed	
Group – II	Washery-II	Six rupees and fifty paise only per tonne
	Washery-III	
	Semi Coking Gr-I	
	Semi Coking Gr-II	
	Non-Coking Coal having GCV(Kcal/kg) range of 6701 and above	
	Non-Coking Coal having GCV(Kcal/kg) range of 6401-6700)	
	Non-Coking Coal having GCV(Kcal/kg) range of 6101-6400	
Group-III	Washery-IV	Five rupees and fifty paise only per tonne
	Non-Coking Coal having GCV(Kcal/kg) range of 5801-6100	
	Non-Coking Coal having GCV(Kcal/kg) range of 5501-5800	
	Non-Coking Coal having GCV(Kcal/kg) range of 5201-5500	

Group-IV	Non-Coking Coal having GCV(Kcal/kg) range of 4901-5200	Four rupees and thirty paise only per tonne
	Non-Coking Coal having GCV(Kcal/kg) range of 4601-4900	
	Non-Coking Coal having GCV(Kcal/kg) range of 4301-4600	
Group-V	Non-Coking Coal having GCV(Kcal/kg) range of 4001-4300	Two rupees and fifty paise only per tonne
	Non-Coking Coal having GCV(Kcal/kg) range of 3701-4000	
	Non-Coking Coal having GCV(Kcal/kg) range of 3401-3700	
	Non-Coking Coal having GCV(Kcal/kg) range of 3101-3400	
	Non-Coking Coal having GCV =<3100	

11. Columbite-tantalite
Ten per cent of sale price on ad valorem basis
12. Copper
Four point two per cent of London Metal Exchange copper metal price chargeable on the contained copper metal in ore produced.
13. Diamond
Eleven point five per cent of sale price on ad valorem basis.
14. Dolomite
Sixty-three rupees per tonne.
15. Felspar
Twelve per cent of sale price on ad valorem basis
16. Fireclay
(including plastic, pipe, lithomargic and natural pozzolanic clay)
Twelve per cent of sale price on ad valorem basis.

17. Fluorspar
(also called fluorite) Six point five per cent of sale price on ad valorem basis
18. Garnet :
(a) Abrasive Three per cent of sale price on ad valorem basis.
(b) Gem Ten per cent of sale price on ad valorem basis
19. Gold :
(a) Primary Two per cent of London Bullion Market Association Price (commonly referred to as "London Price") chargeable on the contained gold metal in ore produced.
(b) By-product gold Three point three per cent of London Bullion Market Association Price (commonly referred to as "London Price") chargeable on by-product gold metal actually produced.
20. Graphite :
(a) with 40 per cent or more fixed carbon Two per cent of sale price on ad valorem basis.
(b) with less than 40 per cent fixed carbon Twelve per cent of sale price on ad valorem basis
21. Gypsum Twenty per cent of sale price on ad valorem basis.
22. Iron Ore :
(lumps, fines & concentrates all grades) Ten per cent of sale price on ad valorem basis.
23. Lead
Seven per cent of London Metal Exchange lead metal price chargeable on the contained lead metal in ore produced.
Twelve point seven per cent of London Metal Exchange lead metal price chargeable on the contained lead metal in the concentrate produced.
24. Limestone :
(a) L.D. grade (less than one and half per cent silica content) Seventy two rupees per tonne.
(b) Others Sixty three rupees per tonne

25. Lime kankar	Sixty three rupees per tonne
26. Limeshell	Sixty three rupees per tonne
27. Magnesite	Three per cent of sale price on ad valorem basis.
28. Manganese Ore :	
(a)Ore of all grades	Four point two per cent of sale price on ad valorem basis.
(b)Concentrates	One point four per cent of sale price on ad valorem basis.
29. Crude Mica, Waste Mica and Scrap Mica	Four per cent of sale price on ad valorem basis.
30. Monazite	One hundred and twenty five rupees per tonne.
31. Nickel	Zero point one two per cent of London Metal Exchange nickel metal price chargeable on contained nickel metal in ore produced.
32. Ochre	Twenty rupees per tonne.
33. Pyrites	Two per cent of sale price on ad valorem basis.
34. Pyrophyllite	Twenty per cent of sale price on ad valorem basis.
35. Quartz	Fifteen per cent of sale price on ad valorem basis.
36. Ruby	Ten per cent of sale price on ad valorem basis.
37. Silica sand, Moulding sand and Quartzite	Eight per cent of sale price on ad valorem basis.
38. ** Sand for Stowing	Three rupees per tonne
39. Selenite	Ten per cent of sale price on ad valorem basis.

40. Sillimanite	Two and half per cent of sale price on ad valorem basis.
41. Silver	
(a) By-product	Seven per cent of London Metal Exchange Price chargeable on by-product silver metal actually produced.
(b) Primary silver	Five per cent of London Metal Exchange silver metal price chargeable on the contained silver metal in ore produced.
42. Slate	Forty five rupees per tonne
43. Talc, Steatite and Soapstone	Eighteen per cent of sale price on ad valorem basis.
44. Tin	Seven point five per cent of London Metal Exchange tin metal price chargeable on the contained tin metal in ore produced
45. Tungsten	Twenty rupees per unit per cent of contained WO_3 per tonne of ore and on pro rata basis.
46. *** Uranium	Royalty on mineral uranium at the rate of two per cent of the compensation amount received by M/s. Uranium Corporation of India Limited (UCIL), for the mineral uranium and the total amount of royalty will be apportioned among the different states on the basis of data provided by Department of Atomic Energy.
47. Vanadium	Twenty per cent of sale price on ad valorem basis.
48. Vermiculite	Three per cent of sale price on ad valorem basis.
49. Wollastonite	Twelve per cent of sale price on ad valorem basis.
50. Zinc	Eight per cent of London Metal Exchange zinc metal price on ad valorem basis chargeable on contained zinc metal in ore produced.

Eight point four per cent of London Metal Exchange zinc metal price on ad valorem basis chargeable on contained zinc metal in concentrate produced.

51. All other minerals not here-in-before specified [Agate, Chalk, Clay(Others), Corundum, Diaspore, Dunite, Felsite, Fuschite-Quartzite, Kyanite, Jasper, Perlite, Rock Salt, Shale, Pyroxenite, etc.]

Ten per cent of sale price on ad valorem basis.

Explanation :

1. For the purpose of grading of coal the specification of each grade of the coal shall be as prescribed under rule 3 of the Colliery Control Rules, 2004.

2. Rates of royalty in respect of item No.10 relating to Coal including Lignite as revised vide notification number G.S.R. 349 (E), dated the 10th May, 2012, of the Government of India in the Ministry of Coal shall remain in force until revised through a separate notification by the Ministry of Coal.

** Rates of Royalty in respect of item 38 relating to Sand for Stowing as revised vide notification number G.S.R. 214(E) dated the 11th April, 1997 will remain in force until revised through a separate notification by the Department of Coal.

*** Rates of royalty in respect of item No.46 relating to Uranium as revised vide notification number G.S.R. 96(E), dated the 13th February, 2009 will remain in force until revised.

Note: The rates of royalty for the State of West Bengal in respect of minerals except the mineral specified against item number 10 shall remain the same as specified in the notification of the Government of India in the Ministry of Steel and Mines (Department of Mines) number G.S.R. 458(E), dated the 5th May, 1987 till the outcome of litigation pending in the Supreme Court of India.

THE THIRD SCHEDULE

(See Section 9A)

RATES OF DEAD RENT

1. Rate of dead rent applicable to the leases granted for low value minerals are as under :

Rates of dead rent in rupees per hectare per annum		
From second years of lease	Third year and fourth year	Fifth year onward
200	500	1000

2. Two times the rate specified under (1) above in case of lease granted for medium value mineral(s).
3. Three times the rates specified under (1) above in case of lease granted for high value mineral(s).
4. Four times the rates specified under (1) above in case of lease granted for precious metals and stones.

Note :

1. For the purpose of this notification –

- (a) **“precious metals and stones”** means gold, silver, diamond, ruby, sapphire and emerald;
- (b) **“high value minerals”** means semi-precious stones (agate, gem garnet), corundum, copper, lead, zinc, asbestos (chrysotile variety) and mica;
- (c) **“medium value minerals”** means chromite, manganese ore, kyanite, sillimanite, vermiculite, magnesite, wollastonite, perlite, diaspore, apatite, rock phosphate, fluorite (fluorspar) and barytes;
- (d) **“low value minerals”** means minerals other than precious metals and stones, high value minerals and medium value minerals;

2. The rates of dead rent for the State of West Bengal shall remain the same as specified in the notification of the Government of India in the Ministry of Steel and Mines (Department of Mines) No. G.S.R. 458(E), dated the 5th May, 1987[†] till the outcome of pending litigation in the Supreme Court of India.

[†] Substituted by GSR 575(E) dt.13.8.2009

(Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii)
MINISTRY OF ENVIRONMENT AND FORESTS

New Delhi 14th September, 2006

Notification

S.O. 1533 Whereas, a draft notification **under sub-rule (3) of Rule 5 of the Environment (Protection) Rules, 1986 for imposing** certain restrictions and prohibitions on new projects or activities, or on the expansion or modernization of existing projects or activities based on their potential environmental impacts as indicated in the Schedule to the notification, being undertaken in any part of India¹, unless prior environmental clearance has been accorded in accordance with the objectives of National Environment Policy **as approved by the Union Cabinet on 18th May, 2006** and the procedure specified in the notification, by the Central Government or the State or Union territory Level Environment Impact Assessment Authority (SEIAA), to be constituted by the Central Government in consultation with the State Government or the Union territory Administration concerned under sub-section (3) of section 3 of the Environment (Protection) Act, 1986 for the purpose of this notification, was published in the Gazette of India ,Extraordinary, Part II, section 3, sub-section (ii) vide number S.O. 1324 (E) dated the 15th September ,2005 inviting objections and suggestions from all persons likely to be affected thereby within a period of sixty days from the date on which copies of Gazette containing the said notification were made available to the public;

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

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

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

¹Includes the territorial waters

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

- (i) All new projects or activities listed in the Schedule to this notification;
- (ii) Expansion and modernization of existing projects or activities listed in the Schedule to this notification with addition of capacity beyond the limits specified for the concerned sector, that is, projects or activities which cross the threshold limits given in the Schedule, after expansion or modernization;
- (iii) Any change in product - mix in an existing manufacturing unit included in Schedule beyond the specified range.

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

- (2) The Member-Secretary shall be a serving officer of the concerned State Government or Union territory administration familiar with environmental laws.
- (3) The other two Members shall be either a professional or expert fulfilling the eligibility criteria given in Appendix VI to this notification.
- (4) One of the specified Members in sub-paragraph (3) above who is an expert in the Environmental Impact Assessment process shall be the Chairman of the SEIAA.
- (5) The State Government or Union territory Administration shall forward the names of the Members and the Chairman referred in sub- paragraph 3 to 4 above to the Central Government and the Central Government shall constitute the SEIAA as an authority for the purposes of this notification within thirty days of the date of receipt of the names.
- (6) The non-official Member and the Chairman shall have a fixed term of three years (from the date of the publication of the notification by the Central Government constituting the authority).
- (7) All decisions of the SEIAA shall be unanimous and taken in a meeting.

4. Categorization of projects and activities:-

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

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

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

5. Screening, Scoping and Appraisal Committees:-

The same Expert Appraisal Committees (EACs) at the Central Government and SEACs (hereinafter referred to as the (EAC) and (SEAC) at the State or the Union territory level shall screen, scope and appraise projects or activities in Category 'A' and Category 'B' respectively. EAC and SEAC's shall meet at least once every month.

(a) The composition of the EAC shall be as given in Appendix VI. The SEAC at the State or the Union territory level shall be constituted by the Central Government in consultation with the concerned State Government or the Union territory Administration with identical composition;

(b) The Central Government may, with the prior concurrence of the concerned State Governments or the Union territory Administrations, constitutes one SEAC for more than one State or Union territory for reasons of administrative convenience and cost;

(c) The EAC and SEAC shall be reconstituted after every three years;

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

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

6. Application for Prior Environmental Clearance (EC):-

An application seeking prior environmental clearance in all cases shall be made in the prescribed Form 1 annexed herewith and Supplementary Form 1A, if applicable, as given in Appendix II, after the identification of prospective site(s) for the project and/or activities to which the application relates, before commencing any construction activity, or preparation of land, at the site by the applicant. The applicant shall furnish, along with the application, a copy of the pre-feasibility project report except that, in case of construction projects or activities (item 8 of the Schedule) in addition to Form 1 and the Supplementary Form 1A, a copy of the conceptual plan shall be provided, instead of the pre-feasibility report.

7. Stages in the Prior Environmental Clearance (EC) Process for New Projects:-

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

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

I. Stage (1) - Screening:

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

II. Stage (2) - Scoping:

(i) “Scoping”: refers to the process by which the Expert Appraisal Committee in the case of Category ‘A’ projects or activities, and State level Expert Appraisal Committee in the case of Category ‘B1’ projects or activities, including applications for expansion and/or modernization and/or change in product mix of existing projects or activities, determine detailed and comprehensive Terms Of Reference (TOR) addressing all relevant environmental concerns for the preparation of an Environment Impact Assessment (EIA) Report in respect of the project or activity for which prior environmental clearance is sought. The Expert Appraisal Committee or State level Expert Appraisal Committee concerned shall determine the Terms of Reference on the basis of the information furnished in the prescribed application Form1/Form 1A including Terms of Reference proposed by the applicant, a site visit by a sub- group of Expert Appraisal Committee or State level Expert Appraisal Committee concerned only if considered necessary by the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned, Terms of Reference suggested by the applicant if furnished and other information that may be available with the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned. All projects and activities listed as Category ‘B’ in Item 8 of the Schedule (Construction/Township/Commercial Complexes /Housing) shall not require Scoping and will be appraised on the basis of Form 1/ Form 1A and the conceptual plan.

(ii) The Terms of Reference (TOR) shall be conveyed to the applicant by the Expert Appraisal Committee or State Level Expert Appraisal Committee as concerned within sixty days of the receipt of Form 1. In the case of Category A Hydroelectric projects Item 1(c) (i) of the Schedule the Terms of Reference shall be conveyed along with the clearance for pre-construction activities .If the Terms of Reference are not finalized and conveyed to the applicant within sixty days of the receipt of Form 1, the Terms of Reference suggested by the applicant shall be deemed as the final Terms of Reference approved for the EIA studies. The approved Terms of

Reference shall be displayed on the website of the Ministry of Environment and Forests and the concerned State Level Environment Impact Assessment Authority.

(iii) Applications for prior environmental clearance may be rejected by the regulatory authority concerned on the recommendation of the EAC or SEAC concerned at this stage itself. In case of such rejection, the decision together with reasons for the same shall be communicated to the applicant in writing within sixty days of the receipt of the application.

III. Stage (3) - Public Consultation:

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

- (a) modernization of irrigation projects (item 1(c) (ii) of the Schedule).
- (b) all projects or activities located within industrial estates or parks (item 7(c) of the Schedule) approved by the concerned authorities, and which are not disallowed in such approvals.
- (c) expansion of Roads and Highways (item 7 (f) of the Schedule) which do not involve any further acquisition of land.
- (d) all Building /Construction projects/Area Development projects and Townships (item 8).
- (e) all Category 'B2' projects and activities.
- (f) all projects or activities concerning national defence and security or involving other strategic considerations as determined by the Central Government.

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

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

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

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

(iv) in case the State Pollution Control Board or the Union territory Pollution Control Committee concerned does not undertake and complete the public hearing within the specified period, and/or does not convey the proceedings of the public hearing within the prescribed period

directly to the regulatory authority concerned as above, the regulatory authority shall engage another public agency or authority which is not subordinate to the regulatory authority, to complete the process within a further period of forty five days,.

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

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

(vii) After completion of the public consultation, the applicant shall address all the material environmental concerns expressed during this process, and make appropriate changes in the draft EIA and EMP. The final EIA report, so prepared, shall be submitted by the applicant to the concerned regulatory authority for appraisal. The applicant may alternatively submit a supplementary report to draft EIA and EMP addressing all the concerns expressed during the public consultation.

IV. Stage (4) - Appraisal:

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

(ii) The appraisal of all projects or activities which are not required to undergo public consultation, or submit an Environment Impact Assessment report, shall be carried out on the basis of the prescribed application Form 1 and Form 1A as applicable, any other relevant

validated information available and the site visit wherever the same is considered as necessary by the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned.

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

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

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

8. Grant or Rejection of Prior Environmental Clearance (EC):

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

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

(iii) In the event that the decision of the regulatory authority is not communicated to the applicant within the period specified in sub-paragraphs (i) or (ii) above, as applicable, the

applicant may proceed as if the environment clearance sought for has been granted or denied by the regulatory authority in terms of the final recommendations of the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned.

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

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

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

9. Validity of Environmental Clearance (EC):

The “Validity of Environmental Clearance” is meant the period from which a prior environmental clearance is granted by the regulatory authority, or may be presumed by the applicant to have been granted under sub paragraph (iv) of paragraph 7 above, to the start of production operations by the project or activity, or completion of all construction operations in case of construction projects (item 8 of the Schedule), to which the application for prior environmental clearance refers. The prior environmental clearance granted for a project or activity shall be valid for a period of ten years in the case of River Valley projects (item 1(c) of the Schedule), project life as estimated by Expert Appraisal Committee or State Level Expert Appraisal Committee subject to a maximum of thirty years for mining projects and five years in the case of all other projects and activities. However, in the case of Area Development projects and Townships [item 8(b)], the validity period shall be limited only to such activities as may be the responsibility of the applicant as a developer. This period of validity may be extended by the regulatory authority concerned by a maximum period of five years provided an application is made to the regulatory authority by the applicant within the validity period, together with an updated Form 1, and Supplementary Form 1A, for Construction projects or activities (item 8 of the Schedule). In this regard the regulatory authority may also consult the Expert Appraisal Committee or State Level Expert Appraisal Committee as the case may be.

10. Post Environmental Clearance Monitoring:

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

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

11. Transferability of Environmental Clearance (EC):

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

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

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

[No. J-11013/56/2004-IA-II (I)]

(R.CHANDRAMOHAN)
JOINT SECRETARY TO THE GOVERNMENT OF INDIA

SCHEDULE

(See paragraph 2 and 7)

LIST OF PROJECTS OR ACTIVITIES REQUIRING PRIOR ENVIRONMENTAL CLEARANCE

Project or Activity		Category with threshold limit		Conditions if any
		A	B	
1		Mining, extraction of natural resources and power generation (for a specified production capacity)		
(1)	(2)	(3)	(4)	(5)
1(a)	Mining of minerals	<p>≥ 50 ha. of mining lease area</p> <p>Asbestos mining irrespective of mining area</p>	<p><50 ha</p> <p>≥ 5 ha .of mining lease area.</p>	<p>General Condition shall apply</p> <p><u>Note</u> Mineral prospecting (not involving drilling) are exempted provided the concession areas have got previous clearance for physical survey</p>
1(b)	Offshore and onshore oil and gas exploration, development & production	All projects		<p><u>Note</u> Exploration Surveys (not involving drilling) are exempted provided the concession areas have got previous clearance for physical survey</p>
1(c)	River Valley projects	<p>(i) ≥ 50 MW hydroelectric power generation;</p> <p>(ii) ≥ 10,000 ha. of culturable command area</p>	<p>(i) < 50 MW ≥ 25 MW hydroelectric power generation;</p> <p>(ii) < 10,000 ha. of culturable command area</p>	General Condition shall apply
1(d)	Thermal Power Plants	<p>≥ 500 MW (coal/lignite/naphtha & gas based);</p> <p>≥ 50 MW (Pet coke diesel and all other fuels -)</p>	<p>< 500 MW (coal/lignite/naphtha & gas based);</p> <p><50 MW</p> <p>≥ 5MW (Pet coke ,diesel and all other fuels)</p>	General Condition shall apply

(1)	(2)	(3)	(4)	(5)
1(e)	Nuclear power projects and processing of nuclear fuel	All projects	-	
2		Primary Processing		
2(a)	Coal washeries	≥ 1 million ton/annum throughput of coal	<1million ton/annum throughput of coal	General Condition shall apply (If located within mining area the proposal shall be appraised together with the mining proposal)
2 (b)	Mineral beneficiation	≥ 0.1million ton/annum mineral throughput	< 0.1million ton/annum mineral throughput	General Condition shall apply (Mining proposal with Mineral beneficiation shall be appraised together for grant of clearance)

3		Materials Production		
(1)	(2)	(3)	(4)	(5)
3(a)	Metallurgical industries (ferrous & non ferrous)	<p>a)Primary metallurgical industry</p> <p>All projects</p> <p>b) Sponge iron manufacturing ≥ 200TPD</p> <p>c)Secondary metallurgical processing industry</p> <p>All toxic and heavy metal producing units $\geq 20,000$ tonnes /annum</p> <p>-</p>	<p>Sponge iron manufacturing <200TPD</p> <p>Secondary metallurgical processing industry</p> <p>i.)All toxic and heavy metal producing units <20,000 tonnes /annum</p> <p>ii.)All other non –toxic secondary metallurgical processing industries >5000 tonnes/annum</p>	General Condition shall apply for Sponge iron manufacturing
3(b)	Cement plants	≥ 1.0 million tonnes/annum production capacity	<1.0 million tonnes/annum production capacity. All Stand alone grinding units	General Condition shall apply

4	Materials Processing			
(1)	(2)	(3)	(4)	(5)
4(a)	Petroleum refining industry	All projects	-	-
4(b)	Coke oven plants	≥2,50,000 tonnes/annum -	<2,50,000 & ≥25,000 tonnes/annum	-
4(c)	Asbestos milling and asbestos based products	All projects	-	-
4(d)	Chlor-alkali industry	≥300 TPD production capacity or a unit located outside the notified industrial area/estate	<300 TPD production capacity and located within a notified industrial area/estate	Specific Condition shall apply No new Mercury Cell based plants will be permitted and existing units converting to membrane cell technology are exempted from this Notification
4(e)	Soda ash Industry	All projects	-	-
4(f)	Leather/skin/hide processing industry	New projects outside the industrial area or expansion of existing units outside the industrial area	All new or expansion of projects located within a notified industrial area/estate	Specific condition shall apply
5	Manufacturing/Fabrication			
5(a)	Chemical fertilizers	All projects	-	-
5(b)	Pesticides industry and pesticide specific intermediates (excluding formulations)	All units producing technical grade pesticides	-	-

(1)	(2)	(3)	(4)	(5)
5(c)	Petro-chemical complexes (industries based on processing of petroleum fractions & natural gas and/or reforming to aromatics)	All projects -	-	-
5(d)	Manmade fibres manufacturing	Rayon	Others	General Condition shall apply
5(e)	Petrochemical based processing (processes other than cracking & reformation and not covered under the complexes)	Located out side the notified industrial area/ estate -	Located in a notified industrial area/ estate	Specific Condition shall apply
5(f)	Synthetic organic chemicals industry (dyes & dye intermediates; bulk drugs and intermediates excluding drug formulations; synthetic rubbers; basic organic chemicals, other synthetic organic chemicals and chemical intermediates)	Located out side the notified industrial area/ estate	Located in a notified industrial area/ estate	Specific Condition shall apply
5(g)	Distilleries	(i) All Molasses based distilleries (ii) All Cane juice/ non-molasses based distilleries ≥ 30 KLD	All Cane juice/non-molasses based distilleries - <30 KLD	General Condition shall apply
5(h)	Integrated paint industry	-	All projects	General Condition shall apply

(1)	(2)	(3)	(4)	(5)
5(i)	Pulp & paper industry excluding manufacturing of paper from waste paper and manufacture of paper from ready pulp with out bleaching	Pulp manufacturing and Pulp& Paper manufacturing industry -	Paper manufacturing industry without pulp manufacturing	General Condition shall apply
5(j)	Sugar Industry	- -	≥ 5000 tcd cane crushing capacity	General Condition shall apply
5(k)	Induction/arc furnaces/cupola furnaces 5TPH or more	- -	All projects	General Condition shall apply
6		Service Sectors		
6(a)	Oil & gas transportation pipe line (crude and refinery/ petrochemical products), passing through national parks /sanctuaries/coral reefs /ecologically sensitive areas including LNG Terminal	All projects -		-

(1)	(2)	(3)	(4)	(5)
6(b)	Isolated storage & handling of hazardous chemicals (As per threshold planning quantity indicated in column 3 of schedule 2 & 3 of MSIHC Rules 1989 amended 2000)	-	All projects	General Condition shall apply
7		Physical Infrastructure including Environmental Services		
7(a)	Air ports	All projects	-	-
7(b)	All ship breaking yards including ship breaking units	All projects	-	-
7(c)	Industrial estates/ parks/ complexes/ areas, export processing Zones (EPZs), Special Economic Zones (SEZs), Biotech Parks, Leather Complexes.	If at least one industry in the proposed industrial estate falls under the Category A, entire industrial area shall be treated as Category A, irrespective of the area. Industrial estates with area greater than 500 ha. and housing at least one Category B industry.	-Industrial estates housing at least one Category B industry and area <500 ha. Industrial estates of area > 500 ha. and not housing any industry belonging to Category A or B.	Special condition shall apply Note: Industrial Estate of area below 500 ha. and not housing any industry of category A or B does not require clearance.
7(d)	Common hazardous waste treatment, storage and disposal facilities (TSDFs)	All integrated facilities having incineration & landfill or incineration alone	All facilities having land fill only	General Condition shall apply

(1)	(2)	(3)	(4)	(5)
7(e)	Ports, Harbours	≥ 5 million TPA of cargo handling capacity (excluding fishing harbours)	< 5 million TPA of cargo handling capacity and/or ports/ harbours ≥10,000 TPA of fish handling capacity	General Condition shall apply
7(f)	Highways	i) New National High ways; and ii) Expansion of National High ways greater than 30 KM, involving additional right of way greater than 20m involving land acquisition and passing through more than one State.	i) New State High ways; and ii) Expansion of National / State Highways greater than 30 km involving additional right of way greater than 20m involving land acquisition.	General Condition shall apply
7(g)	Aerial ropeways		All projects	General Condition shall apply
7(h)	Common Effluent Treatment Plants (CETPs)		All projects	General Condition shall apply
7(i)	Common Municipal Solid Waste Management Facility (CMSWMF)		All projects	General Condition shall apply

(1)	(2)	(3)	(4)	(5)
8		Building /Construction projects/Area Development projects and Townships		
8(a)	Building and Construction projects		≥20000 sq.mtrs and <1,50,000 sq.mtrs. of built-up area#	#(built up area for covered construction; in the case of facilities open to the sky, it will be the activity area)
8(b)	Townships and Area Development projects.		Covering an area ≥ 50 ha and or built up area ≥1,50,000 sq .mtrs ++	++All projects under Item 8(b) shall be appraised as Category B1

Note:-**General Condition (GC):**

Any project or activity specified in Category 'B' will be treated as Category A, if located in whole or in part within 10 km from the boundary of: (i) Protected Areas notified under the Wild Life (Protection) Act, 1972, (ii) Critically Polluted areas as notified by the Central Pollution Control Board from time to time, (iii) Notified Eco-sensitive areas, (iv) inter-State boundaries and international boundaries.

Specific Condition (SC):

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

APPENDIX I

(See paragraph – 6)

FORM 1

(I) Basic Information

Name of the Project:

Location / site alternatives under consideration:

Size of the Project: *

Expected cost of the project:

Contact Information:

Screening Category:

- *Capacity corresponding to sectoral activity (such as production capacity for manufacturing, mining lease area and production capacity for mineral production, area for mineral exploration, length for linear transport infrastructure, generation capacity for power generation etc.,)*

(II) Activity

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

S.No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
1.1	Permanent or temporary change in land use, land cover or topography including increase in intensity of land use (with respect to local land use plan)		
1.2	Clearance of existing land, vegetation and buildings?		
1.3	Creation of new land uses?		
1.4	Pre-construction investigations e.g. bore houses, soil testing?		
1.5	Construction works?		

1.6	Demolition works?		
1.7	Temporary sites used for construction works or housing of construction workers?		
1.8	Above ground buildings, structures or earthworks including linear structures, cut and fill or excavations		
1.9	Underground works including mining or tunneling?		
1.10	Reclamation works?		
1.11	Dredging?		
1.12	Offshore structures?		
1.13	Production and manufacturing processes?		
1.14	Facilities for storage of goods or materials?		
1.15	Facilities for treatment or disposal of solid waste or liquid effluents?		
1.16	Facilities for long term housing of operational workers?		
1.17	New road, rail or sea traffic during construction or operation?		
1.18	New road, rail, air waterborne or other transport infrastructure including new or altered routes and stations, ports, airports etc?		
1.19	Closure or diversion of existing transport routes or infrastructure leading to changes in traffic movements?		
1.20	New or diverted transmission lines or pipelines?		
1.21	Impoundment, damming, culverting, realignment or other changes to the hydrology of watercourses or aquifers?		
1.22	Stream crossings?		
1.23	Abstraction or transfers of water 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?		
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, and / soil (expected source – MT)		
2.5	Forests and timber (source – MT)		
2.6	Energy including electricity and fuels (source, competing users) Unit: fuel (MT), energy (MW)		
2.7	Any other natural resources (use appropriate standard units)		

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

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

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

S.No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
4.1	Spoil, overburden or mine wastes		
4.2	Municipal waste (domestic and or commercial wastes)		
4.3	Hazardous wastes (as per Hazardous Waste Management Rules)		

4.4	Other industrial process wastes		
4.5	Surplus product		
4.6	Sewage sludge or other sludge from effluent treatment		
4.7	Construction or demolition wastes		
4.8	Redundant machinery or equipment		
4.9	Contaminated soils or other materials		
4.10	Agricultural wastes		
4.11	Other solid wastes		

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

S.No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
5.1	Emissions from combustion of fossil fuels from stationary or mobile sources		
5.2	Emissions from production processes		
5.3	Emissions from materials handling including storage or transport		
5.4	Emissions from construction activities including plant and equipment		
5.5	Dust or odours from handling of materials including construction materials, sewage and waste		

5.6	Emissions from incineration of waste		
5.7	Emissions from burning of waste in open air (e.g. slash materials, construction debris)		
5.8	Emissions from any other sources		

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

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

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

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

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

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

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

S. No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
9.1	<p>Lead to development of supporting, lities, ancillary development or development stimulated by the project which could have impact on the environment e.g.:</p> <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		

(III) Environmental Sensitivity

S.No.	Areas	Name/ Identity	Aerial distance (within 15 km.) Proposed project location boundary
1	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value		

2	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests		
3	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration		
4	Inland, coastal, marine or underground waters		
5	State, National boundaries		
6	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas		
7	Defence installations		
8	Densely populated or built-up area		
9	Areas occupied by sensitive man-made land uses (<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>)		

(IV). Proposed Terms of Reference for EIA studies

APPENDIX II

(See paragraph 6)

FORM-1 A (only for construction projects listed under item 8 of the Schedule)**CHECK LIST OF ENVIRONMENTAL IMPACTS****(Project proponents are required to provide full information and wherever necessary attach explanatory notes with the Form and submit along with proposed environmental management plan & monitoring programme)****1. LAND ENVIRONMENT****(Attach panoramic view of the project site and the vicinity)**

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

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

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

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

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

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

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

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

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

2. WATER ENVIRONMENT

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

- 2.2. What is the capacity (dependable flow or yield) of the proposed source of water?
- 2.3. What is the quality of water required, in case, the supply is not from a municipal source? (Provide physical, chemical, biological characteristics with class of water quality)
- 2.4. How much of the water requirement can be met from the recycling of treated wastewater? (Give the details of quantities, sources and usage)
- 2.5. Will there be diversion of water from other users? (Please assess the impacts of the project on other existing uses and quantities of consumption)
- 2.6. What is the incremental pollution load from wastewater generated from the proposed activity? (Give details of the quantities and composition of wastewater generated from the proposed activity)
- 2.7. Give details of the water requirements met from water harvesting? Furnish details of the facilities created.
- 2.8. What would be the impact of the land use changes occurring due to the proposed project on the runoff characteristics (quantitative as well as qualitative) of the area in the post construction phase on a long term basis? Would it aggravate the problems of flooding or water logging in any way?
- 2.9. What are the impacts of the proposal on the ground water? (Will there be tapping of ground water; give the details of ground water table, recharging capacity, and approvals obtained from competent authority, if any)
- 2.10. What precautions/measures are taken to prevent the run-off from construction activities polluting land & aquifers? (Give details of quantities and the measures taken to avoid the adverse impacts)
- 2.11. How is the storm water from within the site managed?(State the provisions made to avoid flooding of the area, details of the drainage facilities provided along with a site layout indication contour levels)
- 2.12. Will the deployment of construction labourers particularly in the peak period lead to unsanitary conditions around the project site (Justify with proper explanation)
- 2.13. What on-site facilities are provided for the collection, treatment & safe disposal of sewage? (Give details of the quantities of wastewater generation, treatment capacities with technology & facilities for recycling and disposal)
- 2.14. Give details of dual plumbing system if treated waste used is used for flushing of toilets or any other use.

3. VEGETATION

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

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

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

4. FAUNA

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

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

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

5. AIR ENVIRONMENT

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

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

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

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

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

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

6. AESTHETICS

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

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

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

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

7. SOCIO-ECONOMIC ASPECTS

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

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

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

8. BUILDING MATERIALS

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

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

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

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

9. ENERGY CONSERVATION

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

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

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

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

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

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

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

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

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

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

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

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

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

10. Environment Management Plan

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

APPENDIX III

(See paragraph 7

GENERIC STRUCTURE OF ENVIRONMENTAL IMPACT ASSESMENT DOCUMENT

S.NO	EIA STRUCTURE	CONTENTS
1.	Introduction	<ul style="list-style-type: none"> • Purpose of the report • Identification of project & project proponent • Brief description of nature, size, location of the project and its importance to the country, region • Scope of the study – details of regulatory scoping carried out (As per Terms of Reference)
2.	Project Description	<ul style="list-style-type: none"> • Condensed description of those aspects of the project (based on project feasibility study), likely to cause environmental effects. Details should be provided to give clear picture of the following: <ul style="list-style-type: none"> • Type of project • Need for the project • Location (maps showing general location, specific location, project boundary & project site layout) • Size or magnitude of operation (incl. Associated activities required by or for the project) • Proposed schedule for approval and implementation • Technology and process description • Project description. Including drawings showing project layout, components of project etc. Schematic representations of the feasibility drawings which give information important for EIA purpose • Description of mitigation measures incorporated into the project to meet environmental standards, environmental operating conditions, or other EIA requirements (as required by the scope) • Assessment of New & untested technology for the risk of technological failure

3.	Description of the Environment	<ul style="list-style-type: none"> • Study area, period, components & methodology • Establishment of baseline for valued environmental components, as identified in the scope • Base maps of all environmental components
4.	Anticipated Environmental Impacts & Mitigation Measures	<ul style="list-style-type: none"> • Details of Investigated Environmental impacts due to project location, possible accidents, project design, project construction, regular operations, final decommissioning or rehabilitation of a completed project • Measures for minimizing and / or offsetting adverse impacts identified • Irreversible and Irretrievable commitments of environmental components • Assessment of significance of impacts (Criteria for determining significance, Assigning significance) • Mitigation measures
5.	Analysis of Alternatives (Technology & Site)	<ul style="list-style-type: none"> • In case, the scoping exercise results in need for alternatives: • Description of each alternative • Summary of adverse impacts of each alternative • Mitigation measures proposed for each alternative and • Selection of alternative
6.	Environmental Monitoring Program	<ul style="list-style-type: none"> • Technical aspects of monitoring the effectiveness of mitigation measures (incl. Measurement methodologies, frequency, location, data analysis, reporting schedules, emergency procedures, detailed budget & procurement schedules)
7.	Additional Studies	<ul style="list-style-type: none"> • Public Consultation • Risk assessment • Social Impact Assessment. R&R Action Plans
8.	Project Benefits	<ul style="list-style-type: none"> • Improvements in the physical infrastructure • Improvements in the social infrastructure • Employment potential –skilled; semi-skilled and unskilled • Other tangible benefits

9.	Environmental Cost Benefit Analysis	If recommended at the Scoping stage
10.	EMP	<ul style="list-style-type: none"> • Description of the administrative aspects of ensuring that mitigative measures are implemented and their effectiveness monitored, after approval of the EIA
11	Summary & Conclusion (This will constitute the summary of the EIA Report)	<ul style="list-style-type: none"> • Overall justification for implementation of the project • Explanation of how, adverse effects have been mitigated
12.	Disclosure of Consultants engaged	<ul style="list-style-type: none"> • The names of the Consultants engaged with their brief resume and nature of Consultancy rendered

APPENDIX III A (See paragraph 7)

CONTENTS OF SUMMARY ENVIRONMENTAL IMPACT ASSESSMENT

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

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

APPENDIX IV
(See paragraph 7)

PROCEDURE FOR CONDUCT OF PUBLIC HEARING

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

2.0 The Process:

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

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

- (a) District Magistrate/s
- (b) Zila Parishad or Municipal Corporation
- (c) District Industries Office
- (d) Concerned Regional Office of the Ministry of Environment and Forests

2.3 On receiving the draft Environmental Impact Assessment report, the above-mentioned authorities except the MoEF, shall arrange to widely publicize it within their respective jurisdictions requesting the interested persons to send their comments to the concerned regulatory authorities. They shall also make available the draft EIA Report for inspection electronically or otherwise to the public during normal office hours till the Public Hearing is over. The Ministry of Environment and Forests shall promptly display the Summary of the draft Environmental Impact Assessment report on its website, and also make the full draft EIA available for reference at a notified place during normal office hours in the Ministry at Delhi.

2.4 The SPCB or UTPCC concerned shall also make similar arrangements for giving publicity about the project within the State/Union Territory and make available the Summary of the draft Environmental Impact Assessment report (Appendix III A) for inspection in select offices or public libraries or panchayats etc. They shall also additionally

make available a copy of the draft Environmental Impact Assessment report to the above five authorities/offices viz, Ministry of Environment and Forests, District Magistrate etc.

3.0 Notice of Public Hearing:

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

3.2 The advertisement shall also inform the public about the places or offices where the public could access the draft Environmental Impact Assessment report and the Summary Environmental Impact Assessment report before the public hearing.

3.3 No postponement of the date, time, venue of the public hearing shall be undertaken, unless some untoward emergency situation occurs and only on the recommendation of the concerned District Magistrate the postponement shall be notified to the public through the same National and Regional vernacular dailies and also prominently displayed at all the identified offices by the concerned SPCB or Union Territory Pollution Control Committee;

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

4.0 The Panel

4.1 The District Magistrate or his or her representative not below the rank of an Additional District Magistrate assisted by a representative of SPCB or UTPCC, shall supervise and preside over the entire public hearing process.

5.0 Videography

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

6.0 Proceedings

6.1 The attendance of all those who are present at the venue shall be noted and annexed with the final proceedings.

6.2 There shall be no quorum required for attendance for starting the proceedings.

6.3 A representative of the applicant shall initiate the proceedings with a presentation on the project and the Summary EIA report.

6.4 Every person present at the venue shall be granted the opportunity to seek information or clarifications on the project from the Applicant. The summary of the public

hearing proceedings accurately reflecting all the views and concerns expressed shall be recorded by the representative of the SPCB or UTPCC and read over to the audience at the end of the proceedings explaining the contents in the vernacular language and the agreed minutes shall be signed by the District Magistrate or his or her representative on the same day and forwarded to the SPCB/UTPCC concerned.

6.5 A Statement of the issues raised by the public and the comments of the Applicant shall also be prepared in the local language and in English and annexed to the proceedings:

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

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

7.1 The public hearing shall be completed within a period of 45 (forty five) days from date of receipt of the request letter from the Applicant. Therefore the SPCB or UTPCC concerned shall send the public hearing proceedings to the concerned regulatory authority within 8(eight) days of the completion of the public hearing. The applicant may also directly forward a copy of the approved public hearing proceedings to the regulatory authority concerned along with the final Environmental Impact Assessment report or supplementary report to the draft EIA report prepared after the public hearing and public consultations.

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

APPENDIX –V
(See paragraph 7)

PROCEDURE PRESCRIBED FOR APPRAISAL

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

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

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

3. Where a public consultation is not mandatory and therefore a formal EIA study is not required, the appraisal shall be made on the basis of the prescribed application Form 1 and a pre-feasibility report in the case of all projects and activities other than Item 8 of the Schedule .In the case of Item 8 of the Schedule, considering its unique project cycle , the EAC or SEAC concerned shall appraise all Category B projects or activities on the basis of Form 1, Form 1A and the conceptual plan and stipulate the conditions for environmental clearance . As and when the applicant submits the approved scheme /building plans complying with the stipulated environmental clearance conditions with all other necessary statutory approvals, the EAC /SEAC shall recommend the grant of environmental clearance to the competent authority.

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

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

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

APPENDIX VI

(See paragraph 5)

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

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

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

Expert: A professional fulfilling the above eligibility criteria with at least 15 years of relevant experience in the field, or with an advanced degree (e.g. Ph.D.) in a concerned field and at least 10 years of relevant experience.

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

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

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

- **Environmental Economics Expert with experience in project appraisal**
3. The Membership of the EAC shall not exceed 15 (fifteen) regular Members. However the Chairperson may co-opt an expert as a Member in a relevant field for a particular meeting of the Committee.
 4. The Chairperson shall be an outstanding and experienced environmental policy expert or expert in management or public administration with wide experience in the relevant development sector.
 5. The Chairperson shall nominate one of the Members as the Vice Chairperson who shall preside over the EAC in the absence of the Chairman /Chairperson.
 6. A representative of the Ministry of Environment and Forests shall assist the Committee as its Secretary.
 7. The maximum tenure of a Member, including Chairperson, shall be for 2 (two) terms of 3 (three) years each.
 8. The Chairman / Members may not be removed prior to expiry of the tenure without cause and proper enquiry.



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EXTRAORDINARY

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PART II—Section 3—Sub-section (ii)

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पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय

अधिसूचना

नई दिल्ली, 20 अप्रैल, 2022

का.आ. 1886(अ).—केंद्रीय सरकार पर्यावरण और वन विभाग के पूर्ववर्ती मंत्रालय में पर्यावरण (संरक्षण) अधिनियम, 1986 की धारा (3) की उप-धारा (1) और उप-धारा (2) के खंड (v) के अधीन प्रदत्त शक्तियों का प्रयोग करते हुए, पर्यावरण समाघात निर्धारण अधिसूचना, 2006 (जिसे इसमें इसके पश्चात ईआईए अधिसूचना, 2006 कहा गया है), परियोजनाओं की कतिपय प्रवर्ग के लिए पूर्व पर्यावरणीय मंजूरी आज्ञापक बनाने के लिए, संख्या का.आ.1533(अ), तारीख 14 सितंबर, 2006 द्वारा प्रकाशित की है।

और राज्य पर्यावरण समाघात निर्धारण प्राधिकरण (एसईआईए) का गठन प्रवर्ग ख के अधीन सभी प्रस्तावों के लिए पर्यावरण मंजूरी (ईसी) पर विचार और अनुदान के लिए प्रत्यायोजित शक्तियों का प्रयोग करने हेतु राज्य स्तर पर ईआईए अधिसूचना, 2006 के कार्यान्वयन के लिए पर्यावरण (संरक्षण) अधिनियम, 1986 की धारा 3 की उप-धारा (3) के अधीन किया गया है;

और राज्य पर्यावरण समाघात निर्धारण प्राधिकरण ने पर्यावरण मंजूरी मूल्यांकन प्रक्रिया में पिछले पंद्रह वर्षों में पर्याप्त अनुभव प्राप्त किया है और राज्य स्तर पर पर्यावरण मंजूरी प्रस्तावों के कुशल और पारदर्शी निपटान के लिए परिवेश पोर्टल के माध्यम से पूरी तरह से ऑनलाइन कर दिया गया है;

और केंद्रीय सरकार राज्य स्तर पर मंजूरी की प्रसुविधा के लिए पर्यावरण मंजूरी प्रक्रिया को और विकेंद्रीकृत करना आवश्यक समझती है;

और आज की तारीख में, सुरक्षा भागीदारी के महत्वपूर्ण तत्वों के साथ राष्ट्रीय रक्षा और सामरिक महत्व से संबंधित प्रवर्ग ख की परियोजनाओं का राज्य स्तर पर भी मूल्यांकन किया जा रहा है, जिसे केंद्रीय सरकार राष्ट्रीय सुरक्षा चिंताओं को ध्यान में रखते हुए केंद्रीय रूप से मूल्यांकन करना आवश्यक समझती है;

अतः अब, केंद्रीय सरकार, पर्यावरण (संरक्षण) नियम, 1986 के नियम 5 के उप-नियम (4) के साथ पठित पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) की धारा 3 की उप-धारा (1) और उप-धारा (2) के खंड (v) द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए उक्त नियमों के नियम 5 के उप-नियम (3) के खंड (क) के अधीन नोटिस की अपेक्षा को समाप्त करने के पश्चात्, लोकहित में भारत सरकार की तत्कालीन पर्यावरण एवं वन मंत्रालय की अधिसूचना संख्यांक का.आ. 1533(अ), तारीख 14 सितम्बर, 2006, की अधिसूचना में निम्नलिखित और संशोधन करती है अर्थात्:-

उक्त अधिसूचना में-

(1) पैरा 4 में, उप-पैरा (iii) क) के स्थान पर, निम्नलिखित रखा जाएगा, अर्थात्: -

(iii) क) राष्ट्रीय रक्षा या सामरिक या सुरक्षा महत्व से संबंधित हैं या जिन्हें केंद्रीय सरकार द्वारा संकटकाल जैसे महामारी, प्राकृतिक आपदाओं जैसी अत्यावश्यकताओं के कारण ऐसी प्रवर्ग 'ख' परियोजनाओं को अधिसूचित किया गया है या राष्ट्रीय कार्यक्रमों या स्कीमों या मिशन या ऐसी परियोजनाओं के अधीन पर्यावरण के अनुकूल क्रियाकलापों का संवर्धन करने के लिए जो इस अधिसूचना में यथा अधिकथित समय-सीमा से अधिक विलंबित हैं और समय-समय पर इस संबंध में यथा-अधिकथित मानदंडों को पूरा करती हैं, उन्हें केंद्रीय स्तर पर प्रवर्ग 'ख' परियोजनाओं के रूप में विचार किया जाएगा;

(2) अनुसूची में, -

(i) मद 1(क) के सामने, -

(क) स्तंभ (3) में, -

(क) गैर-कोयला खनन पट्टे के संबंध में "> 100 हेक्टेयर खनन पट्टा क्षेत्र" के स्थान पर, निम्नलिखित रखा जाएगा, अर्थात्: -

"कोयले के अलावा अन्य प्रमुख खनिज खनन पट्टे के संबंध में >250 हेक्टेयर खनन पट्टा क्षेत्र";

(ख) ">150 हेक्टेयर" प्रतीक, अंक और अक्षर के स्थान पर, "> 500 हेक्टेयर" प्रतीक, आंकड़े और अक्षर रखे जाएंगे;

(ख) स्तंभ (4) में, -

(क) गैर-कोयला खनन के संबंध में <100 हेक्टेयर खनन पट्टा क्षेत्र के स्थान पर,

पट्टा", निम्नलिखित रखा जाएगा, अर्थात्: -

"लघु खनिज खनन पट्टों के संबंध में सभी खनन पट्टा क्षेत्र और कोयले के अलावा अन्य प्रमुख खनिज खनन पट्टे के संबंध में <250 हेक्टेयर खनन पट्टा क्षेत्र";

(ख) "<150 हेक्टेयर" के प्रतीकों, अंकों और अक्षरों के स्थान पर "<500 हेक्टेयर" के प्रतीक, अंक और अक्षर रखे जाएंगे;

(ii) मद 1(ग) के सामने, -

(क) स्तंभ (3) में, -

(क) क्रम संख्या (i) में, "> 50 मेगावाट, प्रतीकों, अंकों और अक्षरों के स्थान पर "> 100 मेगावाट" प्रतीक, आंकड़े और अक्षर रखे जाएंगे;

(ख) क्रम संख्या (ii) और उससे संबंधित प्रविष्टियों का लोप किया जाएगा;

(ख) स्तंभ (4) में, -

(क) क्रम संख्या (i) में, "<50 मेगावाट" प्रतीक, अंक और अक्षर के स्थान पर, "<100 मेगावाट" प्रतीक, आंकड़े और अक्षर रखे जाएंगे;

(ख) क्रम संख्या (ii) में, -

(I) "और <50,000 हेक्टेयर" शब्द, प्रतीक और अंक का लोप किया जाएगा;

(II) बिंदु (ग) में सारणी में, "से <50,000" शब्द, प्रतीक और अंक का लोप किया जाएगा; ।

(ग) स्तंभ (5) में, क्रम संख्या (ii) के पश्चात, निम्नलिखित क्रम संख्या अंतःस्थापित किया जाएगा, अर्थात् :-

"(iii) अंतर-राज्यीय मुद्दों से संबंधित सिंचाई परियोजनाओं का मूल्यांकन केंद्रीय स्तर पर श्रेणी में परिवर्तन के बिना किया जाएगा।";

(iii) मद 1(घ) के सामने,-

(क) स्तंभ (3) में, "> 50 मेगावाट" प्रतीकों, अंकों और अक्षरों के स्थान पर, "> 100 मेगावाट" प्रतीकों, अंकों और अक्षरों को रखा जाएगा;

(ख) स्तंभ (4) में, "<50 मेगावाट" प्रतीक, अंक और अक्षर के स्थान पर, "<100 मेगावाट" प्रतीक, आंकड़े और अक्षर रखे जाएंगे;

(iv) मद 2(क) के सामने, -

(क) स्तंभ (3) में, ">1" प्रतीकों और अंक के स्थान पर, ">2.5" प्रतीकों और अंक को रखा जाएगा;

(ख) स्तंभ (4) में, "<1" प्रतीकों और अंक के स्थान पर, "< 2.5" प्रतीक और अंक रखे जाएंगे;

(ग) स्तंभ (5) में, विद्यमान पैरा के पश्चात, निम्नलिखित पैरा अंतःस्थापित किया जाएगा, अर्थात्: -

"खनन पट्टा क्षेत्र के भीतर स्थित धुलाई मशीनों के साथ एकीकृत कोयला खनन परियोजनाओं को कोयला खनन परियोजनाओं के लिए विद्यमान सीमा के अनुसार केंद्रीय स्तर या राज्य स्तर पर, यथास्थिति, विचार किया जाना जारी रहेगा।";

(v) मद 2 (ख) के सामने, -

(क) स्तंभ (3) में, विद्यमान प्रविष्टियों का लोप किया जाएगा;

(ख) स्तंभ (4) में, "<0.5 मिलियन टीपीए का उत्पादन" प्रतीक, अंक, शब्द और अक्षर के स्थान पर, "सभी खनिज परिष्करण परियोजना, परिष्करण की प्रक्रिया पर ध्यान दिए बिना" शब्द रखे जाएंगे;

(ग) स्तंभ (5) में, विद्यमान पैरा के पश्चात, निम्नलिखित पैरा रखा जाएगा,

अर्थात्: -

"भीतर स्थित लाभकारी संयंत्रों के साथ एकीकृत खनन परियोजनाएं खनन पट्टा क्षेत्र पर केन्द्रीय स्तर पर विचार किया जाता रहेगा या यथास्थिति, राज्य स्तर, खनन परियोजनाओं के लिए विद्यमान सीमा के अनुसार।";

(vi) मद 7 (क) के सामने,-

(क) स्तंभ (3) में, "सभी परियोजनाओं" शब्दों के स्थान पर "सभी नई परियोजनाएं" शब्द रखे जाएंगे;

(ख) स्तंभ (4) में, निम्नलिखित अंतःस्थापित किया जाएगा, अर्थात्: -

"सभी विस्तार परियोजनाएं, जिनमें हवाई पट्टियां भी सम्मिलित हैं, जो वाणिज्यिक उपयोग के लिए हैं।"

[फा. सं. आईए 3-22/10/2022-आईए. III]

डॉ. सुजीत कुमार बाजपेयी, संयुक्त सचिव

टिप्पण : मूल अधिसूचना भारत के राजपत्र, असाधारण, भाग II, खंड III, उप-खंड (ii), संख्या का.आ. 1533(अ), तारीख 14 सितंबर, 2006 द्वारा प्रकाशित की गई थी और अधिसूचना संख्या का.आ. 1807(अ), तारीख 12 अप्रैल, 2022 द्वारा अंतिम संशोधन किया गया था।

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

New Delhi, the 20th April, 2022

S.O. 1886(E).—WHEREAS, the Central Government in the erstwhile Ministry of Environment and Forests, in exercise of its powers under sub-section (1) and clause (v) of sub-section (2) of section (3) of the Environment (Protection) Act, 1986 has published the Environment Impact Assessment Notification, 2006 (hereinafter referred to as the EIA Notification, 2006), vide number S.O.1533 (E), dated the 14th September, 2006 for mandating prior environmental clearance for certain category of projects;

And whereas, the State Environment Impact Assessment Authorities (SEIAAs) have been constituted under sub-section (3) of section 3 of the Environment (Protection) Act, 1986 for implementation of the EIA Notification, 2006 at State level for exercising delegated powers to consider and grant Environmental Clearance (EC) for all proposals under Category B;

And whereas, the SEIAAs have gained substantial experience over the past fifteen years in the EC appraisal process and the process at the State level has also been made completely online through the PARIVESH portal for efficient and transparent disposal of EC proposals;

And whereas, the Central Government deems it necessary to further decentralise the EC process for facilitating clearances at State level;

And whereas, as on date, category 'B' projects, relating to national defence and strategic importance with significant element of security involvement are also being appraised at the State level which, the Central Government deems it necessary to be appraised centrally taking into account national security concerns;

Now, therefore, in exercise of the powers conferred by sub-section (1) and clause (v) of sub-section (2) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986), read with sub-rule(4) of rule 5 of the Environment (Protection) Rules, 1986, the Central Government, after having dispensed with the requirement of notice under clause (a) of sub-rule (3) of rule 5 of the said rules, in public interest, hereby makes the following further amendments in the notification of the Government of India, in the erstwhile Ministry of Environment and Forests, number S.O. 1533 (E), dated the 14th September, 2006, namely:-

In the said notification,-

(1) in paragraph 4, for sub-paragraph (iii a), the following shall be substituted, namely:-

(iii a) Such Category 'B' projects, relating to the National defence or strategic or security importance or those as notified by the Central Government on account of exigencies such as pandemics, natural disasters or to promote environmentally friendly activities under National Programmes or Schemes or Missions or such projects which are inordinately delayed beyond the stipulated timeline as laid down in this notification and also meet the criteria as laid down in this regard from time to time, shall be considered at the Central level as Category 'B' projects;

(2) in the Schedule,-

(i) against item 1(a),-

(a) in column (3),-

(A) for ">100 ha. of mining lease area in respect of non-coal mining lease", the following shall be substituted, namely:-

">250 ha mining lease area in respect of major mineral mining lease other than coal";

(B) for the symbol, figures and letters "> 150 ha", the symbol, figures and letters "> 500 ha" shall be substituted;

(b) in column (4),-

(A) for "≤ 100 ha of mining lease area in respect of non-coal mine lease", the following shall be substituted, namely:-

"All mining lease area in respect of minor mineral mining leases and ≤ 250 ha mining lease area in respect of major mineral mining lease other than coal";

(B) for the symbols, figures and letters “ ≤ 150 ha”, the symbols, figures and letters “ ≤ 500 ha” shall be substituted;

(ii) against item 1(c),—

(a) in column (3),—

(A) in serial number (i), for the symbols, figures and letters “ ≥ 50 MW”, the symbols, figures and letters “ ≥ 100 MW” shall be substituted;

(B) serial number (ii) and the entries relating thereto shall be omitted;

(b) in column (4),—

(A) in serial number (i), for the symbol, figures and letters “ < 50 MW”, the symbol, figures and letters “ < 100 MW” shall be substituted;

(B) in serial number (ii),—

(I) the word, symbol and figures “and $< 50,000$ ha.” shall be omitted;

(II) in point (c) in the table, the word, symbol and figures “to $< 50,000$ ” shall be omitted;

(c) in column (5), after serial number (ii), the following serial number shall be inserted, namely:—

“(iii) Irrigation projects involving Inter-State issues shall be appraised at Central level without change in category.”;

(iii) against item 1(d),—

(a) in column (3), for the symbols, figures and letters “ ≥ 50 MW”, the symbols, figures and letters “ ≥ 100 MW” shall be substituted;

(b) in column (4), for the symbol, figures and letters “ < 50 MW”, the symbol, figures and letters “ < 100 MW” shall be substituted;

(iv) against item 2(a),—

(a) in column (3), for the symbols and figure “ ≥ 1 ”, the symbols and figures “ ≥ 2.5 ” shall be substituted;

(b) in column (4), for the symbols and figure “ < 1 ”, the symbols and figures “ < 2.5 ” shall be substituted;

(c) in column (5), after the existing paragraph, the following paragraph shall be inserted, namely:—

“Integrated coal mining projects with washeries located within mining lease area shall continue to be considered at Central level or State level, as the case may be, as per the extant threshold for coal mining projects.”;

(v) against item 2 (b),—

(a) in column (3), the existing entries shall be omitted;

(b) in column (4), for the symbol, figures, words and letters “ < 0.5 million TPA throughput”, the words “All mineral beneficiation projects irrespective of the procedure for beneficiation” shall be substituted;

(c) in column (5), after the existing paragraph, the following paragraph shall be inserted, namely:—

“Integrated mining projects with beneficiation plants located within mining lease area shall continue to be considered at Central level or State level, as the case may be, as per the extant threshold for mining projects.”;

(vi) against item 7 (a),—

(a) in column (3), for the words “All projects”, the words “All new projects” shall be substituted;

(b) in column (4), the following shall be inserted, namely:—

“All expansions projects, including airstrips, which are for commercial use.”

[F. No. IA3-22/10/2022-IA.III]

Dr. SUJIT KUMAR BAJPAYEE, Jt. Secy.

Note : The principal notification was published in the Gazette of India, Extraordinary, Part II, Section III, sub-section (ii), vide, number S.O. 1533(E), dated the 14th September, 2006 and was last amended, vide, the notification number S.O. 1807(E), dated the 12th April, 2022.

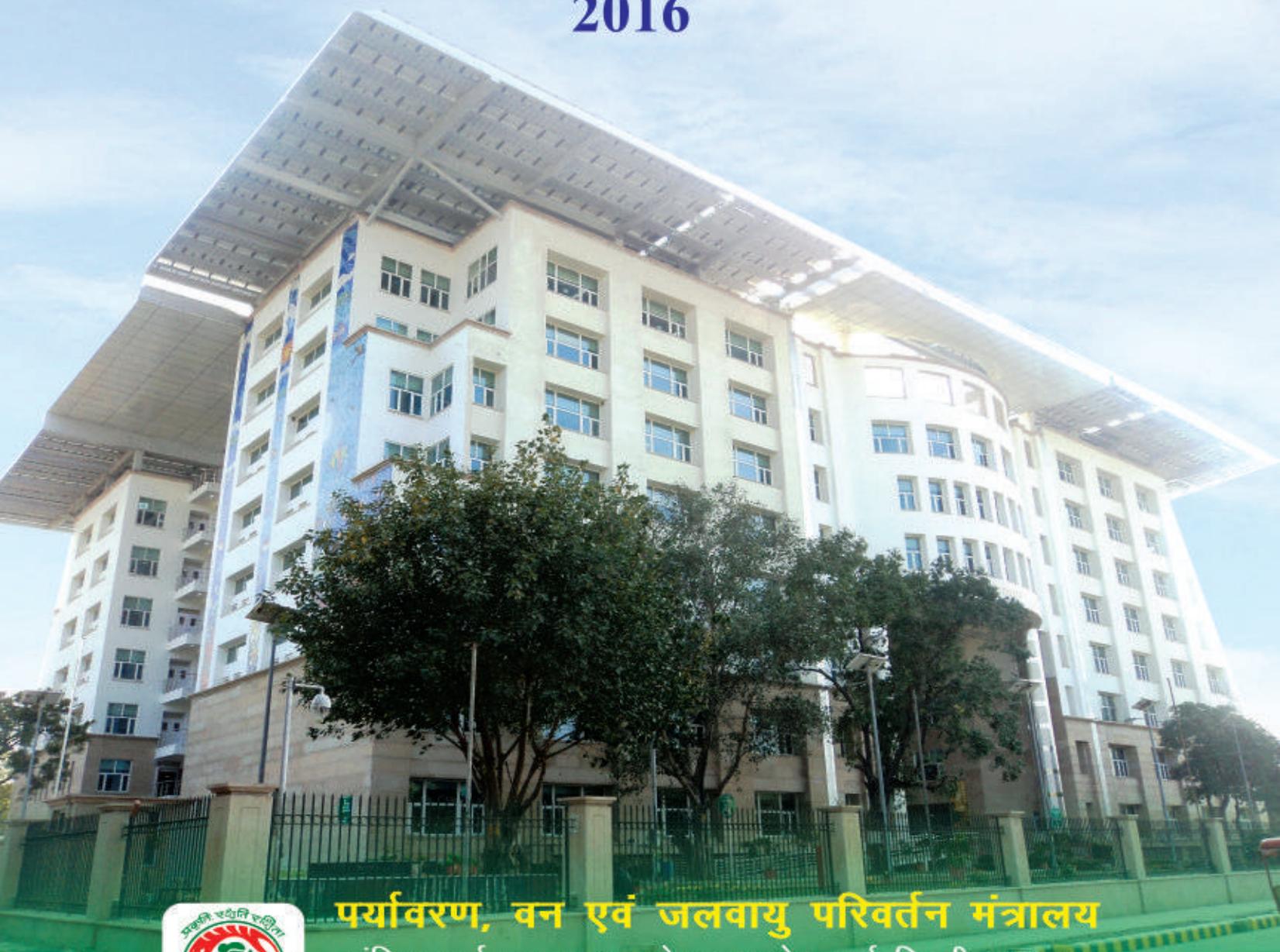
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सत्यमेव जयते

SUSTAINABLE SAND MINING MANAGEMENT GUIDELINES

2016



पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय

इंदिरा पर्यावरण भवन, जोर बाग रोड, नई दिल्ली-110 003

Ministry of Environment, Forest and Climate Change

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Acknowledgment

The Sustainable Sand Mining Management Guidelines 2016, has been prepared after extensive consultation with the States and stakeholders over a period of last one year. The Guideline assimilates the knowledge and experience of stakeholder. The main objective of the Guidelines is to ensure sustainable sand mining and environment friendly management practices in order to restore and maintain the ecology of river and other sand sources. The team of the officers of Ministry of Environment, Forest and Climate Change who have worked for preparing these Guidelines comprised of following:

1. Shri Manoj Kumar Singh, Joint Secretary
2. Dr. U. Sridharan, Scientist 'F'
3. Dr. R.B. Lal, Scientist 'D'
4. Dr. Sonu Singh, Scientist 'D'



SUSTAINABLE SAND MINING MANAGEMENT GUIDELINES

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प्रकाश जावडेकर
Prakash Javadekar



राज्य मंत्री (स्वतंत्र प्रभार)
MINISTER OF STATE (INDEPENDENT CHARGE)
पर्यावरण, वन एवं जलवायु परिवर्तन
ENVIRONMENT, FOREST & CLIMATE CHANGE
भारत सरकार / GOVERNMENT OF INDIA



FOREWORD

Environmental Protection and Sustainable Development have been the cornerstones of the policies and procedures governing the industrial and other developmental activities in India. The Ministry of Environment, Forest and Climate Change has taken several policy initiatives and enacted environmental and pollution control legislations to prevent indiscriminate exploitation of natural resources and to promote integration of environmental concerns in developmental projects. One such initiative is the Notification on Environmental Impact Assessment (EIA) of developmental projects issued on 14th September, 2006 under the provisions of Environment (Protection) Act, 1986, making EIA mandatory for certain categories of developmental projects.

Another land mark decision has been taken with the new notifications dated 15.01.2016 and 20.01.2016 on mining of minor minerals and constitution of District Level Environment Impact Assessment Authority and District Level Environment Appraisal Committee. This will ensure environmentally sustainable mining especially for sand and gravel under close supervision of district authorities. Use of information technology and information technology enabled services for scientific monitoring of mining and transportation of mined out material is another important feature of above notification.

Sand and gravel are one of the most important construction materials. Ensuring their availability is vital for the development of the infrastructure in the country. There are different sources of sand and gravel, the most important among them is the river. As the requirement of these construction materials is on rise, they also are very vital for the health, physical character of the river and the different important functions of the river. The extraction of sand and gravel from the river bodies has to be regulated and done with adoption of required environmental safeguards.

In view of evolving scenario in industry and development sector, My Ministry has prepared a "Sustainable Sand Mining Management Guidelines". The Guidelines *inter-alia* focus on preparation of District Survey Report; Management Plan; Marine Sand Mining and Impact on Marine Biodiversity; Issues and Management of Mining in Cluster; Management of Sand Deposited after Flood on Agricultural Field of Farmers; Mining of Sand from Agricultural Field; Monitoring System for Sustainable Sand Mining using Information Technology System; Creation of District Level Environment Impact Assessment Authority (DEIAA) and District Level Expert Appraisal Committee (DEAC) for granting Environment Clearance for Mining of Minor Minerals; Exemption of certain cases for requirement of Environment Clearance and Standard Environmental Conditions for Sustainable Sand Mining.

The Guidelines will help the Departments of Mines and Geology, State Pollution Control Boards/Committees, Industries, Regulators, Authorities and various Stakeholders to ensure environmentally sustainable mining in the Country.


(Prakash Javadekar)

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अशोक लवासा
ASHOK LAVASA, IAS



सचिव
भारत सरकार
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
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Government of India
Ministry of Environment, Forest and Climate Change



PREFACE

Sand is naturally occurring granular material composed of finely divided rock and mineral particles. Sand and gravel together known as aggregate, represent the highest volume of raw material used on earth. The mining of aggregate has been continuing for many years. Now the mining of aggregates has reached a level threatening the environment and ecosystem besides also reaching a level of scarcity that would threaten the economy. It is recommended that sand and aggregate mining, and quarrying should be done only after sound scientific assessment and adopting best practices to limit the impact on the environment.

The main objectives of the Guidelines, inter-alia, includes to ensure that sand and gravel mining is done in environmentally sustainable and socially responsible manner; availability of adequate quantity of aggregate in sustainable manner; improve the effectiveness of monitoring of mining and transportation of mined out material; conservation of the river equilibrium and its natural environment by protection and restoration of the ecological system; avoid aggradation at the downstream reach especially those with hydraulic structures such as jetties, water intakes etc.; to ensure the rivers are protected from bank and bed erosion beyond its stable profile; no obstruction to the river flow, water transport and restoring the riparian rights and in-stream habitats; to avoid pollution of river water leading to water quality deterioration; to prevent depletion of ground water reserves due to excessive draining out of ground water; and streamlining the process for grant of environmental clearance (EC) for sustainable mining.

The recommendations for management of sustainable sand extraction are the key objectives of the Guidelines. Emphasis is given to the setting up of monitoring plans that will provide data on profile changes and sediment transport capacity to enable the authorities to evaluate the long-term effect of the mining activities both upstream and downstream of sand extraction sites. Special emphasis is given on monitoring of the mined out material, which is key to the success of environment management plan. So use of IT and IT enabled services for effective monitoring of the quantity of mined out material and transportation along with process reengineering has been made a part of the Guideline. The Guidelines propose delegation of responsibility and authority to the cutting edge level i.e. the District Environment Impact Assessment Authority along with streamlining the process of impact assessment, environment management plan and environment clearance in cluster situation.



New Delhi
Date: 15-03-2016

Ashok Lavasa
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EXECUTIVE SUMMARY

The sand and gravel are one of the most important construction materials. Ensuring their availability is vital for the development of the infrastructure in the country. There are different sources of sand and gravel, the most important among them is the river. As the requirement of these construction materials is on rise, they also are very vital for the health, physical character of the river and the different important functions of the river. The extraction of sand and gravel from the river bodies has to be regulated and done with adoption of required environmental safeguards.

For making available these resources, a mapping of these resources at the district level, identification of appropriate sites for extraction, appraisal of the extraction process, putting in place the required environmental safeguards, and rigorous monitoring of the volume of extracted material is required to ensure sustainability of the entire process.

The district is the unit of administration which is best placed to do the mapping of these resources, adopt the best environmental practices for extraction of these materials and monitor its extraction and movement. The large number of leases which are awarded, the scattered geographical location of the availability of these materials and decentralized requirement and usage of the sand and aggregates also places districts in a unique position to play a vital role in adoption of environmental safeguards needed for sustainable extraction of river sand and gravel.

Recommendations for management of sustainable sand extraction are the key objective of the Guidelines. Emphasis is given to the setting up of monitoring plans that will provide data on profile changes and sediment transport capacity to enable the authorities to evaluate the long-term effect of the mining activities both upstream and downstream of sand extraction sites.

Special emphasis is given on monitoring of the mined out material, which is key to the success of environment management plan. So use of IT and IT enabled services for effective monitoring of the quantity of mined out material and transportation along with process reengineering has been made a part of the Guidelines. The Guidelines proposes delegation of responsibility and authority to the cutting edge level i.e. the District Environment Impact Assessment Authority along with streamlining the process of impact assessment, environment management plan and environment clearance in cluster situation.

Promotion of manufactured sand, artificial sand and alternative technologies in construction materials and processes are also required for reducing the dependence and demand on naturally occurring sand and gravel. Development of slag sand, sand from stone chips and there certification under BIS is an important step in this direction.



INTRODUCTION

Sustainable Development is built on three pillars - environmental, social and economic. Sustainable development cannot be achieved if the environment is protected but poverty is prevalent in a significant part of the population. Similarly, sustainable development cannot be achieved through inappropriate economic growth, if it undermines the environment in which people and businesses exist. These Guidelines support that fundamental concept, promoting environmental protection, limiting negative physiological, hydrological and social impacts underpinning sustainable economic growth.

Sand and gravel have long been used as aggregate for construction of roads and buildings. Today, the demand for these materials continues to rise. In India, the main sources of sand are river flood plain, coastal sand, paleo channel sand, and sand from agricultural fields.

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

Removing sediment from the active channel bed in a river interrupts the continuity of sediment transport through the river system, disrupting the sediment mass balance in the river downstream and induces channel adjustments (usually incision) extending considerable distances (commonly one kilometer or more) beyond the extraction site.

The magnitude of the impact basically depends on the magnitudes of the extraction relative to bed load sediment supply and transport through the reach. Implementation of the principles and processes outlined in these Guidelines will limit the negative externalities of sand and gravel mining.



NEED FOR POLICY GUIDELINES

Sand is naturally occurring granular material composed of finely divided rock and mineral particles between 150 micron to 4.75 mm in diameter (IS 383-1970). Sand is formed due to weathering of rocks due to mechanical forces. In the process the weathered rocks forms gravel and then sand.

Sand and gravel together known as aggregate, represent the highest volume of raw material used on earth after water. The mining of aggregate has been continuing for many years. Now the mining of aggregates has reached a level threatening the environment and ecosystem besides also reaching a level of scarcity that would threaten the economy. It is recommended that sand & aggregate mining, and quarrying should be done only after sound scientific assessment and adopting best practices to limit the impact on the environment.

It is also felt that the greater use of substitute material (Manufactured Sand, artificial sand etc.) & construction technology, and sustainable use of the resource could drastically reduce adverse impact of mining on the environment.

OBJECTIVE OF THE GUIDELINES

The Guideliness has been based on the following principles:

- Uncontrolled sand mining is not sustainable.
- Compliance with present and future legislation and regulations on the subject is mandatory and not voluntary.
- Each lease holder should be given the opportunity to self-regulate to the extent that it can demonstrate compliance with legislation and regulations.
- Where self- regulation fails to deliver compliance with legislation and regulations, increased formal enforcement and monitoring should be implemented with punitive measures applied in line with the legal framework.
- There is a need to protect the environment and the right of the population to live in clean and safe surroundings, with the need to use natural resources in a way that will make a positive and sustainable contribution to the economy.

The main objectives of the Guidelines

- To ensure that sand and gravel mining is done in environmentally sustainable and socially responsible manner.
- To ensure availability of adequate quantity of aggregate in sustainable manner.
- To improve the effectiveness of monitoring of mining and transportation of mined out material.



- Ensure conservation of the river equilibrium and its natural environment by protection and restoration of the ecological system.
- Avoid aggradation at the downstream reach especially those with hydraulic structures such as jetties, water intakes etc.
- Ensure that the rivers are protected from bank and bed erosion beyond its stable profile.
- No obstruction to the river flow, water transport and restoring the riparian rights and in-stream habitats.
- Avoid pollution of river water leading to water quality deterioration.
- To prevent depletion of ground water reserves due to excessive draining out of ground water.
- To prevent ground water pollution by prohibiting sand mining on fissures where it works as filter prior to ground water recharge.
- To maintain the river equilibrium with the application of sediment transport principles in determining the locations, period and quantity to be extracted.
- Streamlining and simplifying the process for grant of environmental clearance (EC) for sustainable mining.



THE EFFECT OF SAND AND GRAVEL MINING

Mining within or near riverbed has a direct impact on the stream's physical characteristics, such as channel geometry, bed elevation, substratum composition and stability, in-stream roughness of the bed, flow velocity, discharge capacity, sediment transport capacity, turbidity, temperature etc. Alteration or modification of the above attributes may cause hazardous impact on ecological equilibrium of riverine regime. This may also cause adverse impact on in-stream biota and riparian habitats. This disturbance may also cause changes in channel configuration and flow-paths.

The effects of sand and gravel mining are as follows:

- a) Extraction of bed material in excess of replenishment by transport from upstream causes the bed to lower (degrade) upstream and downstream of the site of removal.
- b) In-stream habitat is impacted by increase in river gradient, suspended load, sediment transport and sediment deposition. Excessive sediment deposition for replenishment increases turbidity which prevents penetration of light required for photosynthesis and reduces food availability of aquatic fauna.
- c) Riparian habitat including vegetative cover on and adjacent to the river banks it controls erosion, provide nutrient inputs into the stream and prevents intrusion of pollutants in the stream through runoff. Bank erosion and change of morphology of the river can destroy the riparian vegetative cover.
- d) Bed degradation are responsible for channel shifting, causing loss of properties and degradation of landscape, it can also undermine bridge supports, pipe lines or other structures.
- e) Degradation may change the morphology of the river bed, which constitutes one aspect of the aquatic habitat.
- f) Degradation can deplete the entire depth of gravelly bed material, exposing other substrates that may underlie the gravel, which could in turn affect the quality of aquatic habitat. Lowering of ground water table in the flood plain because of lowering of riverbed level as well as river water level takes place because of extraction and draining out of excessive ground water from the adjacent areas. So, if a floodplain aquifer drains to the stream, groundwater levels can be lowered as a result of bed degradation.
- g) Lowering of the water table can destroy riparian vegetation.
- h) Excessive pumping of ground water in the process of mining in abandoned channels depletes ground water causing scarcity of irrigation and drinking water. In extreme cases it may create ground fissures and subsidence in adjacent areas.
- i) Flooding is reduced as bed elevations and flood heights decrease, reducing hazard for human occupancy of floodplains and the possibility of damage to engineering works.
- j) The supply of overbank sediments to floodplains is reduced as flood heights decrease.
- k) An un-scientific and unregulated sand and gravel mining tends to increase channel bank



scouring and erosion. This causes a large degree of meandering of rivers and sometimes it could be in kms.

- l) Rapid bed degradation may induce bank collapse and erosion by increasing the heights of banks.
- m) Polluting ground water by reducing the thickness of the filter material especially if mining is taking place at top of recharge fissures.
- n) Choking of sand layer which acts as filter for ingress of ground water from river by dumping of finer material, compaction of filter zone due to movement of heavy vehicles. It also reduces the permeability and porosity of the filter material.
- o) Removal of gravel from bars may cause downstream bars to erode if they subsequently receive less bed material than is carried downstream from them by fluvial transport.
- p) Ecological effects on bird nesting, fish migration, angling, etc.
- q) Indiscrete mining activities lead to increased concentration of suspended sediment in the river which in turn causes siltation of water resources projects.
- r) Un-scientific and unregulated sand and gravel mining leads to the severe health hazards like air quality degradation and dust fog.
- s) Direct destruction from heavy equipment operation; discharges from equipment and refueling.
- t) Biosecurity and pest risks.
- u) Impacts on coastal processes.

The other deleterious impacts of indiscrete mining include

Loss of riparian habitat resulting from direct removal of vegetation along the stream bank to facilitate the use of a dragline or through the process of lowering the water table, bank undercutting, and channel incision. The physical composition and stability of substrates are altered as a result of in-stream mining and most of these physical effects may exacerbate sediment entrainment in the channel. Furthermore, the process of in-stream mining and gravel washing produces fine sediments under all flow conditions, resulting in a deposition of fine sediment in riffles as well as other habitats at low discharge. Excess sediment is considered the greatest pollutant in waters and constitutes one of the major environmental factors in the degradation of stream fisheries.

However, in-stream mining may contribute additional sediment to downstream reaches due to the disruption of substrate stability. Once sediment enters the stream, it is best to let natural geomorphological and hydrological processes reach a dynamic equilibrium, rather than further exacerbating the situation by additional disturbance.

**All other things being equal:**

- a) Extracting gravel from an excavation that does not penetrate the water table and is located away from an active stream channel should cause little or no change to the natural hydrological processes unless the stream captures the pit during periods of flooding.
- b) In-stream extraction of gravel from below the water level of a stream generally causes more changes to the natural hydrologic processes than limiting extraction to a reference point above the water level.
- c) In-stream extraction of gravel below the deepest part of the channel (the thalweg) generally causes more changes to the natural hydrological processes than limiting extraction to a reference point above the thalweg.
- d) Excavating sand and gravel from a small straight channel with a narrow floodplain generally will have a greater impact on the natural hydrological processes than excavations on a braided channel with a wide floodplain.
- e) Extracting sand and gravel from a large river or stream will generally create less impact than extracting the same amount of material from a smaller river or stream.
- f) Over-extraction of gravel can destabilise channels and banks, and/or affect the ecologic functioning of rivers particularly if undertaken at the wrong time, or in the wrong place, or in a way that damages the river bed or margins.



GENERAL APPROACH TO SUSTAINABLE SAND AND GRAVEL MINING

Following considerations should be kept in mind for sand / gravel mining:

- a) Parts of the river reach that experience deposition or aggradation shall be identified first. The Lease holder/ Environmental Clearance holder may be allowed to extract the sand and gravel deposit in these locations to manage aggradation problem.
- b) The distance between sites for sand and gravel mining shall depend on the replenishment rate of the river. Sediment rating curve for the potential sites shall be developed and checked against the extracted volumes of sand and gravel.
- c) Sand and gravel may be extracted across the entire active channel during the dry season.
- d) Abandoned stream channels on terrace and inactive floodplains be preferred rather than active channels and their deltas and flood plains. Stream should not be diverted to form inactive channel.
- e) Layers of sand and gravel which could be removed from the river bed shall depend on the width of the river and replenishment rate of the river.
- f) Sand and gravel shall not be allowed to be extracted where erosion may occur, such as at the concave bank.
- g) Segments of braided river system should be used preferably falling within the lateral migration area of the river regime that enhances the feasibility of sediment replenishment.
- h) Sand and gravel shall not be extracted within 200 to 500 meter from any crucial hydraulic structure such as pumping station, water intakes, and bridges. The exact distance should be ascertained by the local authorities based on local situation. The cross-section survey should cover a minimum distance of 1.0 km upstream and 1.0 km downstream of the potential reach for extraction. The sediment sampling should include the bed material and bed material load before, during and after extraction period. Develop a sediment rating curve at the upstream end of the potential reach using the surveyed cross- section. Using the historical or gauged flow rating curve, determine the suitable period of high flow that can replenish the extracted volume. Calculate the extraction volume based on the sediment rating curve and high flow period after determining the allowable mining depth.
- i) Sand and gravel could be extracted from the downstream of the sand bar at river bends. Retaining the upstream one to two thirds of the bar and riparian vegetation is accepted as a method to promote channel stability.



- j) Flood discharge capacity of the river could be maintained in areas where there are significant flood hazard to existing structures or infrastructure. Sand and gravel mining may be allowed to maintain the natural flow capacity based on surveyed cross- section history.
- k) Alternatively, off-channel or floodplain extraction is recommended to allow rivers to replenish the quantity taken out during mining.
- l) The Piedmont Zone (Bhabhar area) particularly in the Himalayan foothills, where riverbed material is mined, this sandy-gravelly track constitutes excellent conduits and holds the greater potential for ground water recharge. Mining in such areas should be preferred in locations selected away from the channel bank stretches.
- m) Mining depth should be restricted to 3 meter and distance from the bank should be 3 meter or 10 percent of the river width whichever less.
- n) The borrow area should preferably be located on the river side of the proposed embankment, because they get silted up in course of time. For low embankment less than 6 m in height, borrow area should not be selected within 25 m from the toe/heel of the embankment. In case of higher embankment the distance should not be less than 50 m. In order to obviate development of flow parallel to embankment, cross bars of width eight times the depth of borrow pits spaced 50 to 60 meters centre-to-centre should be left in the borrow pits.
- o) Demarcation of mining area with pillars and geo-referencing should be done prior to start of mining.



THE WORLD SCENARIO

Sand and gravel are mined world-wide and account for the largest volume of solid material extracted globally. Formed by erosive processes over thousands of years, they are now being extracted at a rate far greater than their renewal. Furthermore, the volume being extracted is having a major impact on rivers, deltas and coastal and marine ecosystems, resulting in loss of land through river or coastal erosion, lowering of the water table and decrease in the amount of sediment supply. Despite the colossal quantities of sand and gravel being used, increasing dependence on them and the significant impact that their extraction has on the environment, this issue needs far better attention and awareness.

Globally, between 47 and 59 billion tonnes of material is mined every year of which sand and gravel, known as aggregates, account for both the largest share (from 68% to 85%) and the fastest growth in extraction increase. Although more sand and gravel are mined than any other material, reliable data on their extraction is not available. The absence of global data on aggregates mining makes environmental assessment very difficult and has contributed to the lack of awareness about this issue. One way to estimate the global use of aggregates indirectly is through the production of cement for concrete (concrete is made with cement, water, sand and gravel). The production of cement is reported by 150 countries and it reached 3.7 billion tonnes in 2012 (USGS, 2013a). For each tonne of cement, the building industry needs about six to seven times more tonnes of sand and gravel (USGS, 2013b). Thus, the world's use of aggregates for concrete can be estimated at 25.9 billion tonnes a year for 2012 alone.

Added to this are all the aggregates used in land reclamation, shoreline developments and road embankments (for which the global statistics are unavailable), added to this is the 180 million tonnes of sand used in industry (USGS, 2012). Aggregates also contribute to 90% of asphalt pavements and 80% of concrete roads (Robinson and Brown, 2002). Taking all these estimates into account, a conservative estimate for the world consumption of aggregates exceeds 40 billion tonnes a year.

This large quantity of material cannot be extracted and used without a significant impact on the environment. Extraction has an impact on biodiversity, water turbidity, water table levels and landscape and on climate through carbon dioxide emissions from transportation. There are also socio-economic, cultural and even political consequences. In some extreme cases, the mining of marine aggregates has changed international boundaries, such as through the disappearance of sand islands in Indonesia (New York Times, 2010; Guerin, 2003).

The impacts of sand mining can be mainly categorized as follows:



IMPACTS ON	DESCRIPTION
Biodiversity	Impacts on related ecosystems (for example; fisheries)
Land losses	Both inland and coastal through erosion
Hydrological functions	Change in water flows, flood regulation and marine currents
Water supply	Through lowering of the water table and pollution
Infrastructures	Damage to bridges, river embankments and coastal infrastructures
Climate	Directly through transport emissions
Landscape	Coastal erosion, changes in deltaic structures, quarries, pollution of rivers
Extreme events	Decline of protection against extreme events (flood, drought, storm surge)

World over sand was until recently extracted in land quarries and riverbeds; however, a shift to marine and coastal aggregates mining has occurred due to the decline of inland resources. River and marine aggregates remain the main sources for building and land reclamation. For concrete, in-stream gravel requires less processing and produces high-quality material while marine aggregate needs to be thoroughly washed to remove salt. If the chloride is not removed from marine aggregate, a structure built with it might collapse after few decades due to corrosion of steel reinforced structures. Most sand from deserts cannot be used for concrete and land reclaiming, as the wind erosion process forms round grains that do not bind well.



INDIAN SCENARIO

The data on consumption of sand and aggregate in country is not available with any source. It can be derived indirectly from the usage of cement, construction of roads and stowing of mines. The trend for aggregates extraction can be estimated using cement production as a proxy.

Cement production has multiplied three-fold in the last 20 years from 1.37 billion tonnes of cement in 1994 to 3.7 billion tonnes in 2012 (USGS, 2013a) mainly as a result of rapid economic growth in Asia (UNEP and CSIRO, 2011). Five countries: China (58%), India (6.75%), the United States (2%), Brazil and Turkey - produce 70% of the world's cement (USGS, 2013c). The consumption of cement is expected to reach 324 million tonnes, which equates to use of 2.2 billion tonnes of aggregates. This is in addition to sand and aggregates used in stowing of mines, industry and other allied usage.

In India the main sources of sand are:

- (a) River (riverbed and flood plain).
- (b) Lakes and reservoirs.
- (c) Agricultural fields (Haryana).
- (d) Coastal / marine sand.
- (e) Palaeo-channels (Bikaner in Rajasthan).



THE PRICE ELASTICITY FOR DEMAND OF SAND

As the price elasticity of demand for sand is inelastic (-0.88), any increase in price in absence of marketable alternative will not have any significant impact on demand. Use of crushed stones or other substitute material should be promoted. The regional context of aggregate resources, market demand, and the environmental impacts of various alternatives must be understood before any site-specific proposal for aggregate extraction can be reviewed.

Evaluation of aggregate supply and demand should be undertaken on the basis of production-consumption regions, encompassing the market for aggregate and all potential sources of aggregate within an economical transport distance. The finite nature of high-quality alluvial gravel resources must be recognized, and high-quality PCC-grade aggregates should be reserved only for the uses demanding this quality material (such as concrete). Alternative sources should be used in less demanding applications (such as road sub-base). Part replacement with fly ash in roads and embankments be promoted in place of sand and aggregates.

The environmental costs of sand mining should be incorporated into the price of the product so that alternative sources that require more processing but have less environmental impact become more attractive.

PROCESS OF SEDIMENT TRANSPORT

The loose boundary (consisting of movable material) of an alluvial channel deforms under the action of flowing water and the deformed bed with its changing roughness (bed forms) interacts with the flow. The resulting movement of the bed material (sediment) in the direction of flow is called sediment transport and a critical bed shear stress must be exceeded to start the particle movement.

Such a critical shear stress is referred as incipient (threshold) motion condition, below which the particles will be at rest and the flow is similar to that on a rigid boundary. Some sediment particles roll or slide along the bed intermittently and some others saltate (hopping or bouncing along the bed). The material transported in one or both of these modes is called 'bed load'.

Finer particles (with low fall velocities) are entrained in suspension by the fluid turbulence and transported along the channel in suspension. This mode of transport is called 'suspended load'. Sometimes finer particles from upland catchment (sizes which are not present in the bed material), called 'wash load', are also transported in suspension. The combined bed material and wash load is called 'total load'.



Bed load ranges from a few percent of total load in lowland rivers to perhaps 15% in Mountain Rivers to over 60% in some arid catchments. Although a relatively small part of the total sediment load, the arrangement of bed load sediment constitutes the architecture of sand, and gravel-bed channels.

The rate of sediment transport typically increases as a power function of flow; that is, a doubling of flow typically produces more than a doubling in sediment transport and most sediment transport occurs during floods. The environmental impacts from in-stream mining can be avoided, if the annual bed load is calculated and aggregate extraction is restricted to that value or some portion of it. To accurately limit extraction to some portion of bed load, the amount of sediment that passes the in-stream mining site during a given period of time must be calculated.

There is a large amount of uncertainty in the process of calculating annual rates of bed load transport. How much coarse material is moved, how long it remains in motion as also how far it moves depends on the size, shape & packing of the material and the characteristics of the river flow.

Downstream movement commonly occurs as irregular bursts of short-distance movement separated by longer periods, when the particles remain at rest. Because bed load changes from hour-to-hour, day-to-day, and year-to-year, estimating annual bed load rates is a dynamic process involving careful examination.

Constant variations in the flow of the river make the channel floor and riverbanks a dynamic interface, where some materials are being eroded while others are being deposited. The net balance of this activity, on a short- term basis, is referred to as scour or fill.

On a long-term basis, continued scour results in erosion (degradation), while continued fill results in deposition (aggradation).

A general indicator of the stability of a stream relates to the amount of vegetation present. Gravel bars that are vegetated or where the gravel is tightly packed, generally indicate streams, where the gravel supply is in balance. Streams with excessive gravel generally have gravel bars with little or no vegetation, and are surfaced with loosely packed gravel.



SUSTAINABLE SAND AND GRAVEL MINING GUIDELINES

The broad principle on which any sustainable sand mining Guidelines / policy can be based is that river/ natural resources must be utilized for the benefit of the present and future generation, so river resources should be prudently managed and developed. The preparation of District Survey Report is an important initial step.

The Processes under the Guidelines:

- (a) Identification of areas of aggradation / deposition where mining can be allowed; and identification of areas of erosion and proximity to infrastructural structures and installations where mining should be prohibited. Use of satellite imagery for identifying areas of sand deposit and quantity be done.
- (b) Calculation of annual rate of replenishment and allowing time for replenishment after mining in area.
- (c) Identifying ways of scientific and systematic mining.
- (d) Identifying measures for protection of environment and ecology.
- (e) Determining measures for protection of bank erosion.
- (f) A bench mark (BM) with respect to mean sea level (MSL) should be made essential to in-mining channel reaches (MCR). Below which no mining shall be allowed.
- (g) Identifying steps for conservation of mineral.
- (h) Permanent gauging facilities (for discharge and sediment both) should be made compulsory for the sites having excessive mining in consultation with Central Water Commission or any competent State Agency.
- (i) Implementing safeguards for checking illegal and indiscrete mining.

Following the above processes, to begin with it is important to prepare a survey document mapping the status of sand sources in a district. This survey should be conducted and report be prepared for each district. Though it is an acceptable fact that rivers cut across districts and States and every river is an ecosystem in itself. But, keeping in view the fact that the district is the most established unit of administration at which this kind of survey, planning and monitoring can be ensured effectively, it is proposed that every district will prepare this document taking the river stretch in that district as an ecological unit and inventorising other sources of sand in the district.

Besides, the production of aggregate in a particular area is a function of availability of natural resources, the size of the population, the economy of the area and various developmental and infrastructural works being undertaken in the area.



The natural resources must be utilized in environment friendly manner in scientific and systematic way and with the objective of sustainable development the policy on the subject should have provisions for protection of environment & ecology. These factors can be accounted for in a most efficient manner at district level.

The sustainable mining plan needs to be dynamic. A survey should be carried out by the District Environment Impact Assessment Authority (DEIAA) with the assistance of Geology Department, Irrigation Department, Forest Department, Public Works Department, Ground Water Boards, Remote Sensing Department and Mining Department etc. in the district at regular intervals.

The survey shall contain:

1. District wise detail of river or stream and other sand source.
2. District wise availability of sand or gravel or aggregate resources.
3. District wise detail of existing mining leases of sand and aggregates.

Based on this survey document, the action plan shall divide the river/ stream/ other sources of the District into the following categories:

1. River / Stream beds sections / other sources suitable for extraction of sand and aggregates.
2. River / Stream beds sections / other sources prohibited for extraction of sand and aggregates.

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

a) Geomorphological studies

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

b) Geological studies

- i) Lithology of catchment area.
- ii) Tectonics and structural behavior of rocks.

c) Climatic Factors

- i) Intensity of rainfall.
- ii) Climate Zone.
- iii) Temperature variation



The following points to be considered while selecting the river / stream for mining besides the above parameters:

- i) A stable river is able to constantly transport the flow of sediments produced by watershed such that it's dimensions (width and depth) pattern and vertical profile are maintained without aggrading (building up) or degrading (scouring down).
- ii) The amount of boulders, cobbles, pebbles, and sand deposited in river bed equals to the amount delivered to the river from catchment area and from bank erosion minus amount transported downstream each year.
- iii) It is compulsive nature of river to meander in their beds and therefore they will have to be provided with adequate corridor for meandering without hindrance. Any attempt to diminish the width of the corridor (floodway) and curb the freedom to meander would prove counterproductive.
- iv) Erosion and deposition is law of nature. The river stream has to complete its geomorphological cycles from youth, mature to old age.
- v) River capturing is unavoidable.
- vi) Fundamentally the lowest point of any stream is fixed by sea level.

This survey document should be prepared in the district based on direct and indirect benefits of mining and identification of the potential threats to the river / stream beds in the district.

Besides, calculating the carrying capacity of the river / stream beds / other sources to find out maximum quantity available to be allowed for removal each year from the sources, it should also provide various measures to regulate sand and aggregate mining in a systemic way.

It has to provide for environmentally safe depth of mining and safeguards of banks by prescribing safe distance from banks. It is required that there should be a Sub-Divisional Committee which should visit each site and make recommendation. The Committee should comprise of Sub-Divisional Magistrate, Officers from Irrigation department, State Pollution Control Board or Committee, Forest department, Geology or mining officer shall visit each site for which environmental clearance has been applied for and make recommendation on suitability of site for mining or prohibition thereof.



THE STRUCTURE OF DISTRICT SURVEY REPORT

The report can have following structure:

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

12. Drainage System with description of main rivers.

Sl.No.	NAME OF RIVER	AREA DRAINED (Sq. Km)	% AREA DRAINED

13. Salient Features of Important Rivers and Streams:

Sl.No.	Name of the River / Stream	Total Length in the District (in Km)	Place of origin	Altitude at Origin

14. Methodology Adopted for Calculating of Mineral Potential

The mineral potential is calculated based on field investigation and geology of the catchment area of the river/ streams. As per the policy of the State and location, depth of minable mineral is defined. The area for removal of mineral in a river or stream can be decided depending on geo-morphology



and other factors, it can be 50% to 60% of the area of a particular river/stream, e.g. in Himachal Pradesh mineral constituents like boulders, river born bajari, sand up to a depth of one meter are considered as resource mineral. Other constituents like clay and silt are excluded as waste while calculating the mineral potential of particular river/ stream.

The specific gravity of each mineral constituent is different. While calculating the mineral potential, the average specific gravity is taken as 2.25. The percent of mineral constituent like boulder, river bajari, sand also varies for different river and streams. While calculating the mineral potential the percentage of each mineral constituent is taken as, Boulders 35-40%, Bajari - 30-35%, Sand 25-30% and 5-10% for silt and clay.

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

For illustration one example of Yamuna River in Sirmaour district of Himachal Pradesh is given below:

Portion of the River / Stream Recommended for Mineral Concession	Length of area recommended for mineral concession (in kilometer)	Average width of area recommended for mineral concession (in meters)	Area recommended for mineral concession (in square meter)	Mineable mineral potential (in metric tonne) (60% of total mineral potential)
From Downstream of confluence with Tons River to Behral near Haryana and Uttar Pradesh border	31	478	14818000	16803612

Note: Considering the density of river bed material to be **1.89 g/cm³**

Present Status of Mining

This gives the detail of mining leases already in operation in this stretch, area and production in last three years from these leases is calculated.



zone of deposition. These zones of deposition and erosion are extended in different patches in the river.

Any mining lease granted in larger tract can cover both the zones, and mining activity in zone of erosion can further aggravate the problem of erosion and as such the mining activity can be allowed only in the zone of the deposition. The mining leases of larger areas in rivers are neither in interest of environment nor in the interest of mineral conservation.

In Himalayan states the rivers and wasteland has been mostly classed as forest land and mining on that requires diversion of forest land and payment of compensatory afforestation and NPV etc. The land in river beds in hilly tracts and many small rivers at any one site seldom exceed 5 hectare, so not allowing sand mining leases less than 5 hectare on river beds further aggravates the situation. So the size of mining lease for river sand mining should be determined by the State as per the local situation.



MANAGEMENT PLAN

1. River Bed Mining Recommendations:

a) Permit Mining Volume Based on Measured Annual Replenishment

In the first year following adoption of the management plan, a volume equal to the estimated annual replenishment could be extracted from the reach of channel. Replenishment (up to the elevation of the selected channel configuration) would need to occur before subsequent extraction could take place. The concept of annual replenishment accounts for the episodic nature of sediment transport. For example, during wet periods with high stream flows, and a high contribution of sediment from hill slopes and tributaries, monitoring data would show that sand and gravel bars are replenished quickly. During drought periods with low stream flow, and little sediment supply or transport, monitoring data would likely show that bars were replenished at a slower rate.

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

b) Establish an Absolute Elevation below Which No Extraction May Occur (Minimum Enveloped Level or Redline).

The absolute elevation below which no mining could occur or "redline" would be surveyed on a site-specific basis in order to avoid impacts to structures such as bridges and to avoid vegetation impacts associated with down-cutting due to excessive removal of sediment. An extraction site can be determined after setting the deposition level at 1 m above natural channel thalweg elevation, as determined by the survey approved by mine plan approving authority.

c) Limit River Bed Extraction Methods to Bar Skimming

If mining is limited to the downstream end of the bar with a riparian buffer on both the channel and hill slope (or floodplain) side, bar skimming would minimise impacts. Other methods such as excavation of trenches or pools in the low flow channel lower the local base level, and maximise upstream (head cutting and incision) and downstream (widening and braiding) impacts. In addition, direct disturbance of the substrate in the low flow channel should be avoided. Trenching on bars may be beneficial in the future if the river becomes severely aggraded, flat, shallow and braided. Trenching of bars may initially impact a smaller area of riparian habitat than skimming - as a result of excavating deeper rather than shallow skimming of a large area. However, over the



long-term, the upstream and downstream effects of a trench on the bar or in the channel may offset any short-term benefit derived from this method.

d) Extract Sand and Gravel from the Downstream Portion of the Bar:

Retaining the upstream one to two thirds of the bar and riparian vegetation while excavating from the downstream one to two third of the bar is accepted as a method to promote channel stability and protect the narrow width of the low flow channel necessary for aquatic life. Sand and gravel would be re-deposited in the excavated downstream one to two thirds of the bar (or downstream of the widest point of the bar) where an eddy would form during sediment transporting flows. In contrast, if excavation occurs on the entire bar after removing existing riparian vegetation, there is a greater potential for widening and braiding of the low flow channel.

e) Concentrate Activities to Minimise Disturbance:

River bed extraction activities should be concentrated or localised to a few bars rather than spread out over many bars. This localisation of extraction will minimise the area of disturbance of upstream and downstream effects. Skimming decreases habitat and species diversity - these effects should not be expanded over a large portion of the area.

f) Review Cumulative Effects of Sand and Gravel Extraction:

The cumulative impact of all mining proposals should be reviewed on an annual basis to determine if cumulative riverine effects or effects to the estuary are likely.

g) Maintain Flood Capacity:

Flood capacity in the river should be maintained in areas where there are significant flood hazards to existing structures or infrastructure.

h) Establish a Long-term Monitoring Program:

Monitoring of changes in bed elevation and channel morphology, and aquatic and riparian habitat upstream and downstream of the extraction would identify any impacts of sand and gravel extraction to biologic resources. Long-term data collected over a period of decades as sand and gravel extraction occurs will provide data to use in determining trends.

i) Minimise Activities That Release Fine Sediment to the River:

No washing, crushing, screening, stockpiling, or plant operations should occur at or below the streams "average high water elevation," or the dominant discharge. These and similar activities have the potential to release fine sediments into the stream, providing habitat conditions harmful to local fish.



j) Retain Vegetation Buffer at Edge of Water and Against River Bank:

Riparian vegetation performs several functions essential to the proper maintenance of geomorphic and biological processes in rivers. It shields river banks and bars from erosion. Additionally, riparian vegetation, including roots and downed trees, serves as cover for fish, provides food source, works as a filter against sediment inputs, and aids in nutrient cycling. More broadly, the riparian zone is necessary to the integrity of the ecosystem providing habitat for invertebrates, birds and other wildlife.

k) The River Bed mining should only be allowed during the dry season.

No River bed mining should be permitted during rainy season (see Appendix 9).

l) An Annual Status and Trends Report:

This report should review permitted extraction quantities in light of results of the monitoring program, or as improved estimates of replenishment become available. The report should document changes in bed elevation, channel morphology, and aquatic and riparian habitat. The report should also include a record of extraction volumes permitted, and excavation location. Finally, recommendations for reclamation, if needed should be documented.

2. Off-Channel or Floodplain Extraction Recommendations

a) Floodplain Extraction should be set back from the Main Channel

In a dynamic alluvial system, it is not uncommon for meanders to migrate across a floodplain. In areas where sand and gravel occurs on floodplains or terraces, there is a potential for the river channel to migrate toward the pit. If the river erodes through the area left between the excavated pit and the river, there is a potential for "river capture," a situation where the low flow channel is diverted through the pit. In order to avoid river capture, excavation pits should set back from the river to provide a buffer, and should be designed to withstand the 100-year flood (100-year ARI). Adequate buffer widths and reduced pit slope gradients are preferred over engineered structures which require maintenance in perpetuity. Hydraulic, geomorphic, and geotechnical studies should be conducted prior to design and construction of the pit and bund. In addition to river capture, extraction pits create the possibility of stranding fish.

b) The maximum depth of Floodplain Extraction should remain above the Channel Thalweg

Floodplain pits should not be excavated below the elevation of the thalweg in the adjacent channel. This will minimise the impacts of potential river capture by limiting the potential for head cutting and the potential of the pit to trap sediment. A shallow excavation (above the water table) would provide a depression that would fill with



water part of the year, and develop seasonal wetland habitat. An excavation below the water table would provide deep water habitat.

c) Side Slopes of Floodplain Excavation Should Range from 3:1 to 10:1

Side slopes of a floodplain pit should be graded to a slope that ranges from 3:1 to 10:1. This will allow for a range of vegetation from wetland to upland. Steep side slopes excavated in floodplain pits on other systems have not been successfully reclaimed, since it is difficult for vegetation to become stabilised. Terrace pits should be designed with a large percentage of edge habitat with a low gradient which will naturally sustain vegetation at a variety of water levels.

d) Place Stockpiled Topsoil above the 25-year Return Period or ARI Level

Stockpiled topsoil can introduce a large supply of fines to the river during a flood event and degrade fish habitat. Storage above the 25-year flood (25-year ARI) inundation level is sufficient to minimise this risk.

e) Floodplain Pits Should Be Restored to Wetland Habitat or Reclaimed for Agriculture

The key to successful restoration or reclamation is to conserve or import adequate material to re-fill the pit, while ensuring that pit margins are graded to allow for development of significant wetland and emergent vegetation.

f) Establish a Long-term Monitoring Program

A long-term monitoring program should provide data illustrating any impacts to river stability, groundwater, fisheries, and riparian vegetation. The monitoring program should assess the success of any reclamation or restoration attempted.

g) An Annual Status and Trends Report

The status and trends report described previously should include a section on the hydrologic and biologic components of floodplain pit reclamation.

3. Extraction Methods

The important methods of sand and gravel mining operations are as below:

- a) Bar scalping or skimming** is extraction of sand and gravel from the surface of bars. This method generally requires that surface irregularities be smoothed out and that the extracted material be limited to what could be taken above an imaginary line sloping upwards and away from the water from a specified level above the river's water surface at the time of extraction (typically 0.3 - 0.6 m (1-2 ft)). Bar scalping is commonly repeated year after year. To maintain the hydraulic control provided to upstream by the Riffle head, the preferred method of bar scalping is now generally to leave the top one-third (approximately) of the bar undisturbed, mining only from the downstream two-



thirds.

b) Dry-Pit Channel Mining

Dry-pit channel mines are pits excavated within the active channel on dry intermittent or ephemeral stream beds. Dry pits are often left with abrupt upstream margins, from which head cuts are likely to propagate upstream.

c) Wet-Pit Channel Mining

Wet-pit mining involves excavation of a pit in the active channel below the surface water in a perennial stream or below the alluvial groundwater table.

d) Bar Excavation

A pit is excavated at the downstream end of the bar as a source of aggregate and as a site to trap sand and gravel. Upon completion, the pit may be connected to the channel at its downstream end to provide side channel habitat.

e) Channel-wide River bed Mining

In rivers with a highly variable flow regime, sand and gravel are commonly extracted across the entire active channel during the dry season. The bed is evened out and uniformly (or nearly so) lowered.

4. Reclamation Plans

Reclamation plans should include:

- a) A baseline survey consisting of existing condition cross-section data: Cross-sections must be surveyed between two documented endpoints set back from the top of bank, and elevations should be referenced to bench mark;
- b) The proposed mining cross-section data should be plotted over the baseline data to illustrate the vertical extent of the proposed excavation;
- c) The cross-section of the replenished bar should be the same as the baseline data. This illustrates that the bar elevation after the bar is replenished will be the same as the bar before extraction;
- d) A planimetric map showing the aerial extent of the excavation and extent of the riparian buffers;
- e) A planting plan developed by a plant ecologist familiar with the flora of the river for any areas such as roads that need to be restored;
- f) A monitoring plan: The appropriate reclamation plans can turn river-bed and floodplain sand and gravel mining operations into something perceived by the public as desirable.



MARINE SAND MINING AND IMPACT ON MARINE BIODIVERSITY

The mining of marine aggregates is increasing significantly. Marine sand mining has had an impact on seabed flora and fauna. Dredging and extraction of aggregates from the benthic (sea bottom) zone destroys organisms, habitats and ecosystems and deeply affects the composition of biodiversity, usually leading to a net decline in faunal biomass and abundance or a shift in species composition. Aggregate particles that are too fine to be used are rejected by dredging boats, releasing vast dust plumes and changing water turbidity, resulting in major changes to aquatic and riparian habitats over large areas.

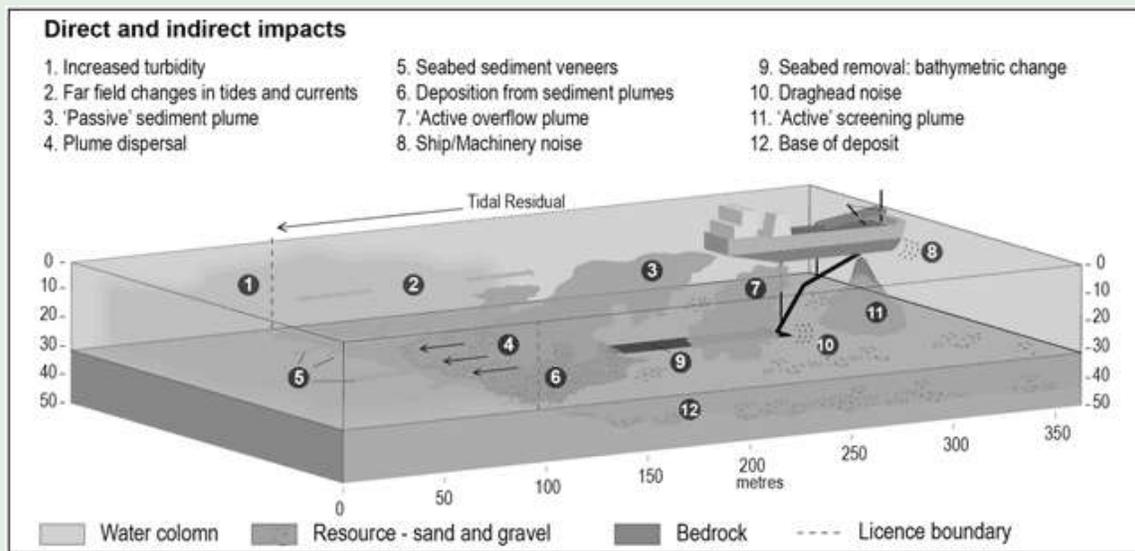


Figure: Direct and indirect consequences of aggregates dredging on the marine environment.

Source: Tillin, H.M., Houghton, A.J., Saunders, J.E., Drabble, R. and Hull, S.C., 2011. Direct and Indirect Impacts of Aggregate Dredging, Marine Aggregate Levy Sustainability Fund (MALSF). Science Monograph Series 1, 1-46.



REDUCING CONSUMPTION OF SAND

Because sand is still very cheap - sand itself is freely accessible; only extraction and transportation costs need to be covered - there is little or no incentive to induce a change in our consumption. Despite the very high value of minerals found in the sand, it is mostly used for concrete or is buried under highways. Recycled building and quarry dust material can be a substitute for sand. Concrete rubble should be recycled to avoid using aggregates, at least for low-quality uses.

Substitutes for sand are available. Quarry dust could be used to replace sand in general concrete structures. The replacement of sand by up to 40% of incinerator ash exhibits higher compressive strength than regular cement mortars. Some desert sand can be used if mixed with other material. There are alternatives for building houses, including wood, straw and recycled material. However, the current building industry is geared toward concrete know-how and equipment.

Training of architects and engineers, new laws and regulations, and positive incentives are needed to initiate a shift for lowering our dependency on sand. Renewable and recycled materials need to be targeted for building houses and roads. Use of Manufactured Sand (M-Sand) also needs to be promoted.

Alternative sources of sand and gravel, which accumulate at the bottom of dams, can also be targeted. Their use would address the problem of these aggregates accumulating which leads to a reduced capacity of dams to store water and could result in the dams' water intakes being blocked. Dams regularly release large amounts of water to flush out aggregates.

The important standard setting bodies in India are taking steps to promote the usage of alternatives to sand and gravel. Bureau of Indian Standards, the National Standards Body of the country, considering the scarcity of sand and coarse aggregates from natural sources, has evolved number of alternatives which are ultimately aimed at conservation of natural resources apart from promoting use of various waste materials without compromising in quality.

These measures include permitting in the Concrete Code (IS 456) as also in the National Building Code of India, the use of slag - a waste from steel industry, fly ash - a waste from thermal power plants, crushed over-burnt bricks and tiles - waste from clay brick and tile industry, in plain cement concrete as an alternative to sand/natural aggregate, subject to fulfilling the requirements of the Code. This Code, further, encourages use of fly ash and ground granulated blast furnace slag as part replacement of ordinary Portland cement in plain as well as reinforced cement concrete.

The Indian Standard on concrete mix design (IS 10262) has been upgraded to include guidance and examples of designing concrete mixes using fly ash and slag. Provisions for compliance for requisite quality of concrete made using fly ash and slag have been duly covered for the manufacturers of ready-mixed concrete in the Indian Standard Code of practice for RMC (IS 4926).

BIS has also formulated an Indian Standard Specification for artificial lightweight aggregates covering manufactured aggregates, such as foamed blast furnace slag, bloated clay aggregate, sintered fly ash aggregate and cinder aggregate (IS 9142).

A series of Indian Standards has also been formulated on various precast concrete products such as solid and hollow concrete blocks, light weight concrete blocks, autoclaved aerated concrete blocks, preformed foam concrete blocks, partial prefabricated concrete flooring and roofing units, concrete pipes, etc, all permitting use of fly ash and slag.



THE REPORT OF THE COMMITTEE HEADED BY SECRETARY, MoEF - 2010

A Committee headed by Secretary, Ministry of Environment and Forest was set up on the subject in 2010. The Committee considered this subject in detail and prepared a report. The important parts of the report are as follows:

Definition of Minor Mineral:

The term 'minor mineral' is defined in clause (e) of Section 3 of MMDR Act, 1957: '3 (e) "minor minerals" means building stones, gravel, ordinary clay, ordinary sand other than sand used for prescribed purposes and any other material which the Central Government may, by Notification in the Gazette of India declare to be a minor mineral;'

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

- (iv) Purposes of stowing in coal mines,
- (v) For manufacture of silvicate cement,
- (vi) Manufacture of sodium silicate and for
- (vii) Manufacture of pottery and glass.

Additionally, the Central Government has declared the following minerals as minor minerals:

Sl.No.	Minor Minerals	Sl.No.	Minor Minerals	Sl.No.	Minor Minerals
i)	Boulder	vi)	Brick-earth	xi)	Slate and shale when used for building material
ii)	Shingle	vii)	Fuller's earth	xii)	Marble
iii)	Chalcedony pebbles used for ball mill purposes only	viii)	Bentonite	xiii)	Stone used for making household utensils
iv)	Lime shell, kankar and limestone used in kilns for manufacture of lime used as building material	ix)	Road metal	xiv)	Quartzite and sandstone when used for purposes of building or for making road metal and household utensils
v)	Murram	x)	Reh-matti	xv)	Saltpetre, and
xvi)	Ordinary earth (Used for filling or leveling purposes in construction or embankments, roads, railways building).				



It may thus be observed that minerals have been classified into major and minor minerals based on their end use rather than level of production, level of mechanization, export and import etc. There do exist some minor mineral mines of silica sand and limestone where the scale of mechanization and level of production is much higher than those of industrial mineral mines. Further, in terms of the economic cost and revenue, it has been estimated that the total value of minor minerals constitutes about 10% of the total value of mineral production whereas the value of non-metallic minerals comprises only 3%. It is, therefore, evident that the operations of mines of minor minerals need to be subject to some regulatory parameters as that of mines of major minerals. Further, unlike India there does not exist such system in any other country where minerals are classified as major and minor based on end usage. Thus, there is a need to re-look at the definition of 'minor minerals' per se. It is, therefore, recommended that Ministry of Mines along with Indian Bureau of Mines, in consultation with the State Governments may re-examine the classification of minerals into major and minor categories so that the regulatory aspects and environment mitigation measures are appropriately integrated for ensuring sustainable and scientific mining with least impacts on environment.

Size of the Mine Lease:

Area for grant of mine lease varies from State to State. Maximum area which can be held under one or more mine lease is 2590 ha or 25.90 sq. miles in Jammu and Kashmir. Rajasthan prescribed a minimum limit of 1 ha for a lease. Maximum area prescribed for permit is 50x50 m. In most of the States area of permit is not specified in the rules.

It has recently been observed by Punjab and Haryana High Court in its order dated 15.05.2009 that State Government are apparently granting short term permits by dividing the mining area into small zones in effect to avoid environmental norms. There is, thus a need to bring uniformity in the extent of area to be granted for mine lease so as to ensure that eco-friendly scientific mining practices can be adopted. It is recommended that the minimum size of mine lease should be 5 ha. Further, preparation of comprehensive mine plan for contiguous stretches of mineral deposits by the respective State Governments may also be encouraged. This may suitably be incorporated in the Mineral Concession Rules, 1960 by Ministry of Mines.

Period of Mine Lease:

The period of lease varies from State to State depending on type of concessions, minerals and its end use. The minimum lease period is one year and maximum 30 years. Minerals like granite where huge investments are required, a period of 20 years is generally given with the provisions of renewal. Permits are generally granted for short periods which vary from one month to a maximum one year. In States like Haryana, minor mineral leases are auctioned for a particular time period. Mining is considered to be capital intensive industry and considerable time is lost for developing the mine before it attains the status of fully developed mine. If the tenure of the mine lease is short, it would encourage the lessee to concentrate more on rapid exploitation of mineral without really undertaking adequate measures for reclamation and rehabilitation of mined out area, posing thereby a serious threat to the environment and health of the workers and public at large.



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

Cluster of Mine Approach for Small Sized Mines:

Considering the nature of occurrence of minor mineral, economic condition of the lessee and the likely difficulties to be faced by Regulatory Authorities in monitoring the environmental impacts and implementation of necessary mitigation measures, it may be desirable to adopt cluster approach in case of smaller mine leases being operated presently. Further, these clusters need be provided with processing/crusher zones for forward integration and minimizing excessive pressure on road infrastructure. The respective State Governments / Mine Owners Associations may facilitate implementation of Environment Management Plans in such cluster of mines.

Requirement of Mine Plan for Minor Minerals:

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

It is recommended that provision for preparation and approval of mine plan, as in the case of major minerals may appropriately be provided in the Rules governing the mining of minor minerals by the respective State Governments. These should specifically include the provision for reclamation and rehabilitation of mined out area, progressive mine closure plan and post mine land use.

Creation of Separate Corpus for Reclamation / Rehabilitation of Mines of Minor Minerals:

Mining of minor minerals, in our country, is by and large unorganized sector and is practiced in haphazard and unscientific manner. At times, the size of the leasehold is also too small to address the issue of reclamation and rehabilitation of mined outs areas. It may, therefore, be desirable that before the concept of mine closure plan for minor minerals is adopted, the existing abandoned mines may be reclaimed and rehabilitated with the involvement of the State Government. There is thus, a need to create a separate corpus, which may be utilized for reclamation and rehabilitation of mined out areas. The respective State Governments may work out a suitable mechanism for creation of such corpus on the 'polluter pays' principle. An organizational structure may also need to be created for undertaking and monitoring these activities.

Depth of Mining:

Mining of minerals, whether major or minor have a direct bearing on the hydrological regime of the



area. Besides, affecting the availability of water as a resource, it also affects the quality of water through direct run of going into the surface water bodies and infiltration / leaching into groundwater. Further, groundwater withdrawal, dewatering of water from mine pit and diversion of surface water may cause surface and sub- surface hydrologic systems to dry up. An ideal situation would require that quarrying should be restricted to unsaturated zone only above the phreatic water table and should not intersect the groundwater table at any point of time. However, from the point of view of mineral conservation, it may not be desirable to impose blanket ban on mining operation below groundwater table. It is, therefore, recommended that detailed hydro-geological report should be prepared in respect of any mining operation for minor minerals to be undertaken below groundwater table. Based on the findings of the study so undertaken and the comments/ recommendations of Central Ground Water Authority/ State Ground Water Board, a decision regarding restriction on depth of mining for any area should be taken on case to case basis.

Uniform Minor Mineral Concession Rules:

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

River Bed Mining:

1. Environment damage being caused by unregulated river bed mining of sand, bajri and boulders is attracting considerable attention including in the courts. The following recommendations are therefore made for the river bed mining.
 - (a) In the case of mining leases for riverbed sand mining, specific river stretches should be identified and mining permits/lease should be granted stretch wise, so that the requisite safeguard measures are duly implemented and are effectively monitored by the respective Regulatory Authorities.
 - (b) The depth of mining may be restricted to 3m / water level, whichever is less.
 - (c) For carrying out mining in proximity to any bridge and / or embankment, appropriate safety zone should be worked out on case to case basis, taking into account the structural parameters, locational aspects, flow rate etc. and no mining should be carried out in the safety zone so worked out.

Conclusion:

Mining of minor minerals, though individually, because of smaller size of mine leases is perceived to have lesser impact as compared to mining of major minerals. However, the activity as a whole is seen to have significant adverse impacts on environment. It is, therefore, necessary that the mining of minor minerals is subjected to simpler but strict regulatory regime and carried out only under an



approved framework of mining plan, which should provide for reclamation and rehabilitation of the mined out areas. Further, while granting mining leases by the respective State Governments "location of any eco-fragile zone (s) within the impact zone of the proposed mining area, the linked Rules/ Notifications governing such zones and the judicial pronouncements, if any, need be duly noted.

The Union Ministry of Mines along with Indian Bureau of Mines and respective State Governments should therefore make necessary provisions in this regard under the Mines and Minerals (Development and Regulation) Act, 1957, Mineral Concession Rules, 1960 and adopt model Guidelines to be followed by all States (emphasis supplied)".



REGIME OF LAW AND ADMINISTRATIVE ORDERS RELATING TO MINING OF MINOR MINERALS

The Entry 54 of List 1 in Schedule VII to the Constitution of India is the entry which empowers the Parliament in respect of 'Regulation of Mines and Minerals Development. Entry 23 of List 2 of the same Schedule, read with Article 246 (3) of the Constitution confers legislative powers on the State Legislature in respect of Regulation of Mines and Mineral Development, but, this power is subject to the provisions of List 1 with respect to the regulation and development under the control of the Union. The Parliament, with the object to amend and consolidate the law relating to the regulation of labour and safety in mines enacted the Mines Act, 1952. Section 2 (JJ) of the Mines Act, 1952 defines "minerals" to mean, all substances which can be obtained from the earth by mining, digging, drilling, dredging, hydraulic, quarrying or by any other operation and includes mineral oils (which, in turn, include natural gas and petroleum). On 1st June, 1958, the Mines and Minerals (Development and Regulation) Act, 1957 was promulgated. This Act provides, inter alia, for general restrictions on undertaking prospecting and mining operations, the procedure for obtaining prospecting licenses or mining leases in respect of the land in which the minerals vests in the Government, the rule making power for regulating the grant of prospecting licenses and mining leases, special powers of Central Government to undertake prospecting or mining operations in certain cases, and for development of minerals.

The protection of natural environment is one of the fundamental duties of every citizen under Article 51-A of the Constitution of India. Article 48-A of the Constitution, obliged the State to endeavor to protect and improve the environment and to safeguard the forests and wild life of the country. The Environment (Protection) Act and Rules, 1986 were enacted and came into force on 19th November, 1986. The object of this Act is to provide for the protection and improvement of environment and for matters connected therewith. Under provisions of the Act and Rules of 1986, MoEFCC has issued various Notifications regulating the mining of minor minerals, specifically stating the procedures that were required to be complied by persons intending to carry on such mining activity and for the authorities to regulate the same.

Prior to 1994, there was no specific regime in place in relation to mining activity being carried out. The Notification issued by MoEF on 27th January, 1994, in exercise of the powers vested in it under Sub-Rule 3 of Rule 5 of the Rules of 1986 and Sub Section (1) and Clause (v) of Sub-Section (2) of Section 3 of the Act of 1986, prescribed the requirement and procedure for seeking Environmental Clearance for the projects listed in Schedule I. Schedule I of this Notification did not list mining projects of minor minerals. On the contrary, the projects covered under S. No. 20 of Schedule I of this Notification were only "mining projects (major mineral) with leases more than 5 hectares".

It provided for the constitution of Expert Committees and preparation of Environmental Impact Assessment Report which was to be evaluated and assessed by the Impact Assessment Agency. In exercise of its statutory powers afore-indicated, the Central Government on 14th September, 2006,



issued a Notification, i.e., 'Environment Impact Assessment Notification, 2006'. In terms of this Notification, the projects as stated in the Schedule to this Notification required prior Environmental Clearance as per the procedure. The projects have been categorised into two kinds, i.e., Category 'A' and Category 'B' under Clause 2 of the Notification. Projects under Category 'A' were required to take prior Environmental Clearance by MoEFCC. For Category 'B' projects, Environmental Clearance was to be given by State Environment Impact Assessment Authority (SEIAA).

The mining of minerals (both major and minor) were brought under the ambit of the EIA Notification, 2006. The mine lease area of more than equal to 50 ha was Category 'A' and mine lease area less than 50 ha and more than equal to 5 ha was category 'B' project. Mine lease area of less than 5 ha (both major and minor) was kept out of EIA Notification purview.

The Notification of 2006 came to be amended by Notification dated 1st December, 2009. It included the category of non-coal mine and coal mine lease and provided that non-coal mine lease of area more than equal to 5 ha and less than 50 ha will be category 'B' and mine lease area more than equal to 50 ha will be category 'A'. Similarly, mine lease area of more than equal to 5 ha and less than 150 ha for coal mine lease will be category 'B' and mine lease area of coal mine more than 150 ha will be category 'A'. Here again mining lease area of less than 5 ha (both coal and non-coal mine) was kept out of EIA Notification purview.

The Hon'ble Supreme Court, vide its order dated 27.2.2012 in I.A. No.12-13 of 2011 in SLP (C) No.19628-19629 of 2009 titled Deepak Kumar etc. v/s State of Haryana & Ors. has inter alia ordered *"We, in the meanwhile, order that leases of minor mineral including their renewal for an area of less than five hectares be granted by the States/Union Territories only after getting environmental clearance from the MoEF."*

Hon'ble Apex Court in Deepak Kumar's case (supra) extensively examined the environmental concerns, in the context of mining of minor minerals, considering its impact on the environment. The Apex Court observed that Extraction of alluvial material from within or near a streambed has a direct impact on the stream's physical habitat characteristics. These characteristics include bed elevation, substrate composition and stability, in-stream roughness elements, depth, velocity, turbidity, sediment transport, stream discharge and temperature. Altering these habitat characteristics can have deleterious impacts on both in-stream biota and the associated riparian habitat. The demand for sand continues to increase day by day as building and construction of new infrastructures and expansion of existing ones is continuous thereby placing immense pressure on the supply of the sand resource and hence mining activities are going on legally and illegally without any restrictions. Lack of proper planning and sand management cause disturbance of marine ecosystem and also upset the ability of natural marine processes to replenish the sand. Quarrying, mining and removal of sand from in-stream and upstream of several rivers, which may have serious environmental impact on ephemeral, seasonal and perennial rivers and river beds and sand extraction may have an adverse effect on bio-diversity as well. Further it may also lead to bed degradation and sedimentation having a negative effect on the aquatic life.

Apex Court observed that without conducting any study on the possible environmental impact on/



in the river beds and else- where the auction notices have been issued. Hon'ble Apex Court observed that "We are of the considered view that when we are faced with a situation where extraction of alluvial material within or near a river bed has an impact on the rivers physical habitat characteristics, like river stability, flood risk, environmental degradation, loss of habitat, decline in biodiversity, it is not an answer to say that the extraction is in blocks of less than 5 hectares, separated by 1 kilo meter, because their collective impact may be significant, hence the necessity of a proper environmental assessment plan".

In order to ensure compliance of the aforesaid order of the Hon'ble Supreme Court, MoEF issued an OM No.L-11011/47/2011-IA.II(M) dated 18.05.2012 stating inter alia that all mining projects of minor minerals including their renewal, irrespective of the size of the lease would henceforth require prior EC and that the projects of minor minerals with lease area less than 5 ha would be treated as Category "B" as defined in EIA Notification, 2006 and will be considered by the respective State Environment Impact Assessment Authorities (SEIAAs) notified by MoEF and following the procedure prescribed under the EIA Notification, 2006.

On 24th June, 2013, MoEF issued another Office Memorandum stating Guideliness for consideration of proposals for grant of Environmental Clearance under the Notification of 2006 for mining of 'brick earth' and 'ordinary earth' having lease area of less than 5 hectares. Referring to the judgment of the Hon'ble Supreme Court in the case of Deepak Kumar (supra) and its Office Memorandum dated 18th May, 2012, it further considered that the 'brick kiln' manufactures had stated that it was a small scale activity requiring that certain depth should be kept outside the purview of Environmental Clearance. Having considered various aspects, examining the recommendations of the Expert Committee, constituted by MoEF, finally it was directed as follows:

"(a) The activities of borrowing / excavation of 'brick earth' and ordinary earth', upto an area of less than 5 ha, may be categorized under 'B2' Category subject to the following Guideliness in terms of the provisions under '7.I Stage(1)-Screening' of EIA Notification, 2006:

- (i) The activity associated with borrowing/excavation of 'brick earth' and 'ordinary earth' for purpose of brick manufacturing, construction of roads, embankments etc. shall not involve blasting.
- (ii) The borrowing/excavation activity shall be restricted to a maximum depth of 2 m below general ground level at the site.
- (iii) The borrowing/excavation activity shall be restricted to 2 m above the ground water table at the site.
- (iv) The borrowing/excavation activity shall not alter the natural drainage pattern of the area.
- (v) The borrowed/excavated pit shall be restored by the project proponent for useful purpose(s).
- (vi) Appropriate fencing all around the borrowed/excavated pit shall be made to prevent any mishap.



- (vii) Measures shall be taken to prevent dust emission by covering of borrowed/excavated earth during transportation.
 - (viii) Safeguards shall be adopted against health risks on account of breeding of vectors in the water bodies created due to borrowing/excavation of earth.
 - (ix) Workers / labourers shall be provided with facilities for drinking water and sanitation.
 - (x) A berm shall be left from the boundary of adjoining field having a width equal to at least half the depth of proposed excavation.
 - (xi) A minimum distance of 15 m from any civil structure shall be kept from the periphery of any excavation area.
2. (a) The concerned SEIAA while considering granting environmental clearance for such activity for brick earth / ordinary earth will prescribe the Guideliness as stated at (i) to (xi) above and specify that the clearance so granted shall be liable to be cancelled in case of any violation of above Guideliness.
- (b) Notwithstanding what has been stated at (a) above, the following will apply:
- (i) No borrowing of earth / excavation of 'brick earth' or 'ordinary earth' shall be permitted in case the area of borrowing/ excavation is within 1 km of boundary of national parks and wild life sanctuaries.
 - (ii) In case the area of borrowing / excavation is likely to result into a cluster situation i.e. if the periphery of one borrow area is less than 500 m from the periphery of another borrow area and the total borrow area equals or exceeds 5 ha, the activity shall become Category 'B 1' Project under the EIA Notification, 2006. In such a case, mining operations in any of the borrow areas in the cluster will be allowed only if the environmental clearance has been obtained in respect of the cluster. This issues with the approval of the Competent Authority."

These directions which were specific only to 'brick earth' and 'ordinary earth' activities for areas less than 5 hectares, as decided to be categorised as 'B 2' Category projects, subject to the restrictions stated in the memorandum, provided that if the cluster area exceeded 5 hectares, then it would become Category 'B 1' and would not be treated as Category 'B 2' projects. The above Office Memorandum was not dealing with the issues of sand mining or any other minor mineral activity except 'brick earth' and 'ordinary earth'. Further, MoEF has issued an amendment to EIA Notification vide Notification S.O. 2731 (E) dated 9th September 2013 and amended the EIA Notification, 2006 for item 1 (a) as follows:



(1)	(2)	(3)	(4)	(5)
"1(a)	(i) Mining of minerals.	≥ 50 ha of mining lease area in respect of non-coal mine lease	<50 ha of mining lease area in respect of minor minerals mine lease ; and < 50 ha ≥5 ha of mining lease area in respect of other non-coal mine lease.	General Conditions shall apply except for project or activity of less than 5 ha of mining lease area for minor minerals: Provided that the above exception shall not apply for project or activity if the sum total of the mining lease area of the said project or activity and that of existing operating mines and mining projects which were accorded environment clearance and are located within 500 metres from the periphery of such project or activity equals or exceeds 5 ha.
		>150 ha of mining lease area in respect of coal mine lease.	≤ 150 ha ≥ 5 ha of mining lease area in respect of coal mine lease.	(i) Prior environmental clearance is required at the stage of renewal of mine lease for which an application shall be made up to two years prior to the date due for renewal. Further, a period of two years with effect from the 4th April, 2011 is provided for obtaining environmental clearance for all those mine leases, which were operating as



(1)	(2)	(3)	(4)	(5)
	(ii) Slurry pipelines (coal lignite and other ores) passing through national parks or sanctuaries or coral reefs, ecologically sensitive areas.	All projects.		<p>on the 4th April, 2011 with requisite valid environmental clearance and which have fallen due for renewal on or after the 4th November, 2011:</p> <p>Provided that no fresh environmental clearance shall be required for a mining project or activity at the time of renewal of mining lease, which has already obtained environmental clearance under this notification.</p> <p>(ii) Mineral prospecting is exempted.</p>



In this Notification a new category of minor mineral was introduced and it was provided that mining lease area of minor mineral less than 50 ha will be category 'B' and will require EC. Accordingly the minor mineral mining projects having less than 5 hectare of lease area are required to be appraised by the SEIAA/SEAC of respective State for granting environment clearance. It was provided that the project or activity of less than 5 ha of mining lease area for minor minerals will be exempt from the General Conditions. Simultaneously the concept of cluster was introduced and it was provided that the exemption of applicability of General Conditions shall not apply for project or activity if the sum total of the mining lease area of the said project or activity and that of existing operating mines and mining projects which were accorded EC and are located within 500 m from the periphery of such project or activity equal or exceeds 5 ha.

The Ministry, on 24th December, 2013, issued another Office Memorandum for consideration of proposals for grant of Environmental Clearance regarding categorisation of Category 'B' projects into Category 'B (1)' and 'B (2)'. Mining of minor minerals had been separately dealt with in this Office Memorandum. This Office Memorandum stated that no river sand mining project with mining lease area of less than 5 hectares may be considered for grant of Environmental Clearance. Such area up to 25 hectares would be categorised as 'B (2)' and such projects were to be considered, subject to the stipulations stated therein. This Office Memorandum stated that no Environmental Clearance would be granted for extraction of minor minerals from any riverbed where the area is less than 5 hectares. Sand mining, in area other than riverbeds, would be permitted, only if the Project Proponent takes Environmental Clearance.

The Ministry vide Notification No. S.O. 1599 (E) dated 25.06.2014 reduced the area of 10 kilo meter to 5 kilo meters for applicability of General Conditions increasing the delegation to States by taking out projects located in 5 to 10 kilo meter of interstate boundary, CEPI, and, PAs from category 'A'.

The anomaly created by the Notification dated 09.09.2013 was corrected vide Notification No. S.O. 2601 (E) dated 7th October 2014, and category of minor mineral was deleted and mining leases were again classed as non-coal mine and coal mine and mining lease area of less than 50 ha was made category 'B' for non-coal mine and mine lease area of less than equal to 150 ha for coal mine was made category 'B'. The mine lease area of less than 5 ha was exempt from the applicability of General Conditions and cluster concept of Notification dated 09.09.2013 was retained.



Notification S.O. 2601 (E) dated 7th October 2014 provides as follows:

(1)	(2)	(3)	(4)	(5)
1(a)	<p>(i) Mining of minerals.</p> <p>(ii) Slurry pipelines (coal lignite and other ores) passing through national parks or sanctuaries or coral reefs, ecologically sensitive areas</p>	<p>≥ 50 ha of mining lease area in respect of non-coal mine lease.</p> <p>>150 ha of mining lease area in respect of coal mine lease.</p> <p>Asbestos mining irrespective of mining area.</p> <p>All projects.</p>	<p><50 ha of mining lease area in respect of non-coal mine lease.</p> <p>≤ 150 ha of mining lease area in respect of coal mine lease.</p>	<p>General Conditions shall apply except for project or activity of less than 5 ha of mining lease area:</p> <p>Provided that the above exception shall not apply for project or activity if the sum total of the mining lease area of the said project or activity and that of existing operating mines and mining projects which were accorded environment clearance and are located within 500 metres from the periphery of such project or activity equals or exceeds 5 ha.</p> <p>Note:</p> <p>(i) Prior environmental clearance is required at the stage of renewal of mine lease for which an application shall be made up to two years prior to the date due for renewal.</p> <p>Provided that no fresh environmental clearance shall be required for a mining project or activity at the time of renewal of mining lease, which has already obtained environmental clearance under this notification.</p> <p>(ii) Mineral prospecting is exempted. "</p>



The NGT vide order dated 13.01.2015 (O.A. No. 123 of 2014 and M.A. No. 419 of 2014) has declared the Notification dated 09.09.2013 as invalid, inoperative and quashed it. The above order has also quashed the paragraph 4 (b) (i) of O.M. dated 24th June 2013 which provided that "No borrowing of earth / excavation of 'brick earth' or 'ordinary earth' shall be permitted in case the area of borrowing / excavation is within 1 km of boundary of national parks and wild life sanctuary." Though this provision was taken from the observation of Hon'ble Supreme Court in W.P. No. 435 of 2012 (Goa Foundation Vs. Union of India) and order dated 04.08.2006 of Supreme Court in *T.N. Godavarman Thirumulpad v. Union of India & Ors.* Supreme Court has taken a view that 1 km. from the boundaries of National Parks and Sanctuaries would be a safety zone, subject to the orders that may be made in IA No.1000 regarding Jamua Ramgarh Sanctuary and the State will not grant any Temporary Working Permit (TWP) in these safety zones comprising 1 km. from the boundaries of National Parks and Sanctuaries.

Similarly the proviso at paragraph 2 (iii) of O.M. dated 24.12.2013 which says that "No river sand mining project, with mine lease area less than 5 ha, may be considered for granting EC" has been quashed. This condition was taken from the recommendations of the Committee headed by the Secretary, MoEF constituted in 2010. The above proviso were quashed on the ground that as EIA Notification places no such restriction, so same cannot be imposed by an executive order and many hill States find it very difficult to get an area equal to or more than 5 ha. in riverbed. The information made available by the States also makes it clear that majority of the mining leases of sand are of area less than 5 hectares.



THE ISSUES AND MANAGEMENT OF MINING IN CLUSTER

In I.A. No. 12-13 of 2011 in SLP Nos. 729-731 / 2011, 21833 / 2009, 12498-499 / 2010, SLP (C) CC ... 16157 / 2011 & CC 18235 / 2011 (Deepak Kumar and Ors. Vs. State of Haryana and Ors. etc.) Hon'ble Supreme Court in its order dated 27.02.2012 on the subject of cluster has quoted the submission of affidavit dated 23.11.2011 of MOEFCC. It says that "The Ministry is of the opinion that where the mining area is homogeneous, physically proximate and on identifiable piece of land of 5 ha. or more, it should not be broken into smaller sizes to circumvent the EIA Notification, 2006 as the EIA Notification, 2006 is not applicable to the mining projects having lease area of less than 5 ha. The Report of Committee on Minor Minerals, under the Chairmanship of Secretary (E&F) with representatives of various state governments as members including the State of Haryana and Rajasthan recommended a minimum lease size of 5 ha for minor minerals for undertaking scientific mining for the purpose of integrating and addressing environmental concerns. Only in cases of isolated discontinued mineral deposits in less than 5 ha, such mining leases may be considered keeping in view the mineral conservation".

The order further quotes that "Cluster of Mine Approach for Small Sized Mines: Considering the nature of occurrence of minor mineral, economic condition of the lessee and the likely difficulties to be faced by Regulatory Authorities in monitoring the environmental impacts and implementation of necessary mitigation measures, it may be desirable to adopt cluster approach in case of smaller mine leases being operated presently. Further these clusters need be provided with processing / crusher zones for forward integration and minimizing excessive pressure on road infrastructure. The respective State Governments / Mine Owners Association may facilitate implementation of Environment Management Plans in such cluster of mines." The order has further quoted the letter dated 1.06.2010 written by the then Minister of Environment, Forest and Climate Change which says on the subject that "A cluster approach to mines should be taken in case of smaller mines leases operating currently". The Hon'ble Court has ordered that "The State of Haryana and various other States have not so far implemented the above recommendations of the MoEF or the Guideliness issued by the Ministry of Mines before issuing auction notices granting short term permits by way of auction of minor mineral boulders gravel, sand etc., in the river beds and elsewhere of less than 5 hectares. We therefore, direct to all the States, Union Territories, MoEF and the Ministry of Mines to give effect to the recommendations made by MoEF in its report of March 2010 and the model Guideliness framed by the Ministry of Mines, within a period of six months from today and submit their compliance reports."

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



The Ministry vide O.M. No. L-11011/47/2011-IA.II (M) dated 18th May 2012 said that "In order to ensure compliance of the above referred order of the Hon'ble Supreme Court dated 27.02.2012, it has now been decided that all mining projects of minor minerals including their renewal, irrespective of the size of the lease would henceforth require prior environment clearance. Mining projects with lease area up to less than 50 ha including projects of minor mineral with lease area less than 5 ha would be treated as Category 'B' as defined in EIA Notification, 2006 and will be considered by the respective SEIAAs notified by MoEF and following the procedure prescribed under EIA Notification, 2006."

On the issue of cluster, the Notifications No. S.O. 2731 (E) dated 09.09.2013 and Notification No. S.O. No. 2601 (E) of 07.10.2014 were issued.

The above Notifications in Schedule at Item No. 1 (a) in Conditions mentions that "General Conditions shall apply except for projects or activity of less than 5 ha of mining lease area:

Provided that the above exception shall not apply for project or activity if the sum total of the mining lease area of the said project or activity and that of existing operating mines and mining projects which were accorded environment clearance and are located within 500 meters from the periphery of such projects or activity equals or exceeds 5 ha. The Office Memorandum No. J-13012/12/2013-IA-II (1) dated 24.12.2013 is about Guideliness for consideration of proposals for grant of environment clearance under Environment Impact Assessment Notification 2006 and its amendments - regarding categorization of Category 'B' projects/ activities into Category 'B1' & 'B2'.

The above O.M. besides categorizing the Category B into Category B1 & B2 also has directions on mining of brick earth / ordinary earth and river sand mining. These provisions are as follows:

"Mining of minor minerals:

As of now, mining projects of minor minerals with less than 50 hectare of mining lease areas are categorized as Category 'B' as per Notification S.O. 2731 (E) dated 9th September 2013. Also vide O.M. No. L-11011/47/2011-IA-II (M) dated 24.06.2013, Guideliness has been issued regarding categorization of mining projects of brick earth and ordinary earth having lease areas less than 5 hectare as Category 'B2' subject to stipulations stated therein.

In the above backdrop, the projects of mining of minor minerals, categorized as Category 'B' are hereby categorized as 'B2' as per the following:

- (i) 'Brick Earth' / 'Ordinary Earth' mining projects having lease area less than 5 ha will be considered for granting EC as per the aforesaid Guideliness issued by MOEF on 24.06.2013.
- (ii) 'Brick Earth' / 'Ordinary Earth' mining projects with mining lease area more than equal to 5 ha but less than equal to 25 ha and all other minor , mineral mining projects with mining lease area < 25 ha, except for river sand mining projects will be appraised as Category 'B2' projects.



These projects will be appraised based on the following documents:

- (a) Form-1 as per the Appendix-I under the EIA Notification 2006
- (b) Pre-feasibility report of the project
- (c) Mining plan approved by the authorized agency of the concerned State Government.

Provided in case the mining lease area is likely to result into a cluster situation, i.e. if the periphery of one lease area is less than 500 meter from the periphery of another lease area and the total lease area equals or exceeds 25 ha, the activity shall become Category 'B1' Project under the EIA

Notification, 2006. In such a case, mining operations in any of the mine lease areas in the cluster will be allowed only if the environmental clearance has been obtained in respect of the cluster.

About river sand mining it says that:

- (iii) No river sand mining project, with mine lease area less than 5 ha, may be considered for granting EC. The river sand mining projects with lease area more than equal to 5 ha but less than 25 ha will be categorized as 'B2'. In addition to the requirement of documents, as brought out above under sub-para (ii) above for appraisal, such projects will be considered subject to the following stipulations:
 - (a) The mining activity shall be done manually. The depth of mining shall be restricted to 3 m / water level, whichever is less.
 - (b) For carrying out mining in proximity to any bridge and / or embankment, appropriate safety zone shall be worked out on case to case basis to the satisfaction of SEAC / SEIAA, taking into account the structural parameters, locational aspects, flow rate etc., and no mining shall be carried out in the safety zone so worked out. No in-stream mining shall be allowed.
 - (c) The mining plan approved by the authorized agency of the State Government shall inter-alia include study to show that the annual replenishment of sand in the mining lease area is sufficient to sustain mining operations at levels prescribed in the mining plan and that the transport infrastructure is adequate to transport the mines material. In case of transportation by road the transport vehicles will be covered with the tarpaulin to minimize dust/ sand particle emissions.
 - (d) EC will be valid for mine lease period subject to a ceiling of 5 years.

Provided, in case the mining lease area is likely to result into a cluster situation i.e. if the periphery of one lease area is less than 1 km from the periphery of another lease area and total lease area equals to or exceeds 25 ha., the activity shall become Category 'B1' Projects under EIA Notification, 2006. In such a case, mining operation in any of the mine lease area in the cluster will be allowed only if the environment clearance has been obtained in respect of the cluster.



The NGT order dated 13.01.2015 in O.A. No. 123 of 2014 and M.A. No. 419 of 2014 has following directions on the issue of cluster: "In light of the judgment of the Supreme Court and what has emerged from the various cases that are subject matter of this Judgment, we direct the Ministry of Environment and Forest to formulate a uniform cluster policy in consultation with the States for permitting minor mineral mining activity including its regulatory regime, in accordance with law.

Notification S.O. 1559 (E) dated 25th June 2014 provides that "Any project or activity specified in Category 'B' will be appraised at the Central Level as Category 'A', if located in whole or in part within 5 km. from the boundary of: (i) Protected Areas; (ii) CEPI; (iii) ESA; (iv) I n t e r - s t a t e boundaries or international boundaries".

The NGT vide its order dated 13.01.2015 has quashed the Notification dated 9th September 2013, but similar provision on clusters exists in Notification dated 7th October 2014.

The EIA Notification 2006, as amended makes it clear that projects in respect of non-coal mine leases, where the area is more than equal to 50 hectares would require prior Environmental Clearance from MoEFCC, while the projects of area less than 50 hectares would be appraised for prior Environmental Clearance at the level of SEIAA.

The EIA Notification of 2006 in Clause 7 specifies the stages through which projects for grant of Environmental Clearance are required to be passed and processed. The stages include Screening, Scoping, Public Consultation and Appraisal, upon which, the Expert Appraisal Committee makes recommendation to the MoEF/SEIAA. Under 'Screening', this Clause 7 also provides for a further bifurcation of projects falling under category 'B' into 'B 1' and 'B 2'. The relevant part of Clause 7, dealing with this aspect, reads as under: "Stage (1) - Screening (Only for Category 'B' projects and activities): In case of Category 'B' projects or activities, this stage will entail the scrutiny of an application seeking prior environmental clearance made in Form 1 by the concerned State level Expert Appraisal Committee (SEAC) for determining whether or not the project or activity requires further environmental studies for preparation of an Environmental Impact Assessment (EIA) for its appraisal prior to the grant of environmental clearance depending up on the nature and location specificity of the project . The projects requiring an Environmental Impact Assessment report shall be termed Category 'B1' and remaining projects shall be termed Category 'B2' and will not require an Environment Impact Assessment report. For categorization of projects into B1 or B2 except item 8 (b), the Ministry of Environment and Forests shall issue appropriate Guideliness from time to time."

The Ministry on 24th December, 2013, issued Office Memorandum for consideration of proposals for grant of Environmental Clearance regarding categorisation of Category 'B' projects into Category 'B1' and 'B2'. Mining of minor minerals had been separately dealt with in this Office Memorandum. Such area up to 25 hectares would be categorised as 'B 2' and such projects were to be considered, subject to the stipulations stated therein.



The EIA Notification, 2006 does not provide for issuance of Environment Clearance to Cluster of mines. It provides for EC to individual lease holders / project proponents. This position has also been upheld by the Hon'ble Supreme Court in its judgment of Vivek Bansal Vs. State of Haryana that EC should be applied for and granted to the individual lease holder.

There has been rising concerns about adverse impact of mining on small leases (less than 5 hectare) in case the numbers of such leases are large and they are located in close proximity to each other. This leads to the definition of Cluster. To avoid the rigors of environment impact assessment studies, environment management plan and the environment clearance there has been a tendency to break the leases into size which does not attract the provisions of environment impact assessment studies, environment management plan, public consultation and the environment clearance. In Deepak Kumar's case Hon'ble Supreme Court also encountered this situation and in its order dated 27.02.2012 mandated that no mining lease or renewal be done without environment clearance irrespective of size.

It is seen that the categorization of mines into 'B1' and 'B2' category in which Category 'B2' leases are being exempted from the requirement of Environment Impact Assessment, Environment Management Plan, and Public Consultation for grant of EC, in many cases now the mining leases are being given for 25 hectares or less. This defeats the purpose and intent of Hon'ble Supreme Court Judgment which orders environment clearance for all mining leases irrespective of size. The environment clearance without Environment Impact Assessment, Environment Management Plan, and Public Consultation does not serve the purpose of environment clearance which is to ensure environmentally sustainable and socially responsible mining. So if a cluster or individual lease size exceeds 5 hectare, the EIA/ EMP should be completed in the process of grant of prior environment clearance.

The EIA Notification, 2006 and subsequent amendments to that or any O.M. issued by the Ministry do not provide for procedures and Competent Authority for environment clearance for cluster. In a cluster there will mostly be situation where there are a number of different lease holders and as per the settled law the lease holder has to do the working of mine and the lease holder is the one who can apply for and get the environment clearance. The conditions stipulated in the environment clearance have to be complied by the EC holder and any violation of that empowers the authority to cancel the environment clearance or prosecute the EC holder if necessitated by the circumstances.

For cluster there is no mechanism about who will apply for EC, EC will be issued in whose name, and who will be responsible for compliance of EC conditions.

The intent of cluster assessment is to have a holistic knowledge of the impact on environment by different mines operating in close proximity of each other. There are also requirement of mitigative measures which need implementation in concerted manner by different EC holders of that cluster. To ensure that it is important that there should be an integrated Environment Impact Assessment /



Environment Management Plan for the cluster to be presented before the authority appraising the projects and considering the proposals for grant of EC. This integrated EIA/ EMP can be prepared by either the lease holder, group of lease holders, State or the State Agencies. This EIA/ EMP need to be prepared by the accredited consultants / Registered Qualified Persons of the State Governments. The application for EC and grant of EC should be done in the name of individual lease holders in the background of the integrated EIA/EMP report. The Competent Authority (SEIAA/ SEAC / EAC) will entertain individual lease holder's application for grant of EC to individual mining lease projects in that cluster in the name of lease holders. The conditions related to mitigative measures necessitated by the integrated EIA/EMP may run across more than one lease holder or EC holders, that should figure in each EC accordingly and its compliance be ensured by the individual EC holders.

The Hon'ble Supreme Court, NGT, SEAC/EAC and the Project Proponents have raised issue of cluster in mine lease allotment and environment clearance for the same, so following conditions need to be ensured for cluster of mines:

1. To address the concern of adverse impact of minor mineral mining on environment it is proposed that all mining activity including river sand mining (above 5 hectare individual or cluster) will need to prepare Environment Impact Assessment Report - and Environment Management Plan before grant of environment clearance. These reports (EIA /EMP) can be prepared by the State or State nominated Agency / the Project Proponent (s).
2. As can be seen from the data provided by the States most of the mining leases for minor minerals are of lease area less than 5 hectare. It is also reported that in hill states getting a stretch in river with area more than 5 hectare is very uncommon. So the size of lease for minor minerals including river sand mining will be determined by the States as per their circumstances.
3. The EIA Notification, 2006 does not provide for cluster EC, it provides for issuance of EC to individual project proponents and the same has also been upheld in the judgment of Hon'ble Supreme Court in Vijay Bansal vs. State of Haryana case. So EC will have to be applied for and issued to the individual project proponent.
4. A cluster shall be formed when the distance between the peripheries of one lease is less than 500 meters from the periphery of other lease in a homogeneous mineral area.
5. The mining of minor minerals is mostly in clusters. The Environment Impact Assessment or Environment Management Plan are required to be prepared for the entire cluster in order to capture all the possible externalities. These reports shall capture carrying capacity of the cluster, transportation and related issues, replenishment and recharge issues, geo-hydrological study of the cluster area. The Environment Impact Assessment or Environment Management Plan shall be prepared by the State or State nominated Agency or group of project proponents



in the Cluster or the project proponent in the cluster.

6. The individual lease holders in cluster can use the same Environment Impact Assessment or Environment Management Plan for application for environmental clearance. The cluster Environment Impact Assessment or Environment Management Plan shall be updated as per need keeping in view any significant change.
7. There shall be one public consultation for entire cluster after which the final Environment Impact Assessment or Environment Management Plan report for the cluster shall be prepared.
8. The details of cluster Environment Impact Assessment or Environment Management Plan shall be reflected in each environmental clearance in that cluster and District Expert Appraisal Committee (DEAC), SEAC, and EAC shall ensure that the mitigative measures emanating from the Environment Impact Assessment or Environment Management Plan study are fully reflected as environmental clearance conditions in the environmental clearance's of individual project proponents in that cluster.
9. As the sand is mostly mined from rivers and majority of the rivers which are important source of sand also form boundary between States, so because of General Conditions most of the sand mining projects become Category 'A' project. So the General Conditions will not apply in case of river sand and gravel mining projects on account of being in 5 kilometer of inter-state boundary.
10. The Committee headed by the District Magistrate or District Collector will be empowered to appraise and grant EC for mining leases up to 5 ha in case of individual lease and up to 25ha in case of cluster for sand mining.
11. In case the mining leases are in cluster (if periphery of one lease is within 500 meters), following are the categorization of projects:-
 - Category 'B2'Project: Cluster area of mine leases up to 5 ha and to be dealt at DEIAA/ DEAC level
 - Category 'B2'Project: Cluster area of Mine leases > 5 ha and < 25 ha with no individual lease > 5 ha and to be dealt at DEIAA/DEAC level
 - Category 'B1'Project: Cluster of mine leases of area > 25 hectares with individual lease size < 50ha and to be dealt at SEIAA/SEAC level
 - Category 'A' Project: Cluster of any size with any of the individual lease >50ha and to be dealt at MoEFCC/EAC level



The schematic presentation of requirements on Environmental Clearance of Sand Mining including cluster situation is detailed as below:-

Area of Lease (Hectare)	Category of Project	Requirement of EIA / EMP	Requirement of Public Hearing	Requirement of EC	Who can prepare EIA/ EMP	Who will apply for EC	Authority to appraise/ grant EC	Authority to monitor EC compliance
EC Proposal of Sand Mining in cluster situation								
Cluster area of mine leases up to 5 ha	'B2'	Form-1M, PFR and Approved Mine Plan	No	Yes	State, State Agency, Group of Project Proponents, Project Proponent	Project Proponent	DEAC/ DEIAA/	DEIAA SEIAA SPCB CPCB MoEFCC Agency nominated by MoEFCC
Cluster area of Mine leases > 5 ha and < 25 ha with no individual lease > 5 ha	'B2'	Form-I, PFR and Approved Mine Plan and one EMP for all leases in the Cluster	No	Yes	State, State Agency, Group of Project Proponents, Project Proponent	Project Proponent	DEAC/ DEIAA/	
Cluster of mine leases of area > 25 hectares with individual lease size < 50ha	'B1'	Yes	Yes	Yes	State, State Agency, Group of Project Proponents, Project Proponent	Project Proponent	SEAC/ SEIAA	



Cluster of any size with any of the individual lease > 50ha	'A'	Yes	Yes	Yes	State, State Agency, Group of Project Proponents, Project Proponent	Project Proponent	EAC/ MoEFCC	
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MANAGEMENT OF SAND DEPOSITED AFTER FLOOD ON AGRICULTURAL FIELD OF FARMERS

The Standing Committee on Water Resources on issues, concerning flood management, compensation, and status of ownership of submerged and eroded land in the country including compensation to farmers for loss of their crops destroyed by floods and right to disposal of the sand left in the fields of farmers in its meeting held on 29.04.2015 made observations on this subject.

The Committee observed that pursuant to Hon'ble Supreme Court of India decision in "Deepak Kumar Case" in 2012, regulations were framed by the Ministry of Mines to guide environmental clearance of minor minerals. ... The Committee, therefore, desires the Ministry of Water Resources, River Development and Ganga Rejuvenation to work in close coordination with the Ministry of Mines and Environment, Forest and Climate Change to frame regulations / Guidelines in this regard expeditiously.

Mining of Sand

The Committee further observed that due to the floods, the agricultural land of farmer is destroyed and rendered infertile. Further the farmer loses his livelihood as the produce of his land is destroyed by flood and become unsalable. The farmer is also deprived of the right of lifting sand from his land. He is therefore, left helpless and destitute and leave their land in search of job.

The Committee observes that "mining operation" means any operation undertaken for the purpose of winning any mineral. Accordingly, if desilting is undertaken perse with the objective of winning a mineral then only it will be construed as a mining operation. Apparently, if the desilting is undertaken not for winning any mineral, it will not be construed as mining operation and therefore, the farmer can remove the sand from the land without requiring the requisite permits. However, the Committee strongly feels that the farmer be given the right to use and dispose-off the sand accumulated over their land post flood, by incorporating the necessary provisions in the Mines and Mineral (Development and Regulation) Act, 1957".

Removal of sand from the agricultural field by the owner farmer of the land from environment point of view will not be considered as mining operation and its removal and disposal can be allowed without the requirement of environment clearance till it is done only to the extent of reclaiming the agricultural land. The sand deposited after flood only be removed, so no mining / digging below the ground level is allowed. For removing sand in case where private land has gone into the river due to erosion, the requirement of mining lease and environment clearance will continue. This operation



of removal of sand deposited on agricultural field should be done after a mapping of deposition is done by the Land Management Committee of the Gram Panchayat. The sand so deposited post flood can be removed by the farmer owning the land / group of farmers affected by this post flood sand deposition or the Gram Panchayat. Customary rights to remove and dispose off the sand should be given to the farmer affected by deposition of sand on account of sudden flood in his agricultural land.



MINING OF SAND FROM AGRICULTURAL FIELD

This practice is prevalent in Haryana, where the top layer of soil varying between 1 and 2 meters is removed and stacked separately and thereafter the sand deposit which may be 10-15 meter deep is mined. After removing the sand layer up to a maximum depth of 09 meters, the top soil 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) 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 same lease both type of area should not be included.
3. The sand mining from 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.

CUSTOMARY RIGHT ON SAND MINING

The native people have their long held customary rights to take silt, sand & soil from their tanks and nearby rivers for their use or community works in the village in almost all the States in some form or the other.

Next to the reserved forests, tanks and rivers are the biggest common properties in India. Most of the village tanks are 'government properties' with some exceptions of privately held tanks. Land revenue department, irrigation department and forest department is given powers to deal with property right' and hence protecting all tanks and rivers preventing damages including encroachments is their responsibility. The local villagers were given 'customary rights' under the Revenue Department Orders, and other laws related to Panchayats and Easements to take sand, soil and earth for agricultural and domestic purposes without seeking any permission from anyone. The States strive to keep these customary rights to use such resources like soil and sand for individuals work and community work in the village intact without requirement of any permit and clearance. These customary rights need to be protected and respected.



DESILTING OF RESERVOIRS / BARRAGES / ANNECUTS / LAKES / CANALS

These structures are generally in possession and maintenance of Irrigation Department / Minor Irrigation Department / PHED of State Governments. The dams and reservoirs can be a significant source of sand. Many such structures are silted and their water holding capacity has gone down considerably. In some instances to compensate for silted capacity raising of height of dam or construction of new structures is proposed which further leads to submergence of new areas of agricultural field and forests. Taking up desilting of such projects can serve dual purpose of increasing the water holding capacity and making available the sand for other usage. In some States the Irrigation Department is permitted to use it for the departmental works free of charge and balance can be disposed of in market after paying the due royalty. A detailed study is required to be carried out to verify economic viability and environmental sustainability before contemplating dredging of storage reservoirs for sand / gravel mining.

The de-silting of reservoir, dredging for upkeep and maintenance of structures, channels and averting natural disasters will not be treated as mining for the purpose of environmental clearance.

The Ministry of Water Resources (MoWR) view on desiltation from flood control point of view is as follows:

A multidisciplinary Committee (Mittal Committee) under the chairmanship of Dr. B.K. Mittal, former Chairman, Central Water Commission was constituted by MoWR, vide letter dated 08.10.2001 to identify cause and extent of siltations in rivers, suggest measures to minimize siltation, examine as to whether desilting is a technically feasible means to minimize magnitude of flood in rivers, suggest appropriate technology/ methods of desilting of rivers, propose a realistic operational programme in a time bound manner and other related aspects. The committee studied in respect of few sites on Ganga, Brahmaputra, Godavari, Krishna etc., and inter-alia concluded that:

- i) Siltation in river is not pronounced and alarming;
- ii) Desilting of rivers for flood control is not an economically viable solution;
- iii) Dredging in general has been found to be inadequate and should not be resorted to, particularly in major rivers;
- iv) There are, of course, some locations such as tidal rivers, confluence points with narrow constrictions and the like which can be tackled by desilting after thorough examination and techno-economic justification;
- v) Selective dredging is suggested depending upon local conditions; and
- vi) Desilting of rivers can marginally minimize the magnitude of floods and be effective only for a short period.

Thus, desilting in general is not feasible technically, due to several reasons like non-sustainability, non-availability of vast land required for disposal of dredged material etc. This cannot be viewed in isolation of other approaches to manage floods. Desilting of rivers in vulnerable reaches may be suggested based on model study, if it is found techno-economically viable. For navigation purposes, the river reaches in the water ways path may be dredged to have minimum depth of water.



MINING PLAN

The Environment Clearance shall be given to only those mining leases which have mine plan approved by the Competent Authority designated by the States. Modification of the mining plan during operation will also need approval of the Competent Authority. The Mining Plan shall be prepared by the Recognised Qualified Persons (RQP). The person to be recognized for preparing the mining plan should be a holding a degree of Mining Engineering, Environmental Engineering or a post graduate degree in Geology granted by a University established or incorporated by or under a Central Act or a State Act including any institutions recognized by the UGC or any equivalent qualification granted by any University or institution outside India and have a professional experience of three years of working in a supervisory capacity in the field of mining after obtaining a degree. The States will devise their own mechanism of selection and empanelment of RQPs. A mining plan should be valid for a period of 5 years, which can be renewed further.

EVALUATING THE IMPACT OF SAND MINING

To assess the impact of mining and effect of remedial measures can be assessed through monitoring. This is also required for mid-course corrections. Monitoring will provide data to evaluate the upstream and downstream effects of sand and gravel extraction activities, and long-term changes. A brief report summarizing the annual results of the physical and biological monitoring should document the evolution of the sites over time, and the cumulative effects of sand and gravel extraction. The summary should also recommend any modification of extraction rates needed to minimize impacts of extraction.

Sand Replenishment, Geomorphology and Hydrology:

Physical monitoring requirements of sand and gravel extraction activities should include surveyed channel cross-sections, longitudinal profiles, bed material measurements, geomorphic maps, and discharge and sediment transport measurements. The physical data will illustrate bar replenishment and any changes in channel morphology, bank erosion, or particle size.

In addition to local monitoring for replenishment at specific mining sites, monitoring of the entire reach through the estuary will provide information on the cumulative response of the system to sand and gravel extraction. For example, it is important for downstream bars and the estuary to receive sufficient sand and gravel to maintain estuarine structure and function. Because the elevation of the bed of the channel is variable from year to year, a reach-based approach to monitoring will provide a larger context for site-specific changes. If long-term monitoring data show that there is a reach-scale trend of bed lowering (on bars or in the thalweg), the extraction could be limited.

Cross-sections:

Surveyed channel cross-sections should be located at permanently documented sites upstream, downstream and within the extraction area. Cross-sections intended to show reach- scale changes



should be consistently located over geomorphic features such as at the head of riffles, across the deepest part of pools, or across particular types of channel bars.

Cross-section spacing should be close enough to define the morphology of the river channel. Cross-section data should be surveyed in March or April to evaluate changes that may occur during the flooding season.

Cross-section data should be collected over the reach to the estuary, and locally upstream, downstream, and within each mining site. This long-term monitoring data should be collected and analyzed even if no mining occurs in order to understand and estimate the sand budget of the river reach.

Photo-documentation:

Photographs of the project sites should be taken prior to excavation to document the baseline conditions, and again during each monitoring session. Photos should be taken twice a year. Photos of structures nearby like outfalls / off-takes, intakes, bridges and other structures may also be regularly taken.

Groundwater Level:

Monitoring wells should be established adjacent to each off-channel floodplain excavation to record changes in ground water levels. Measurements should be taken monthly. This should help analyse surface water and ground water interaction along the reach.

Extent and Quality of Riparian Vegetation:

Document the extent and quality of riparian vegetation, including successional status, and any increase in disturbance indicators (non-native plants). The extent of riparian habitat can be determined utilising aerial photos. Habitat quality data, i.e., successional status and species composition, must be determined through field reconnaissance.

Riparian Vegetation Maps:

Develop yearly maps of the sensitive habitat areas and document their aerial extent over time. These maps may be combined with the geomorphic maps. Monitor sites identified as sensitive for disturbance in excess of expected geomorphic trends - i.e., massive bank wasting up or downstream from an active mine site. Monitor sand and gravel mining impacts which may translate up and downstream, causing accelerated erosion of sensitive zones and impacting the ability of new habitat to form due to excessive scour or sedimentation.

This monitoring / documentation should be done by the EC holders and will be regularly checked and assessed by the DEIAA for corrective steps in time. The DEIAA should review the status of monitoring and documentation data of each mining site especially for sand mining once in a year.



MONITORING SYSTEM FOR SUSTAINABLE SAND MINING

The implementation of these Guidelines on Sustainable Sand Mining is not possible till States create a robust mechanism to monitor the mining operation and measure the mined out mineral. The entire exercise of Environment Impact Assessment and Environment Management Plan aims towards making the mining process environmentally sustainable. The Environment Clearance letter indicates the EC capacity that is the quantity of material which can be mined in a year. If this quantity is not measured, and much more mineral than envisaged in the EC is mined out then the entire process of EC is rendered futile. Keeping above objective in mind it is required of the State / State Agencies to create and establish a robust system to monitor and measure the mined out mineral at each lease location and its transportation in State.

The State Governments have tried various methods for monitoring the sand mining in their areas, the main feature of which generally has been through Transport Permits (T.P.). The printing of Transport Permits on security paper, invisible ink mark, fugitive ink background, VOID pantograph and Unique Barcode are some of the tools used by the States. These tools need to be backed by suitable software and dedicated websites with security certifications at different levels.

The system proposed is that States should issue Transport Permit. Bar code on the T.P. when scanned using the system, will generate a unique invoice number. The bidder has to enter 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 is sent to the bidder, which need to be written on T.P. Validity of T.P. is calculated based on distance between plot and destination. After validity time is over the T.P. stands invalid. The officers involved in monitoring should be provided with the android application using which the T.P. can be checked anywhere on road. As soon as the bar code on T.P. gets scanned through using android application, all details of T.P. such as plot details, vehicle details, validity time etc. should get fetched from server. This means, if anything is re-written on T.P. and attempt is made to reuse the same, it can be traced immediately. Registering of T.P. on server can be done using website, using android application (smartphone with internet) or even through SMS (smartphone without internet). This implies that TP can be registered on server even if only mobile phone range is available on plot. 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.



MONITORING SYSTEM FOR SUSTAINABLE SAND MINING

PROCEDURE FOR MONITORING OF SAND MINING OR RIVER BED MINING

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

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

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



4. **Proposed working of the system:**

The State Mining Department should print the Transport Permit or Receipt with security features enumerated at Paragraph 1 above and issue them to the mine lease holder through the District Collector. Once these Transport Permits or Receipts are issued, they would be uploaded on the server against that mine lease area. Each receipt should be preferably with pre-fixed quantity, so the total quantity gets determined for the receipts issued.

When the Transport Permit or Receipt barcode gets scanned and invoice is generated, that particular barcode gets used and its validity time is recorded on the server. So all the details of transporting of mined out material can be captured on the server and the Transport Permit or Receipt cannot be reused.

5. **Checking On Route:**

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

6. **Breakdown of Vehicle:**

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

7. **Tracking of Vehicles:**

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

8. **Alerts or Report Generation and Action Review:**

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

The monitoring of mined out mineral, environmental clearance conditions and enforcement of Environment Management Plan will be ensured by the DEIAA, SEIAA and the State Pollution Control Board or Committee. The monitoring arrangements envisaged above shall be put in place. 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.



ADMINISTRATIVE STRUCTURE FOR ENVIRONMENT CLEARANCE AND ENSURING COMPLIANCE OF EC CONDITIONS

An no mining in allowed without Envirnomental Clearance. The process of EC involves preparation of EIA/EMP, PER and mine plan.

The EIA/EMP can be prepared by the State Government or any agency of the State, group of project proponents in the cluster or the individual project proponent. The EIA / EMP can be prepared by the accredited consultants or the Registered Qualified Person(s) / agencies selected by the States.

DISTRICT ENVIRONMENT IMPACT ASSESSMENT AUTHORITY

The Central Government has constituted the District Level Environment Impact Assessment Authority (DEIAA), for grant of environmental clearance for Category 'B2' Projects for mining of minor minerals, for all the districts in the country.

For, minor minerals including sand and gravel mining lease of area up to 5 hectare in case of individual lease and up to 25 ha in case of cluster for sand mining, the grant of EC will be done by the District Environment Impact Assessment Authority (DEIAA) headed by the District Magistrate or District Collector. This Authority will be responsible for proper and sustainable management of sand mining in the district. The Authority will be responsible for designating the area / stretch in river suitable for mining in the district and also identifying the area / stretch in river prohibited for sand mining. The Authority will ensure clear demarcation of mining site, its documentation, and ensuring that no mining takes place without EIA / EMP and EC of the mining site.

The Chairperson and official members of the Authority for the districts should hold office during their tenure in the district on said posts and the expert member shall hold office for a period of three years from the date of nomination by the Competent Authority. The Committee shall meet at least once in a month.

The District Environment Impact Assessment Authority (DEIAA) :

The DEIAA will have following composition :

- | | | |
|----|--|------------------|
| 1. | District Magistrate or District Collector of the district | Chairperson |
| 2. | Senior most Divisional Forest Officer in the district | Member |
| 3. | An expert member to be nominated by the Divisional Commissioner or Chief Conservator of the Forest | Member |
| 4. | Sub-Divisional Magistrate or Sub-Divisional Officer of the district head quarter | Member-Secretary |



DISTRICT LEVEL EXPERT APPRAISAL COMMITTEE:

The District Level Expert Appraisal Committee (DEAC) will appraise the cases and make recommendations to the District Environment Impact Assessment Authority for environmental clearance. This Committee will also make recommendations / suggestions on the District Survey Report to the DEIAA. The DEAC will have following composition:

- | | |
|--|-------------------|
| 1. Senior most Executive Engineer, Irrigation Department | Chairperson |
| 2. Senior most Sub-Divisional Officer (Forest) | Member |
| 3. A representative of Remote Sensing Department or Geology Department or State Ground Water Department to be nominated by the District Magistrate or District Collector | Member |
| 4. Occupational health expert or Medical Officer to be nominated by the District Magistrate or District Collector | Member |
| 5. Engineer from Zila Parishad | Member |
| 6. A representative of State Pollution Control Board or Committee | Member |
| 7. An expert to be nominated by the Divisional Commissioner or Chief Conservator of Forest | Member |
| 8. An expert to be nominated by the Divisional Commissioner or Chief Conservator of Forest | Member |
| 9. An expert to be nominated by the Divisional Commissioner or Chief Conservator of Forest | Member |
| 10. Senior most Assistant Engineer, Public Works Department | Member |
| 11. Assistant Director or Deputy Director or District Mines Officer or Geologist in the district in that order | Member- Secretary |

The DEAC will meet at least once a month, depending on the work load the frequency of meetings can be decided by the Chairperson of DEAC and Chairperson, DEIAA.

Each proposal for the mining lease under consideration for environmental clearance in the district will be inspected on-site by the Sub-Divisional Level Committee headed by the SDM.



The Sub-Divisional Committee should comprise of following officers:

Sub-Divisional Magistrate	Chairperson
Sub-Divisional Officer, Forest/ Assistant Conservator of Forest/ Forest Range Officer	Member
Representative of State Pollution Control Board	Member
SDO, Irrigation Department	Member
Geologist or Assistant Geologist or Mining Officer / Mining Inspector	Member

The presence of at least three members will be needed for inspection. This Committee shall submit its report within 15 days from the receipt of the proposal.

The monitoring of EC conditions and enforcement of EMP will be ensured by the District Collector and the, State Pollution Control Board. The monitoring of enforcement of EC conditions can also be done by the Central Pollution Control Board, Ministry of Environment, Forest & Climate Change and the agency nominated by the Ministry for the purpose.

Schematic Presentation of Requirements on Environmental Clearance of Sand Mining including cluster situation

Area of Lease (Hectare)	Category of Project	Requirement of EIA / EMP	Requirement of Public Hearing	Requirement of EC	Who can prepare EIA/ EMP	Who will apply for EC	Authority to appraise/ grant EC	Authority to monitor EC compliance
EC Proposal of Sand Mining on the basis of individual mine lease								
0 - 5ha	'B2'	Form - 1M, PFR and Approved Mine Plan	No	Yes	Project Proponent	Project Proponent	DEAC/ DEIAA	DEIAA SEIAA SPCB CPCB MoEFCC Agency nominated by MoEFCC



> 5 ha and < 25 ha	'B2'	Form-I, PFR and Approved Mine Plan and EMP	No	Yes	Project Proponent	Project Proponent	SEAC / SEIAA	DEIAA SEIAA SPCB CPCB MoEFCC Agency nominated by MoEFCC
≥ 25ha and < 50ha	'B1'	Yes	Yes	Yes	Project Proponent	Project Proponent	SEAC / SEIAA	
≥ 50 ha	'A'	Yes	Yes	Yes	Project Proponent	Project Proponent	SEAC / SEIAA	
EC Proposal of Sand Mining in cluster situation								
Cluster area of mine leases up to 5 ha	'B2'	Form - 1M, PFR and Approved Mine Plan	No	Yes	State, State Agency, Group of Project Proponents, Project Proponent	Project Proponent	DEAC/ DEIAA/	DEIAA SEIAA SPCB CPCB MoEFCC Agency nominated by MoEFCC
Cluster area of Mine leases > 5 ha and < 25 ha with no individual lease > 5 ha	'B2'	Form -I, PFR and Approved Mine Plan and one EMP for all leases in the Cluster	No	Yes	State, State Agency, Group of Project Proponents, Project Proponent	Project Proponent	DEAC/ DEIAA/	



Cluster of mine leases of area \geq 25 hectares with individual lease size $<$ 50ha	'B1'	Yes	Yes	Yes	State, State Agency, Group of Project Proponents, Project Proponent	Project Proponent	SEAC/ SEIAA	
Cluster of any size with any of the individual lease \geq 50ha	'A'	Yes	Yes	Yes	State, State Agency, Group of Project Proponents, Project Proponent	Project Proponent	EAC/ MoEFCC	

General Conditions will not apply on account of inter- state boundaries for river sand mining leases.



EXEMPTION OF CERTAIN CASES FROM BEING CONSIDERED AS MINING FOR THE PURPOSE OF REQUIREMENT OF ENVIRONMENTAL CLEARANCE

Keeping in view the purpose, maintenance of infrastructure, abatement of disasters, customary easement and property rights, it is felt that following cases may not be treated as mining for the purpose of requirement of environmental clearance. The following cases shall not require prior environmental clearance, namely:-

1. Extraction of ordinary clay or sand, manually, by the Kumhars (Potter) to prepare earthen pots, lamp, toys, etc. as per their customs.
2. Extraction of ordinary clay or sand, manually, by earthen tile makers who prepare earthen tiles.
3. Removal of sand deposits on agricultural field after flood by farmers.
4. Customary extraction of sand and ordinary earth from sources situated in Gram Panchayat for personal use or community work in village.
5. Community works like de-silting of village ponds or tanks, construction of village roads, ponds, bunds undertaken in Mahatama Gandhi National Rural Employment and Guarantee Schemes, other Government sponsored schemes, and community efforts.
6. Dredging and de-silting of dams, reservoirs, weirs, barrages, river, and canals for the purpose of their maintenance, upkeep and disaster management.
7. Traditional occupational work of sand by Vanjara and Oads in Gujarat vide notification number GU/90(16)/MCR-2189(68)/5-CHH, dated the 14th February, 1990 of the Government of Gujarat.
8. Digging of well for irrigation or drinking water.
9. Digging of foundation for buildings not requiring prior environmental clearance.
10. Excavation of ordinary earth or clay for plugging of any breach caused in canal, nala, drain, water body, etc., to deal with any disaster or flood like situation upon orders of District Collector or District Magistrate.
11. Activities declared by State Government under legislations or rules as non- mining activity with concurrence of the Ministry of Environment, Forest and Climate Change, Government of India.



STANDARD ENVIRONMENTAL CONDITIONS FOR SAND MINING

Impact Category	S.No.	Environmental Conditions
Stakeholder Engagement	1	In the case of private land not owned by the lease holder an affidavit should be obtained regarding consent of the concerned land owner (s) for carrying out the mining operation.
	2	Stakeholder awareness and ability to raise concerns and getting it to be addressed.
	3	Implementation of Action Plan on the issues raised during the Public Hearing. The Proponent shall complete all the tasks as per the Action Plan submitted with the budgetary provisions during the Public Hearing.
	4	Having valid lease and all the permits is very much needed.
	5	To establish a Monitoring Committee including Local Panchayat, to check on traffic due to transportation and submit an annual report on the same.
	6	The directions given by the Hon'ble Supreme Court of India vide order dated 27.02.2012 in Deepak Kumar case [SLP(C) Nos. 19628-19629 of 2009] and order dated 05.08.2013 of the Hon'ble National Green Tribunal in application No. 171/2013 may be strictly followed.
	7	All the provisions made and restrictions imposed as covered in the Minor Mineral Rule, shall be complied with, particularly regarding Environment Management Practices and its fund management and Payment of compensation to the land owners.
Sustainable Mining Practices	8	District level Survey Report should be prepared and area suitable for mining and area prohibited for mining be identified.
	9	The depth of mining in Riverbed shall not exceed one meter or water level whichever is less, provided that where the Joint Inspection Committee certifies about excessive deposit or over accumulation of mineral in certain reaches requiring channelization, it can go up to 3 meters on defined reaches of the River.
	10	No River sand mining be allowed in rainy season.
	11	To submit annual replenishment report certified by an authorized agency. In case the replenishment is lower than the approved rate of production,



		then the mining activity / production levels shall be decreased / stopped accordingly till the replenishment is completed.
	12	Ultimate working depth shall be up to 3.0 m from Riverbed level and not less than one meter from the water level of the River channel whichever is reached earlier. In hilly terrain this depth be preferably restricted to one meter.
	13	In River flood plain mining a buffer of 3 meter to be left from the River bank for mining.
	14	In mining from agricultural field a buffer of 3 meter to be left from the adjacent field.
	15	Mining shall be done in layers of 1 meter depth to avoid ponding effect and after first layer is excavated, the process will be repeated for the next layers.
	16	To maintain safety and stability of Riverbanks i.e. 3 meter or 10% of the width of the River whichever is more will be left intact as no mining zone.
	17	No stream should be diverted for the purpose of sand mining. No natural water course and/ or water resources are obstructed due to mining operations.
	18	No blasting shall be resorted to in River mining and without permission at any other place.
	19	Depending upon the location, thickness of sand, deposition, agricultural land/Riverbed, the method of mining may be manual, semi-mechanized or mechanized; however, manual method of mining shall be preferred over any other method.
Identification and Preparation of Mining Site	20	Mining should be done only in area / stretch identified in the District Level Survey Report suitable for mining and so certified by the Sub-Divisional Level Committee after site visit.
	21	Mining should begin only after pucca pillar marking the boundary of lease area is erected at the cost of the lease holder after certification by the mining official and its geo coordinates are made available to the District Level Committee.
	22	The top soil in case of surface land mining shall be stored temporarily in an earmarked site and concurrently used for land reclamation.



Monitoring the Mining of Mineral and its Transportation	23	The EC holder shall keep a correct account of quantity of mineral mined out, dispatched from the mine, mode of transport, registration number of vehicle, person in-charge of vehicle and mine plan. This should be produced before officers of Central Government and State for inspection.
	24	For each mining lease site the access should be controlled in a way that vehicles carrying mineral from that area are tracked and accounted for.
	25	The State / District Level Environment Committee should use technology like Bar Coding, Information and Communications Technology (ICT), Web based and ICT enabled services, mobile SMS App etc. to account for weight of mineral being taken out of the lease area and the number of trucks moving out with the mineral.
	26	There should be regular monitoring of the mining activities in the State to ensure effective compliance of stipulated EC conditions and of the provisions under the Minor Mineral Concessions Rules framed by the State Government.
Noise Management	27	Noise arising out of mining and processing shall be abated and controlled at source to keep within permissible limit.
	28	Restricted working hours. Sand mining operation has to be carried out between 6 am to 7 pm.
Air Pollution and Dust Management	29	The pollution due to transportation load on the environment will be effectively controlled and water sprinkling will also be done regularly.
	30	Air Pollution due to dust, exhaust emission or fumes during mining and processing phase should be controlled and kept in permissible limits specified under environmental laws.
	31	The mineral transportation shall be carried out through covered trucks only and the vehicles carrying the mineral shall not be overloaded. Wheel washing facility should be installed and used.
Management of Visual Impact	32	The mining operations are to be done in a systematic manner so that the operations shall create a major visual impact on the site.
Bio-Diversity Protection	33	Restoration of flora affected by mining should be done immediately. Twice the number of trees destroyed by mining to be planted preferably of indigenous species. Each EC holder should plant and maintain for lease period at least 5 trees per hectare in area near lease.
	34	No mining lease shall be granted in the forest area without forest clearance in accordance with the provisions of the Forest Conservation Act, 1980 and the rules made thereunder.



	35	Protection of turtle and bird habitats shall be ensured.
	36	No felling of tree near quarry is allowed. For mining lease within 10km of the National Park / Sanctuary or in Eco-Sensitive Zone of the Protected Area, recommendation of Standing Committee of National Board of Wild Life (NBWL) have to be obtained as per the Hon'ble Supreme Court order in I.A. No. 460 of 2004.
	37	Spring sources should not be affected due to mining activities. Necessary Protection measures are to be incorporated.
Management of Instability and Erosion	38	Removal, stacking and utilization of top soil in mining are should be ensured. Where top soil cannot be used concurrently, it shall be stored separately for future use keeping in view that the bacterial organism should not die and should be spread nearby area.
	39	The EC should stipulate conditions for adequate steps to check soil erosion and control debris flow etc. by constructing engineering structures
	40	Use of oversize material to control erosion and movement of sediments
	41	No overhangs shall be allowed to be formed due to mining and mining shall not be allowed in area where subsidence of rocks is likely to occur due to steep angle of slope.
	42	No extraction of stone / boulder / sand in landslide prone areas.
	43	Controlled clearance of riparian vegetation to be undertaken
Waste Management	44	Site clearance and tidiness is very much needed to have less visual impact of mining.
	45	Dumping of waste shall be done in earmarked places as approved in Mining Plan.
	46	Rubbish burial shall not be done in the Rivers.
Pollution Prevention	47	The EC holder shall take all possible precautions for the protection of environment and control of pollution.
	48	Effluent discharge should be kept to the minimum and it should meet the standards prescribed.
Protection of Infrastructure	49	Mining shall not be undertaken in a mining lease located in 200-500 meter of bridge, 200 meter upstream and downstream of water supply / irrigation scheme, 100 meters from the edge of National Highway and railway line, 50 meters from a reservoir, canal or building, 25 meter from the edge of State Highway and 10 meters from the edge of other



		roads except on special exemption by the Sub-Divisional level Joint Inspection Committee.
	50	For carrying out mining in proximity to any bridge or embankment, appropriate safety zone (not less than 200 meters) should be worked out on case to case basis, taking into account the structural parameters, location aspects and flow rate, and no mining should be carried out in the safety zone so worked out.
	51	Mining activities shall not be done for mine lease where mining can cause danger to site of flood protection works, places of cultural, religious, historical, and archeological importance.
Enhancement Road Safety	52	Vehicles used for transportation of sand are to be permitted only with of fitness and PUC Certificates.
	53	Junction at takeoff point of approach road with main road be properly developed with proper width and geometry required for safe movement of traffic by concession holder at his own cost.
	54	Project Proponent shall ensure that the road may not be damaged due to transportation of the mineral; and transport of minerals will be as per IRC Guideliness with respect to complying with traffic congestion and density.
	55	No stacking allowed on road side along National Highways.
Closure and Reclamation of Mined Out Area	56	The Project Proponent shall undertake phased restoration, reclamation and rehabilitation of land affected by mining and completes this work before abandonment of mine.
	57	Restoration, reclamation and rehabilitation in cluster should be done systematically and jointly by each EC holder in that cluster. This should be appropriately reflected as EC condition in each EC in cluster.
	58	Site specific plan with eco-restoration should be in place and implemented.
Health and Safety	59	Health and safety of workers should be taken care of.
	60	Transport of mineral will not be done through villages / habitations.
	61	The Project Proponent shall make arrangement for drinking water, first aid facility (along with species specific anti-venom provisioning) in case of emergency for the workers.



	62	Project Proponent shall implement the Disaster Management Plan if the mine lease area is located in Seismic Zone-IV. Project Proponent shall appoint a Committee to have a check over any disaster to warn workers well before for the safety of the workers. Emergency helpline number will be displayed at all levels.
	63	Project Proponent shall appoint an Occupational Health Specialist for Regular and Periodical medical examination of the workers engaged in the Project and records maintained; also, Occupational health check-ups for workers having some ailments like BP, diabetes, habitual smokers, etc. shall be undertaken once in six months and necessary remedial/preventive measures taken accordingly. Recommendations of National Institute for Labour for ensuring good occupational environment for mine workers would also be adopted.
Monitoring the Impact of Mining	64	The Project Proponent shall report monitoring data on replenishment, traffic management, levels of production, River Bank erosion and maintenance of Road etc.
Mineral Conservation	65	Use of alternate material such as M-sand in place of natural River sand shall be encouraged in order to reduce stress on natural eco-system.



APPENDIX: TABLE - 1

REVENUE FROM SAND MINING IN STATES / UTs

(Rs. in crores)

Sl.No.	STATE / U.T	2012 - 2013	2013 - 2014	2014 - 2015
01	Andaman & Nicobar	0.073	0	0
02	Arunachal Pradesh	7	8	5
03	National Capital Territory of Delhi	0	0	
04	Himachal Pradesh	0.70	0.35	0.07
05	Jharkhand	4.25	3.04	0.07
06	Karnataka	23.74	15.33	25.99
07	Madhya Pradesh	184.93	179.41	172.53
08	Meghalaya	14.50	15.88	15.50 (as forest royalty from govt. contractors)
09	Mizoram	0.018	0.0475	0.0861
10	Puducherry	0.80	0.20	0.03
11	Rajasthan	173.36	252.06	134
12	Tamil Nadu	188.50	117.73	109.10
13	Uttar Pradesh	97.27	166.45	168.38

* States/UTs not mentioned have not provided the data.



APPENDIX: TABLE - 2

NUMBER OF MINING LEASES IN STATE

Sl.No.	STATE / U.T	In stream	Flood Plain	Sea Shore	Agricultural field	River	Total
01	Andaman & Nicobar						Nil
02	Andhra Pradesh						Nil
03	Haryana	5	12		7		31
04	Jammu & Kashmir					650	650
05	Jharkhand	10				387	397
06	Lakshadweep					1090	1090
07	Manipur						NIL
08	Meghalaya						NIL
09	Odisha						NIL
10	Punjab	2 + 80 Temporary Working Permit				73	155
11	Sikkim		85				85
12	Tripura	21	244		5		270

* States/UTs not mentioned have not provided the data.



APPENDIX: TABLE - 3

**AVERAGE SIZE OF SAND MINING LEASES IN
STATE / UT: 2014-15**

(In Hectare)

Sl.No.	STATE / U.T	AVERAGE SIZE	SMALLEST MINING LEASE AREA	LARGEST MINING LEASE AREA
01	Andaman & Nicobar	NOT APPLICABLE		
02	Arunachal Pradesh	ONLY MINING PERMITS		
03	Himachal Pradesh	1.20	0.25	4.09
04	Jharkhand	0.25	0.13	87.38
05	Karnataka	5	5	19.42
06	Madhya Pradesh	8.52	0.30	306.98
07	Meghalaya	Mostly < 1.5 ha.		
08	Mizoram	NA		
09	Puducherry	NA		
10	Rajasthan	2 5 in Bikaner	24.82 2 in Bikaner	1901.89 5 in Bikaner
11	Tamil Nadu	29 leases < 10 ha.	14 leases of 10 - 15 ha.	42 leases > 15 ha.
12	Uttar Pradesh	25	5	200

* States/UTs not mentioned have not provided the data.

**APPENDIX: TABLE - 4**
**AVERAGE PERIOD OF SAND MINING
LEASES IN STATE / UT**

(In Hectare)

Sl.No.	STATE / U.T	AVERAGE MINING LEASE PERIOD (YEARS)
01	Andaman & Nicobar	Not Applicable
02	Arunachal Pradesh	Only mining permit is given
03	Himachal Pradesh	5
04	Jharkhand	3
05	Karnataka	2
06	Madhya Pradesh	5 to 10
07	Meghalaya	No lease in operation currently
08	Mizoram	No mining lease in operation currently
09	Puducherry	One year permit
10	Rajasthan	5 20-30 years in Bikaner
11	Tamil Nadu	3
12	Uttar Pradesh	3

* States/UTs not mentioned have not provided the data.



APPENDIX: TABLE - 5

COMMON METHOD AND PRACTICE OF SAND MINING IN STATE / UT

Sl.No.	STATE / U.T	COMMON METHOD AND PRACTICE OF SAND MINING
01	Andaman & Nicobar	<ol style="list-style-type: none"> 1. The Apex Court in its order dated 7.5.2002 in I.A. No. 502 in WP (C) No. 202 of 1995, had directed that extraction of sand be phased out @ minimum 20% per year on reducing balance basis to bring the sand mining to a level of 33% of the present level of mining within a maximum period of five years. 2. Since the level of extraction of sand in the territory in the year 2001-02 i.e. the base year, was 68909 cubic meter, the quantity of extractable sand is fixed at 22581 cubic meter. 3. The quantity of sea sand so allowed by MoEF is extracted from the identified and approved sites having such deposits on the sea beaches (identified accreting area) with adequate environmental safeguards so as to prevent any damage to the sensitive coastal eco-system including corals, turtle/ bird nesting sites and the protected areas. 4. The allotment of sea sand is made to the individuals by the Sand Allotment Committee constituted by the Lieutenant Governor under the Chairmanship of Chief Secretary who also heads the A&N CZMA. The quantum of sea sand allotted is fixed by the Committee on the basis of availability of sea sand and the number of applicants (local) applied for their bonafide use.
02	Arunachal Pradesh	<ol style="list-style-type: none"> 1. Mining of sand restricted to foothills only that too for a very short period. Grant of mining lease is kept in abeyance, short term mining permits are issued to various Central and State agencies for carrying out developmental works under the strict supervision of the departmental officers.

* States/UTs not mentioned have not provided the data.



Sl.No.	STATE / U.T	COMMON METHOD AND PRACTICE OF SAND MINING
03	Himachal Pradesh	Manual. The mining lease areas are sanctioned on the river bed if the area is approved in survey document. The mining activities are allowed strictly in accordance with the approved working cum Environment Management Plan and after the environment clearance.
04	Jharkhand	Manual
05	Karnataka	Manual
06	Madhya Pradesh	Manual
07	Meghalaya	Hill quarrying in private areas
08	Mizoram	Extraction of sand limited mainly for domestic purpose in the state. The produce extracted illegally is seized as per the Mizoram Forest Act, 1955. Mining is only limited to river banks and riverbeds with improvised equipments like spade, shovel, small canoes, etc.
09	Puducherry	Manual
10	Rajasthan	In Rajasthan sand is available in seasonal streams and rivers except Chambal which is perennial but mining is banned because of Chambal Crocodile Sanctuary. Mining is done up to 3 meters and is open cast. It is filled in trucks either manually or semi mechanized method. In Bikaner no river exists and mining for sand is being done from palaeo-channel. In this palaeo-channel the sand deposit occurs at the depth of 5 meter to 20 meter below ground level with an over burden of 5 to 20 meters. The mining here is done open cast benching method, where overlying blown sand, gravel, pebble etc. is removed, the sand is further sieved, graded and washed upto 12 to 18 mesh size.
11	Tamil Nadu	Manual mining is carried out in certain quarries. In most of the sand quarries two poclains are used by the PWD.
12	Uttar Pradesh	Manual and Semi-mechanised

* States/UTs not mentioned have not provided the data.



APPENDIX: TABLE - 6

**SUGGESTIONS / RECOMMENDATIONS FROM STATES / UTs
FOR ENVIRONMENTALLY SUSTAINABLE SAND MINING**

Sl.No.	STATE / U.T	SUGGESTIONS / RECOMMENDATIONS FOR ENVIRONMENTALLY SUSTAINABLE SAND MINING
01	Andaman & Nicobar	The quantum of extractable sand fixed at 22581 cubic meter should be enhanced. This limit has been fixed by the orders of Hon'ble Supreme Court subject to study by National Institute of Oceanography.
02	Arunachal Pradesh	<ol style="list-style-type: none"> 1. For environmentally sustainable sand mining a strict and comprehensive sand mining policy need to be framed. 2. River sand is becoming a scarce commodity and hence exploring alternative to it has become imminent. Manufactured sand is a good alternative both for fine as well as coarse sand used in concrete. 3. Sand mining should be restricted to surface collection only without the use of heavy machinery. 4. Due to turbulent and inaccessible nature of rivers flowing in the hilly terrains of the state, deposition of the sand in the river bed is very negligible and except for few quarries in the foothills and plains, most of the notified quarries are boulders and mining of sand is very negligible. 5. In view of environment related issues the grant of mining lease for river bed minor mineral viz. sand, gravel, shingle, aggregate, boulder are kept in abeyance and extraction of these minerals is regulated only by grant of mining permits, that too not exceeding 3000 cubic meter in one permit. 6. For scientific mining of sand and other minor minerals Guideliness has been prepared and accordingly Geo-Technical Committee has been constituted under the chairmanship of ADC/SDO in the district level to determine the quantity of quarriable mineral that can be safely removed and also to give technical clearance for notification of quarries of smaller size, preferably within one hectare.
03	Chhattisgarh	<ol style="list-style-type: none"> 1. While attempting to prepare a model Guidelines / policy for the country, the differences that exist in different states may be taken into account. It may be tried to take all stakeholders along.

* States/UTs not mentioned have not provided the data.



Sl.No.	STATE / U.T	SUGGESTIONS / RECOMMENDATIONS FOR ENVIRONMENTALLY SUSTAINABLE SAND MINING
		<p>2. To ease the process of EC granting, SEIAA may have benches across the State with each bench having a SEAC under it. Time bound clearance with ease of access and grant.</p> <p>3. Sand mining with use of machinery should be allowed.</p> <p>4. Road construction material like murrum should be exempted from EC considering their local / pocket occurrences and impossibility of obtaining EC.</p> <p>5. Considering the traffic issue at urban areas and to reduce intermediaries like storage point dealers, night mining with adequate lighting should be allowed.</p> <p>6. To make the availability of sand from local rivulet / streams the river bank to in-stream mine area distance should be reduced from 10 meter to 3 meters.</p>
04	NCT of Delhi	<p>1. Location of sand mining should be identified by a committee comprising of revenue deptt., Irrigation Deptt., CGWB, SPCB, Forest Department and mining department. Mining area should distinctly be marked at site, before allowing mining.</p> <p>2. Depth of mining should be restricted to 3 mtrs or water level, whichever is less and that to from aggradation areas. The side slope of excavation should be less than 3:1.</p> <p>3. Requirement of sand and gravel should be reduced by utilization of construction and demolition waste. It requires not only legislative support but also awareness campaign among the society.</p> <p>4. Guidelines should be distinctly clear and easy to understand covering do's and don't during mining operation.</p> <p>5. Sufficient safe distance should be left between mining site and adjoining engineering structures like embankment, spurs, bed bars, bridges, reservoir and regulator etc.</p> <p>6. Security amount should be sufficient enough to compel the agency to carry out rehabilitation, corrective measures and to ensure strict compliance of conditions of lease. S.D. should be released after inspection of committee and recording of certificate that agency complied with the lease conditions.</p> <p>7. Mining may be carried out by state agency instead of private agencies.</p>

* States/UTs not mentioned have not provided the data.



Sl.No.	STATE / U.T	SUGGESTIONS / RECOMMENDATIONS FOR ENVIRONMENTALLY SUSTAINABLE SAND MINING
05	Himachal Pradesh	1. Working cum Environment Management Plan has been made mandatory. The mining activities are allowed after submission of environment clearance.
		2. In compliance of order of Hon'ble Supreme Court dated 27.02.2012 in Deepak Kumar case, the Himachal Pradesh has repealed its rules called the Himachal Pradesh Minor Mineral (Concession) and Mineral (Prevention of illegal mining, transportation and Storage) Rule, 2015 in accordance to the recommendation of the Ministry of Environment & Forest and rules circulated by the Ministry of Mines. Hence the State of Himachal Pradesh has complied with the above directions of the Hon'ble Apex Court,
		3. Therefore the condition of applicability of Environment Clearance on the area less than 5 hectare shall be exempted.
		4. Further keeping in view, the peculiar topography, geography and socio-economic fabric of the State, the condition for the minimum size of the lease should be exempted as the rivers are in youth stage forming different land forms, land holdings are less, population is thin and scattered and the demand of minor mineral is limited, which could be met out locally by exploiting local resources on the small scale.
06	Jammu & Kashmir	1. Uniform Guidelines be framed for sand mining and river bed mining as they cannot be segregated.
		2. Identification of sand belts be made in consultation with CGWB and while framing Guideliness CGWB may be taken on board.
		3. Sand mining leases less than 5 hectare be exempted from EC and comprehensive policy may be made for hilly states for easing the process of grant of lease.
07	Jharkhand	1. Machine should not be used in sand mining. Only manual mining should be done.
		2. The depth of mining shall be restricted to 3 meter / water level whichever is less.
		3. No mining should be carried out in proximity of any bridge / embankment.
		4. In-stream mining should not be allowed.
		5. Mining should be done in accordance with an approved mining plan.

* States/UTs not mentioned have not provided the data.



Sl.No.	STATE / U.T	SUGGESTIONS / RECOMMENDATIONS FOR ENVIRONMENTALLY SUSTAINABLE SAND MINING
		6. EC should be valid for settlement period subject to ceiling of five years.
08	Karnataka	<p>1. Undertaking sand mining activity through a Government agency to be governed by District Level Sand Monitoring Committee headed by Deputy Commissioner.</p> <p>2. The area should be properly surveyed and mapped with the help of GPS to assign geo coordinates and accordingly erect boundary pillars so as to avoid illegal and unscientific mining.</p> <p>3. Depth of sand available may be indicated in a contour map using suitable drilled holes to ensure sand mining do not exceed one meter depth.</p> <p>4. Once thickness is established sand mining may be permitted to one meter depth where the thickness of sand is more than three meter deep. If the thickness of sand is less than three meter, sand mining shall not be permitted.</p> <p>5. Sufficient spacing shall be ensured from one block to another block and sufficient time gap shall be provided for replenishment before undertaking mining activity in the same block.</p> <p>6. Mining activity shall be restricted to only non-monsoon season and in the area that is exposed.</p> <p>7. No in-stream mining shall be permitted.</p> <p>8. No stream should be diverted for the purpose of sand mining. No natural water course and/ or water resources are obstructed due to mining operations.</p> <p>9. Site specific plan with eco-restoration should be in place.</p> <p>10. Sand mining shall be undertaken only by manual method without use of earth moving equipment such as JCB etc. Use of mechanized boats for sucking sand from in-stream area shall be strictly prohibited.</p> <p>11. Appropriate safety zones shall be maintained in proximity to any bridge / and / or embankment and other permanent structures. No sand mining shall be undertaken in such safety / buffer zones. Guideliness issued by the Ministry of Mines in this regard shall also be adhered to.</p> <p>12. The quarrying activity shall not intersect subterranean water level and ground water table.</p>

* States/UTs not mentioned have not provided the data.



Sl.No.	STATE / U.T	SUGGESTIONS / RECOMMENDATIONS FOR ENVIRONMENTALLY SUSTAINABLE SAND MINING
		13.The top soil in case of surface land mining shall be stored temporarily in an earmarked site and concurrently used for land reclamation.
		14.Use of alternate material such as M-sand in place of natural river sand shall be encouraged in order to reduce stress on natural eco-system.
09	Madhya Pradesh	1. Geographical location of the state should be taken care of.
		2. Keep provision for extraction of sand from forest areas.
		3. Expedite the EC process.
		4. In inter-state boundary leases sand mining EC be giver by the SEIAA.
		5. Clear Guidelines for B-1, B2 be issued.
		6. Simplify cluster cases.
		7. Exempt mining leases of less than 5 hectare from EC.
10	Meghalaya	1. No sand mining within 3 kilometer from Protected area and Reserved Forest area.
		2. Advance royalty etc for entire quantity of mineral be realized in full.
		3. Only loose boulder and sand are allowed to be removed from the mid river stream leaving 15 meter on either side untouched.
		4. No collection of sand is allowed on 15 meter of either side of structures like bridge, culvert etc.
		5. No blasting allowed.
		6. No extraction of stone / boulder / sand in landslide prone areas.
		7. No stacking allowed on road side along national highways.
		8. No felling of tree near quarry is allowed.
		9. No transportation of forest produce (sand from forest area) is allowed after sunset.
		10.Export fee realized if sand is sent outside the state.
		11.Stone crusher cannot be installed without permission of DFO.
		12.Tree should be planted at quarry after completion of mining.
		13.Violation of above conditions will result in cancellation of permit and forfeiture of advance royalty already paid.
11	Mizoram	1. Extraction of sand from the forest may be permitted strictly as per mining plan approved by the Competent Authority and after getting necessary clearance under various acts related to the forest and environment.

* States/UTs not mentioned have not provided the data.



Sl.No.	STATE / U.T	SUGGESTIONS / RECOMMENDATIONS FOR ENVIRONMENTALLY SUSTAINABLE SAND MINING
12	Odisha	1. EC may be exempted for leases less than 5 hectare.
		2. EC should not be required for earth mining.
		3. Minor minerals even close to inter-state borders should be allowed to be cleared by the SEIAA.
		4. In case a river is forming boundary of states and mechanized mining of sand is causing tension in states it should be resolved at the national level.
13	Puducherry	1. Environment Clearance is issued by SEIAA, Puducherry strictly under the provisions of the EIA Notification, 2006 and subsequent amendments.
14	Rajasthan	1. The bajari mined out from river bed is filled back by the river itself during the next rainy season. So, nature itself reclaims the mined out area every year. The formation of bajari is a natural process in the river and it is also essential to remove bajari from the river bed to avoid silting. If the sand deposited in the river bed is not removed, it may cause change of river course and may also results in flood plains will be developed.
		2. Price control system adopted in Rajasthan. Sand is a essential commodity.
		3. The depth of mining should be restricted to 3 meters or above water table.
		4. Machinery having boom height more than 3 meter shall not be allowed in extraction of bajari.
		5. Size of mining leases be allowed below 5 hectare.
		6. In streams with low deposit of sand and if use is mostly local no mechanized mining should be allowed and EC should not be required.
		7. In larger deposits there should be semi-mechanised mining with EC.
		8. The sand (river and stream) in different categories, with their availability, use and size of the deposit. Category A: Small deposits in river and stream where thickness of sand bed is very less and sand is used locally in villages and towns only and no mechanical mining is done, in such areas restriction of obtaining Environment Clearance can be relaxed for manual mining.

* States/UTs not mentioned have not provided the data.



Sl.No.	STATE / U.T	SUGGESTIONS / RECOMMENDATIONS FOR ENVIRONMENTALLY SUSTAINABLE SAND MINING
		<p>Category B: Large deposits, where in rivers and streams having thickness of sand bed is medium to large, sand mining, shall be allowed with semi mechanized manner after obtaining Environment Clearance.</p> <p>Bikaner District: Bikaner district is a desert terrain where ground water table is very deep. Bajari is excavated above water table and it does not affect the water table. In addition to this boulder, gravel and waste generated due to bajari mining is used in reclamation of pits. Hence environment is not adversely affected due to bajari mining.</p>
15	Sikkim	<ol style="list-style-type: none"> 1. Forest department is the nodal department for sand and stone extraction from the riverbed. 2. Use of machines is prohibited. 3. Quarrying sites are allotted to village youth cooperatives. 4. For bigger companies quarry sites in forest area are allotted after FC. 5. State Government has considerations for allotment of quarries for Border Road Organization and MoD. 6. GoI can monitor mining in states through GIS.
16	Tamil Nadu	<ol style="list-style-type: none"> 1. Excess sand deposits identified in the flood plains and in-stream areas only to be mined in order to safeguard and maintain ground water table. 2. Sand mining operation has to be carried out between 6 am to 7 pm. 3. Mining operation should be carried out in a systematic manner without affecting environment and ecology of the area.
17	Uttar Pradesh	<ol style="list-style-type: none"> 1. Depth of mining cannot be more than 3 meter or water table whichever is less. 2. Mining can be done in slices forming benches where bench height cannot be more than 1 meter and bench width cannot be less than 10 meter. 3. A width of not less than 50 meter or 10% width of river can be restricted for mining activities from river bank. A condition can be imposed that mining will be done from river activities from river bank. 4. SEIAA should be decentralized to expedite EC process. It can be decentralized to district or zonal level.

* States/UTs not mentioned have not provided the data.



Sl.No.	STATE / U.T	SUGGESTIONS / RECOMMENDATIONS FOR ENVIRONMENTALLY SUSTAINABLE SAND MINING
		5. Make EC conditions practical.
		6. Requirement of mining plan in river bed mining be done away with.
		7. There should not be requirement of EC for short term permit.
		8. The quantity of sand should not be fixed in EC as it leads to loss in revenue and illegal mining.
		9. Semi-mechanised form of sand mining be allowed.
		10. Sand mining to be exempted from EC as it takes 6-8 months and environment department do not have requisite work force to enforce EC conditions. A Guidelines for environmentally sustainable sand mining be framed and it can be complied by imposing it in the lease condition.
18	Uttarakhand	1. Area less than 5 hectare be exempted from EC.
		2. Use of machine be allowed for scientific mining and reducing the cost of production.
		3. RBM deposition in the lease should not be fixed for the entire lease period. RBM in lease area be assessed after rains every year.
		4. 70% of leases in state not operating for want of EC and these vacant lots are source of illegal mining.

* States/UTs not mentioned have not provided the data.



APPENDIX: TABLE - 7

**BEST PRACTICE OF SAND MINING ADOPTED IN
DISTRICT / STATE / UT**

Sl.No.	STATE / U.T	DESCRIPTION OF BEST PRACTICES
01	Andaman & Nicobar	Institute of Ocean Management has been entrusted the task of identification of sand accreting sites.
02	Arunachal Pradesh	Mining of sand is restricted to foothills only that too for a very short period.
03	National Capital Territory of Delhi	In Delhi sand mining lease is granted by Revenue department. NOC from I&FC Deptt. Were issued with condition of limitation of depth, area of mining, operation timing limitation and limited period of NOC. Compliance of laid down conditions and monitoring is ensured by collector.
04	Himachal Pradesh	<ol style="list-style-type: none"> 1. The mining activities on river beds are allowed strictly as per the provisions of river / stream bed mining policy as under. 2. No river / stream bed mining shall be allowed without the recommendation of the Sub Divisional Level Committee constituted under the Chairmanship of Sub Divisional Magistrate having XEN PWD, Irrigation and Public Health, SPCB, DFO and Mining Officer as its member. 3. Nor river / stream bed mining shall be allowed within 75 meter from the periphery of soil conservation works, nursery plantations, check dams or within the distance as recommended by the Sub-Divisional Committee whichever is more. 4. No river / stream bed mining shall be allowed within 1/10th of its span or 5 meters from the banks or as specified by the Sub-Divisional Level Committee, whichever is more. 5. Nor river / stream bed mining shall be allowed within 200 meters upstream and downstream of water supply scheme or as specified by the Committee whichever is more. 6. Nor river / stream bed mining shall be allowed within 200 meters upstream and 200 to 500 meters downstream of bridges depending upon the site specific conditions.

* States/UTs not mentioned have not provided the data.



Sl.No.	STATE / U.T	DESCRIPTION OF BEST PRACTICES
		<p>7. No approach road from PWD road shall be allowed to lease area unless lessee / contractor obtains written permission from XEN, PWD for making road leading to all intake places from the PWD road.</p> <p>8. No boulders/ cobbles/ hand broken road ballast shall be allowed to be transported outside the State from river/stream beds.</p> <p>9. No digging for more than 3 feet shall be allowed in river/ stream beds.</p> <p>10.No blasting shall be allowed in river/stream beds.</p>
05	Madhya Pradesh	1. In some districts the Cooperative Societies of Labour are doing the sand collection, loading and unloading work.
06	Tamil Nadu	Permission has been granted in favour of PWD for quarrying sand in the river Poramboke lands in 16 districts in the state of Tamil Nadu. Sand mining is being carried out by the PWD in the entire State.
07	Uttar Pradesh	U.P. Minor Mineral Concession Rules, 1963.

* States/UTs not mentioned have not provided the data.



APPENDIX: TABLE - 8

**STATUS OF PROMULGATION OF RULE ON SAND MINING
IN THE STATE / UT**

Sl.No.	STATE / U.T	NAME OF RULE WITH YEAR OF PROMULGATION
01	Andaman & Nicobar	Indian Forest Act, 1927 as sand has been included as forest produce.
02	Arunachal Pradesh	APMMCR 2002 and made effective from 1.01.2003
03	Himachal Pradesh	1. River/Stream bed Mining Policy-2004. 2. Himachal Pradesh Minor Mineral Policy-2013. 3. Himachal Pradesh Minor Mineral (Concession) and Mineral (Prevention of illegal mining, transportation and storage) Rule, 2015.
04	Jharkhand	Rule 12 of Jharkhand Minor Mineral Concession (Amendment) Rule 2014.
05	Karnataka	Karnataka Sand Policy was brought out in the year 2011 and as such amendment to the Karnataka Minor Mineral Concession Rule 1994 were made in the year 2011 and a separate chapter IV B for sand mining was introduced under Rule 31-R. Further, as per the Hon'ble Supreme Court orders sated 27.02.2012 in SLP No. 19628-19629 between Deepak Kumar and State of Haryana and others and as per the model Guideliness issued by the Government of India for Environmental Management of Mining of Minor Minerals, amendment to the Karnataka Minor Mineral Concessions Rule 1994 were brought out on 16.12.2013 incorporating a new chapter II A applicable to all minor minerals on Systematic, Scientific Mining and Protection of Environment, wherein Quarrying Plan, Environmental Management Plan and Environment Clearance was made mandatory. Amendments to Rule 31- R were also made wherein the Government, PWD Department was entrusted with sand mining, storage and transportation, under the District Sand Monitoring Committee and Taluk Sand Monitoring Committee.
06	Madhya Pradesh	Rules have been framed as per the orders of Hon'ble Supreme Court for sand mining under M.P. Minor Mineral Rules 1996 and Sand Mining Policy 2015 is also formulated in the State.

* States/UTs not mentioned have not provided the data.



Sl.No.	STATE / U.T	NAME OF RULE WITH YEAR OF PROMULGATION
07	Meghalaya	No rules notified by the state on sand mining
08	Mizoram	Mizoram Forest Act, 1955, which came into force on 1.01.1956.
09	Puducherry	Puducherry Minor Minerals (Concession) Rules, 1977.
10	Rajasthan	RMMCR, 1986 Notification dated 2.11.2012: 1. First proviso of Rule 8(2) and first proviso of 17 (1) - Renewal of Bajari Mining Leases is not allowed. 2. Rule 16 (3) - Mining Leases of Bajari to be granted for 5 years. 3. Rule 18 (18) - Part surrender of lease area of Bajari not allowed. Notification dated 3.4.2013 - (First proviso Rule 7 (1)- Mining leases of Bajari to be granted only by way of tender or auction. Notification dated 12.07.2013 - (First proviso Rule 11 (2)) - Maximum area limit of 10 sq. km. not applicable for Bajari Mining Leases. Bikaner District: Chapter II of RMMCR, 1986 (last amended 12.07.2013).
11	Sikkim	Sikkim Forest (Allotment of Areas for Quarrying of Sand and Stone), 2006.
12	Tamil Nadu	1. As per G.O. Ms. No. 95 Industries (MMCI) Department dated 1.10.2003, a new Rule 38 A has been introduced in the Tamil Nadu Minor Mineral Concession Rules, 1959. Accordingly quarrying and sale of sand is being carried out by PWD in the state of Tamil Nadu since October 2003. 2. As per G.O. Ms. No. 158 Industries (MMIC) Department dated 25.08.2008, a new Rule 38 B has been introduced in the Tamil Nadu Minor Mineral Concession Rules, 1959. Accordingly transportation of sand outside the state not to be made. To regulate storage and transportation of sand a new Rule 38 C B has been introduced in the Tamil Nadu Minor Mineral Concession Rules, 1959 vide G.O. No. 32 Industries (MMIC) Department dated 11.02.2011.

* States/UTs not mentioned have not provided the data.

**APPENDIX: TABLE -9****NORMAL DATES OF ONSET AND WITHDRAWAL OF SOUTH-WEST MONSOON**

The India Meteorological Department, Nagpur, vide letter No. NAGPUR RMC /CS-312, dated 18th January, 2016 has provided the period of Rainy Season viz. Normal dates of Onset and Withdrawal of Southwest Monsoon over India as state-wise and union territory- wise which are as below:-

States	Normal date of Onset of SW-Monsoon	Normal date of Withdrawal of SW-Monsoon
Andhra Pradesh	1st June	15th October
Arunachal Pradesh	5th June	15th October
Assam	5th June	15th October
Bihar	10th June	15th October
Chhattisgarh	10th June	15th October
Goa	5th June	15th October
Gujarat	15th June	15th September
Haryana	1st July	15th September
Himachal Pradesh	1st July	15th September
Jammu & Kashmir	1st July	15th September
Jharkhand	10th June	15th October
Karnataka	5th June	15th October
Kerala	1st June	15th October
Madhya Pradesh	15th June	1st October
Maharashtra	10th June	1st October
Manipur	1st June	15th October
Meghalaya	1st June	15th October
Mizoram	1st June	15th October
Nagaland	5th June	15th October
Odisha (Orissa)	5th June	15th October
Punjab	1st July	15th September
Rajasthan	1st July	1st September
Sikkim	5th June	15th October
Tamil Nadu	1st June	15th October
Telangana	5th June	15th October
Tripura	1st June	15th October



States	Normal date of Onset of SW-Monsoon	Normal date of Withdrawal of SW-Monsoon
Uttar Pradesh	15th June	1st October
Uttarakhand	15th June	1st October
West Bengal	10th June	15th October
Union territory	Normal date of Onset of SW-Monsoon	Normal date of Withdrawal of SW-Monsoon
Andaman and Nicobar Islands	20th May	15th October
Dadra and Nagar Haveli	10th June	1st October
Daman and Diu	10th June	1st October
Lakshadweep	1st June	15th October
Delhi	1st July	15th September
Puducherry	1st June	15th October

Note: The District Environment Impact Assessment Authority (DEIAA) in consultation with District Expert Appraisal Committee (DEAC) can make necessary changes as per local meteorological variations in this period of rainy season with respect to prohibition of River Sand Mining in the District.

ENSURING SUSTAINABLE SAND MINING FOR SUSTAINABLE DEVELOPMENT

A Major Initiative of Ministry of Environment, Forest and Climate Change for ensuring Environmentally Sustainable Sand Mining and Prevention of illegal Sand Mining.

{Notification No: SO No. 141 (E) dated 15.01.2016 and S.O. No. 190 (E) dated 20.01.2016 available at www.envfor.nic.in}

- ◆ Use of Satellite imagery to decide the site suitable for mining and quantity of sand which can be mined.
- ◆ Transit permit with tamper proof security features and tracking of mined out mineral.
- ◆ Monitoring of mined out mineral to prevent mining in excess of environmental clearance capacity.

- ▶ Delegation of power to grant environmental clearance for sand mining to an authority headed by District Magistrate.

- ▶ Intergration of power with District Authorities to grant environmental clearance and prevent illegal mining.



Note : Any information of mining without environmental clearance or against the norms prescribed in these notifications be reported at e-mail id: sandmining-moef@gov.in

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Enforcement & Monitoring Guidelines for Sand Mining



Ministry of Environment, Forest and Climate change

January, 2020

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1.0 INTRODUCTION

The Ministry of Environment Forest & Climate Change formulated the Sustainable Sand Management Guidelines 2016 which focuses on the Management of Sand Mining in the Country. But in the recent past, it has been observed that apart from management and systematic mining practices there is an urgent need to have a guideline for effective enforcement of regulatory provision and their monitoring.

Section 23 C of MMDR, Act 1957 empowered the State Government to make rules for preventing illegal mining, transportation and storage of minerals. But in the recent past, it has been observed that there was large number of illegal mining cases in the Country and in some cases, many of the officers lost their lives while executing their duties for curbing illegal mining incidence. The illegal and uncontrolled illegal mining leads to loss of revenue to the State and degradation of the environment.

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

Use of latest remote surveillance and IT services helps in effective monitoring of the sand mining activity in-country and also assist the government in controlling the illegal mining activity in the country. Thus, there is a need for an effective policy for monitoring of sand mining in the Country which can be enforced on the ground. These guidelines focus on the effective monitoring of the sand mining since from the identification of sand mineral sources to its dispatch and end-use by consumers and the general public. Further, the effective monitoring and enforcement require efforts from not only Government agencies but also by consumers and the general public.

It is the responsibility of every citizen of India to protect the environment and effective monitoring can only be possible when all the stakeholders viz. Central Government, State Government, Leaseholders/Mine Owners, Distributors, Dealers, Transporters and Consumers (bulk & retail) will contribute towards sustainable mining, and comply with all the statutory provisions. It is felt necessary to identify the minimum requirements across all geographical region to have a uniform protocol for monitoring and enforcement of regulatory provision prescribed for sustainable sand and gravel mining.

This document will serve as a guideline for collection of critical information for enforcement of the regulatory provision(s) and also highlights the essential infrastructural requirements necessary for effective monitoring for Sustainable Sand Mining.

The document is prepared in consideration of various orders/directions issued by Hon'ble NGT in matters pertaining to illegal sand mining and also based on the reports submitted by expert committees and investigation teams.

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

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, 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.

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 & ENFORCEMENT

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 proving funds for river auditing. The Central Govt. (Ministry of Mines) may also explore the possibilities for providing the funds for river auditing. The other option is that State Govt. may conduct such studies by its own fund and the same may be recovered from the leaseholders to whom the mining lease will be allocated.

- c) District Survey Report is to be prepared in such a way that it not only identifies the mineral-bearing area but also define the mining and no mining zones considering various environmental and social factors.
- d) Identification of the source of Sand & M-Sand. The sources may be from Rivers, Lakes, Ponds, Dams, De-silting locations, Patta land/Khtedari lands. The details in case of Rivers such as [name, length of river, type (Perennial or Non-Perennial), Villages, Tehsil, District], in case of Lakes, Ponds, Dams, De-silting locations [Name, owned/maintained by (State Govt./PSU), area, Villages, Tehsil, District] in case of Patta land/Khtedari lands [Owner Name, Sy No, Area, Agricultural/Non-Agricultural, Villages, Tehsil, District], in case of M-Sand Plant [Owner Name, Sy No, Area, Quantity/Annum, Villages, Tehsil, District], needs to be recorded as per format given in **Annexure-I**.
- e) Defining the sources of Sand/M-Sand in the district is the next step for identification of the potential area of deposition/aggradation wherein mining lease could be granted. Detailed survey needs to be carried out for quantification of minerals. The purpose of mining in the river bed is for channelization of rivers so as to avoid the possibility of flooding and to maintain the flow of the rivers. For this, the entire river stretch needs to be surveyed and original ground level (OGL) to be recorded and area of aggradation/deposition needs to be ascertained by comparing the level difference between the outside riverbed OGL and water level. Once the area of aggradation/deposition are identified, then the quantity of River Bed Material available needs to be calculated. The next step is channelization of the river bed and for this central $\frac{3}{4}$ 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 data 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 Cleanace 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

Lea se No	Transporta tion Route No	Numb er of tipper s /day of lease	Numb er of tipper s /day of all the lease on route	Leng th of Rout e in KM	Type of Road (Black Toppe d/ unpav ed)	Recommend ation for road (Black Topped/ unpaved)	The road will be Construc ted by Govt/ Lease Owner	Route Map & Locati on

Clust er No	Transporta tion Route No	Num ber of tipper s /day of cluste r	Num ber of tipper s /day of all the cluste rs on route	Leng th of Rout e in KM	Type of Road (Black Toppe d/ unpav ed)	Recommend ation for road(Black Topped/ unpaved)	The road will be Construc ted by Govt/Lea se Owner	Route Map & Locati on

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.



BHULEKH
Uttar Pradesh

Hindi

खाता विवरण (अप्रमाणित प्रति)

ग्राम का नाम : भगवा परगना : (अमोरी) तहसील : ओबरा जमपद : सोनभद्र फसली वर्ष : 1420-1425 (01 जुलाई, 2012 से 30 जून, 2018) भाग : 1 खाता संख्या : 00017

खातेदार का नाम / पिता पति संरक्षक का नाम / निवास स्थान

खसरा संख्या क्षेत्रफल (हे.) अंश

टिप्पणी

श्रेणी 6-1 / अकृषिक भूमि - जलमग्न भूमि ।

नदी // नि. ग्राम

वेट-लैण्ड

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17क	0.1770		
18क	0.0380		
19क	0.1260		
20क	0.1520		
21क	16.4430		

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कृपया उक्त खसरे की प्रस्थिति (भूखंड (गाटा) के वाट मस्त / विजय / धनकला निमांतरण बही) हेतु खसरा संख्या पर क्लिक करें

Disclaimer: उक्त ऑनलाइन मात्र अवलोकनार्थ है, उक्त विवरण अप्रतन है, तहसील कम्प्यूटर केंद्र एवम सी.एस.सी/लोकवाणी केंद्र से उद्घरण की प्रमाणित प्रति प्राप्त की जा सकती है ।

Above content is for information. The information provided online is updated and no physical visit is required. For Certified copy, apply through e-district portal/CSC/Tehsil Computer Centre.

Software Powered By: National Informatics Center, Uttar Pradesh State Unit, Lucknow.



कार्यालय जिलाधिकारी, सोनभद्र।

(खनिज अनुभाग)

पत्रांक 4026 / खनिज / 2023

दिनांक 16 / 02 / 2023

मे० रुद्र माइनिंग एण्ड कम्पनी
पता ग्राम-देवगढ़ पोस्ट-शिवद्वार, घोरावल,
द्वारा-श्री भूपेन्द्र प्रताप सिंह पुत्र राम प्रताप सिंह
निवासी देवगढ़, शिवद्वार, पोस्ट-घोरावल,
जनपद-सोनभद्र।
मोबाइल नं०-9839626500
ई०मेल आई०डी० rudraminingsbr@gmail.com

आशय-पत्र(Letter of Intent)

उ०प्र० उप खनिज (परिहार) नियमावली, 2021 के नियम-23(1) के प्राविधानों के अधीन ई-निविदा सह ई-नीलामी प्रणाली के माध्यम से खनन पट्टा स्वीकृत किये जाने हेतु इस कार्यालय के पत्र संख्या-2588/खनिज/विज्ञप्ति-मोरम/2022 दिनांक 05.11.2022 के द्वारा रिक्त घोषित करते हुये इच्छुक एवं अर्ह व्यक्तियों से निविदा सह बोली आमंत्रित की गयी थी।

2- उक्त क्रम में जनपद-सोनभद्र की तहसील-ओबरा के ग्राम-भगवां की आराजी संख्या-15च में स्थित क्षेत्र रकबा-12.146 हेक्टेयर (खण्ड-2) में उपलब्ध वार्षिक आंकलित मात्रा 2,18,628 घन मीटर मौरम के लिये सेवा प्रदाता एजेन्सी (एम०एस०टी०सी०) के माध्यम से आपने रु० 510/- (रुपये पांच सौ दस मात्र) प्रति घन मीटर की बोली विज्ञप्ति दिनांक 05.11.2022 में उल्लिखित शर्तों के अधीन दी है।

3- अतः आपके द्वारा दी गयी बोली सर्वोच्च एवं सन्तोषजनक पाये जाने पर निम्न शर्तों के अधीन एतद्वारा औपबन्धिक रूप से उसे स्वीकार की जाती है:-

शर्तें:-

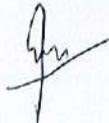
1. विषयगत क्षेत्र में उपलब्ध वार्षिक आंकलित मात्रा 2,18,628 घन मीटर मौरम के लिये रु० 510/- (रुपये पांच सौ दस) मात्र प्रति घन मीटर की दर के अनुसार प्रथम वर्ष के लिये वार्षिक पट्टा धनराशि रु० 11,15,00,280/- (रुपये ग्यारह करोड़ पन्द्रह लाख दो सौ अस्सी) मात्र आगणित होती है, अतएव उक्त धनराशि की 25 प्रतिशत धनराशि रु० 2,78,75,070/- (रुपये दो करोड़ अठ्ठतर लाख पचहत्तर हजार सत्तर) मात्र प्रतिभूति के मद में एवं 20 प्रतिशत धनराशि रु० 2,23,00,056/- (रुपये दो करोड़ तेइस लाख छप्पन) मात्र प्रथम किश्त के मद में आपको इस आशय-पत्र के निर्गमन के दिनांक से, दो कार्य दिवसों के अन्दर जमा करने होंगे। बयाने के रूप में जमा धनराशि (अर्नेस्टमनी) प्रतिभूति के मद में जमा होने वाली धनराशि में समायोजित होगी। आशय-पत्र जारी करने के दो कार्य दिवसों के अन्दर नियत धनराशि इस कार्यालय में जमा करना अनिवार्य है अन्यथा यदि आप धनराशि जमा करने में विफल रहते हैं, तब आपके द्वारा अर्नेस्टमनी के मद में जमा की गयी धनराशि राज्य सरकार के पक्ष में जब्त कर ली जायेगी तथा इस सम्बन्ध में आप द्वारा कोई शिकायत अथवा प्रत्यावेदन प्रस्तुत किया जाता है, तब वे विचारणीय नहीं होंगे।



2. मौरम का खनन पट्टा पाँच वर्ष की अवधि के लिये स्वीकृत किया जायेगा। प्रथम वर्ष हेतु देय धनराशि रु0 11,15,00,280/- (रूपये ग्यारह करोड़ पन्द्रह लाख दो सौ अस्सी) मात्र पर अनुवर्ती वर्षों में वार्षिक पट्टा धनराशि 10 प्रतिशत की उत्तोत्तर वृद्धि सहित देय होगी।
3. प्रथम वर्ष के लिये अवशेष पट्टा धनराशि एवं आगामी वर्षों के लिए निर्धारित पट्टा धनराशि उ0प्र0 उप खनिज (परिहार) नियमावली, 2021 में नियत समयानुसार राज्य सरकार को निर्धारित प्रक्रिया के अनुसार भुगतान की जायेगी। देय किश्त की धनराशि जमा न करने की दशा में नियमावली, 2021 के नियम-59 के अनुसार देय धनराशि, नियमानुसार ब्याज सहित वसूल की जायेगी।
4. आशय-पत्र (Letter of Intent) निर्गत होने के एक माह के अन्दर, निदेशक, भूतत्व एवं खनिकर्म, उ0प्र0, लखनऊ के समक्ष खनन योजना, खान बन्दी योजना सहित अनुमोदनार्थ प्रस्तुत किया जाना अनिवार्य होगा तथा अनुमोदित खनन योजना प्राप्त होने के एक माह के अन्दर सक्षम प्राधिकारी के समक्ष पर्यावरण स्वच्छता प्रमाण-पत्र हेतु प्रस्ताव प्रस्तुत किया जाना अनिवार्य होगा, अन्यथा नियमावली, 2021 के नियम 60(1) के प्राविधानों के अर्न्तगत रु0 10,000/- प्रति दिन की दर से शास्ति देय होगी।
5. उ0प्र0 उप खनिज (परिहार) नियमावली, 2021 के नियम-17 के प्राविधानों के अनुसार पट्टेदार क्षेत्र का सीमांकन करायेगा तथा नियम-36 के अनुसार सीमा स्तम्भ लगायेगा एवं उनका अनुरक्षण करने हेतु सदैव उत्तरदायी होगा।
6. पर्यावरण अनापत्ति प्रमाण-पत्र प्राप्ति से एक माह के भीतर पट्टा विलेख का निष्पादन कराकर खनन संक्रिया तत्काल आरम्भ की जायेगी।
7. नियमावली, 2021 के नियम 35(4) के अर्न्तगत पर्यावरण की स्वीकृति की प्रक्रिया के दौरान अपेक्षित समयावधि में, सक्षम प्राधिकारी द्वारा लगायी गयी आपत्तियों का परियोजना प्रस्तावक द्वारा समाधान किया जाना अनिवार्य होगा। नियम 35(4) के उल्लंघन की दशा में जिलाधिकारी नियमावली, 2021 के नियम 60(7) के अर्न्तगत जारी आशय-पत्र (Letter of Intent) निरस्त कर सकेंगे।
8. नियमावली, 2021 के नियम-35 के अनुसार क्षेत्र में भूमि उद्धार एवं पुर्नवासन उपाय हेतु वित्तीय आश्वासन की धनराशि निर्धारित रीति से जमा कराये जाने हेतु पट्टेदार उत्तरदायी होगा।
9. राज्य सरकार अथवा केन्द्र सरकार द्वारा समय पर निर्धारित कर व शुल्क यथा आयकर रायल्टी का 2.00% टी0सी0एस0(वर्तमान दर) एवं जिला खनिज फाउण्डेशन न्यास, सोनभद्र में उपादान के रूप में रायल्टी की 10% धनराशि तथा शक्तिनगर विशेष प्राधिकरण, सोनभद्र (साडा) सम्बन्धित उपकर आदि नियमानुसार पट्टेदार जमा करायेगे।
10. पट्टे के अधीन दिये गये क्षेत्र के सर्वेक्षण और सीमांकन के समय सीमांकित मानचित्र पर खनन पट्टा क्षेत्र का कॉर्डिनेट्स पट्टेदार अंकित करायेगा तथा पट्टा विलेख निष्पादन करने के पूर्व में अपने स्वयं के व्यय पर पट्टेदार ऐसे सीमा चिन्ह के खम्भे लगायेगा, जो पट्टा विलेख से संलग्न मानचित्र में दर्शाये गये सीमांकन को इंगित करने हेतु आवश्यक होंगे।

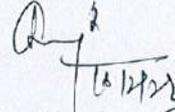


11. पट्टा विलेख के निष्पादन के दिनांक से यथाशीघ्र खनन संक्रियायें पट्टेदार आरम्भ करेंगे और तत्पश्चात जान-बूझकर कोई स्थगन किये बिना ऐसी खनन संक्रियाओं का संचालन उचित और दक्षतापूर्ण रीति से कुशल कारीगर की भाँति करेंगे।
12. पट्टेदार नियम-36 के अनुसार वाहनों के प्रवेश व उनकी निगरानी के लिए स्वयं के व्यय पर 360 डिग्री कोण पर दृश्यता रिकॉर्डिंग के योग्य चार आई0वी0आर0 सी0सी0टी0वी0 कैमरे लगवाये जाने सहित चैक पोस्ट/गेट का निर्माण करेंगे। पट्टेदार उक्त चैक पोस्ट/गेट पर आर0एम0 आइ0डी0 स्कैनर भी रखेगा, जिससे सम्बन्धित खनन पट्टा क्षेत्र से उप खनिजों के परिवहन हेतु प्रयुक्त प्रत्येक यान के सापेक्ष निर्गत किये गये ई0-प्रपत्र एम0एम0-11 पर अंकित क्यू0आर0 कोड का डाटा पढ़ने और सुरक्षित रखने की सुविधा होगी और उसका समुचित रूप से रख-रखाव करेगा एवं सदैव उसे चालू रूप से अनुरक्षित रखेगा। पट्टेदार उक्त सी0सी0टी0वी0 कैमरे और आर0एम0आई0डी0 स्कैनरों द्वारा की गयी समस्त रिकॉर्डिंग को कम से कम तीस दिनों तक सुरक्षित रखेगा और नियम-67 के उपबन्धों के अधीन प्राधिकृत अधिकारी के द्वारा रिकॉर्डिंग मांगे जाने पर रिकॉर्ड को उन्हें उपलब्ध करायेगा।
13. पट्टेदार प्रत्येक वाहन को ई0-एम0एम0-11 सही विवरण सहित जारी करेंगे। प्रत्येक वाहन को निर्गत ई0-एम0एम0-11 जनित क्यू0आर0कोड को चैक गेट पर पढ़ने तथा दर्ज डाटा सेव करने के लिए पट्टेदार आर0एम0आई0डी0 स्कैनर लगायेगा तथा सदैव उसका अनुरक्षण करेगा और सही एवं चालू दशा में रखेगा। उक्त का अनुपालन न करने की दशा में नियमावली, 2021 के नियम-60 के अन्तर्गत वह शास्ति के लिए उत्तरदायी होगा।
14. माननीय राष्ट्रीय हरित अधिकरण के आदेश दिनांक: 05.09.2018 के अनुपालन में पट्टेदार द्वारा खदान के निकासी स्थल पर तौल मशीन लगवा कर निदेशालय में स्थापित कमाण्ड सेन्टर में प्रयुक्त आर्टिफिशियल इन्टेलीजेन्स युक्त सॉफ्टवेयर में इन्टीग्रेट कराया जायेगा। इन्टीग्रेट में स्थित तौल मशीन में निम्न Features का होना आवश्यक है:-
 - (1) The Weight bridge device should use the MQTT protocol to transmit data.
 - (2) The Weight bridge device should transmit data over the internet to IOT infrastructure in cloud.
15. खनन क्षेत्र में तीन मीटर की गहराई अथवा जल स्तर, में से जो कम हो, से अधिक गहराई में खनन संक्रियायें पट्टेदार द्वारा नहीं की जायेगी।
16. जिलाधिकारी द्वारा चिन्हित सुरक्षा क्षेत्र में खनन कार्य पट्टेदार द्वारा नहीं किया जायेगा।
17. नदी की जल धारा में संक्शन लिफ्टर मशीन द्वारा खनन कार्य नहीं किया जायेगा।
18. स्वीकृत क्षेत्र के अन्दर जहाँ अभिवहन प्रपत्र निर्गत किया जायेगा, वहाँ पर खनिजों का विक्रय मूल्य पट्टेदार द्वारा प्रदर्शित किया जायेगा।
19. यदि पट्टेदार द्वारा नियमों व खनन पट्टा के पर्यावरण स्वच्छता प्रमाण पत्र, खनन योजना आदि की शर्तों का उल्लंघन किया जाता है, तो पट्टेदार को अपना पक्ष रखने की युक्तियुक्त अवसर प्रदान करने के पश्चात जिलाधिकारी अथवा राज्य सरकार द्वारा पट्टा समाप्त किया जा सकता है।



20. उ०प्र० उप खनिज (परिहार) नियमावली, 2021 के नियम-68 के अधीन भूमि के स्वामियों को प्रतिकर पाने का अधिकार होगा, जो भू-स्वामियों एवं पट्टेधारक के मध्य तय होगा।
21. नियमों एवं शर्तों के उल्लंघन के परिणाम स्वरूप यदि कोई वाद अथवा आपराधिक प्रक्रिया योजित होती है, तो इसकी सम्पूर्ण जिम्मेदारी पट्टाधारक की होगी एवं यदि इस सम्बन्ध में कोई व्यय होता है तो उसका वहन पट्टाधारक द्वारा किया जायेगा।
22. राज्य सरकार अथवा केन्द्र सरकार द्वारा यदि नियमों/अधिनियमों में कोई संशोधन होता है अथवा कोई शर्त अथवा विधि प्रख्यापित की जाती है, तो वह पट्टेदार को मान्य होगा।
23. माननीय सर्वोच्च न्यायालय, मा० राष्ट्रीय हरित अधिकरण अथवा माननीय उच्च न्यायालय द्वारा पारित आदेशों के अनुपालन हेतु विधितः बाध्य होगा।

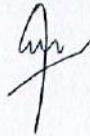
अतः आपसे अपेक्षा है कि उपरोक्तानुसार कार्यवाही सुनिश्चित करते हुए निदेशक, भूतत्व एवं खनिकर्म, उ०प्र०, खनिज भवन, लखनऊ से अनुमोदित खनन योजना एवं सक्षम प्राधिकारी से निर्गत पर्यावरणीय अनापत्ति प्राप्त कर इस कार्यालय में प्रस्तुत करें, जिससे खनन पट्टे की स्वीकृति एवं खनन पट्टाविलेख के निष्पादन की कार्यवाही पूर्ण हो सके।

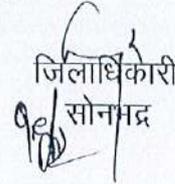

जिलाधिकारी,
सोनभद्र

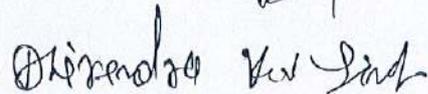
पत्रांक व तददिनांक

प्रतिलिपि:— निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित।

1. सचिव, उत्तर प्रदेश शासन, भूतत्व एवं खनिकर्म विभाग, लखनऊ।
2. निदेशक, भूतत्व एवं खनिकर्म उ०प्र०, खनिज भवन, लखनऊ।
3. प्रभागीय वनाधिकारी, ओबरा वन प्रभाग, ओबरा, सोनभद्र।
4. पुलिस अधीक्षक, सोनभद्र।
5. क्षेत्रीय अधिकारी, भूतत्व एवं खनिकर्म विभाग, उ०प्र०, क्षेत्रीय कार्यालय, सोनभद्र।
6. उप जिलाधिकारी, ओबरा, सोनभद्र।
7. शाखा प्रबन्धक, एम०एस०टी०सी० लिमिटेड, लखनऊ।




जिलाधिकारी,
सोनभद्र



957

प्रेषक,

निदेशक
भूतल्य एवं खनिकर्म निदेशालय, उ०प्र०
"खनिज भवन", लखनऊ।

सेवा में,

जिलाधिकारी,
सोनभद्र

पत्र सं० ०५ / एम० 228/2017 (खनन नीति)-डी०एस०आर०

दिनांक ०५ अप्रैल / 2021

विषय-जिला सर्वेक्षण रिपोर्ट में संशोधन/संयोजन के सम्बन्ध में।
महोदय,

उपर्युक्त विषय के सम्बन्ध में अवगत कराना है कि जिला सर्वेक्षण रिपोर्ट में संशोधन/ संयोजन के सम्बन्ध में आप द्वारा उपलब्ध कराये गये प्रस्ताव के अनुक्रम में शासन द्वारा निम्नलिखित तालिका में दिए क्षेत्र के विवरण पर सम्यक विचारोपरान्त शासकीय पत्र सं० 614(1)/86-2021-01 (सा०)/2020, दिनांक 31 मार्च, 2021 (छाया प्रति संलग्न) द्वारा स्वीकृति प्रदान कर दी गयी है।

राज्य सरकार भूमि- उपखनिज- बालू/मौरम- 05 वर्ष

क्र० सं०	जनपद का नाम	तहसील	ग्राम	खण्ड संख्या/ गाटा संख्या	क्षेत्रफल (हे० म०)	अनुमोदित DSR में कालम सं०-5 (गाटा सं०, खण्ड सं०) का विवरण पत्रांक सहित	प्रभागीय वनाधिकारी की आख्या/सूचना का पत्रांक	प्रभागीय वनाधिकारी की टिप्पणी	सिचाई विभाग की आख्या का दिनांक	क्षेत्र का जी०पी०एस० रिडिंग
I.	सोनभद्र	ओदरा	भगवा	2/15 च	12.146	पत्रांक 278/खनिज/202 0-21 दिनांक 25/01/2021	पत्रांक 2176/ओदरा/15 खनन दिनांक 16/02/2021 पत्रांक 2246/33-1मिर्जापुर दिनांक 29/01/2021	खनिज का अभिवहन मार्ग वर्तमान में विहाकिता नहीं है अतः क्षेत्र का विज्ञापन/खनन संक्रिया आरम्भ किये जाने से पूर्व वन विभाग से अनुमति प्रमाण पत्र प्राप्त किया जाना अनिवार्य होगा।	आख्या दिनांक 25.01. 2021	A-24°31'56.81"N 82°59'15.58"E B- 24°32'2.93"N 82°59'27.23"E C- 24°31'53.16"N 82°59'34.37"E D- 24°31'48.53"N 82°59'23.81"E

कार्यालय/सर्वेक्षण विभाग (म.ए.)
आवश्यक कार्यवाही करें
खान अधिकारी
सोनभद्र
22/4/21

2.	सोनमट्ट	ओबरा	भगवा	3/1	12.146	पत्रांक 278/खनिज/202 0-21 दिनांक 25/01/2021	पत्रांक 2176/ओबरा/15 खनन दिनांक 16/02/2021 पत्रांक 2246/33- 1मिर्जापुर दिनांक 29/01/2021	खनिज का अभिवहन मार्ग वर्तमान में चिह्नित नहीं है अतः क्षेत्र का विज्ञापन/खनन संक्रिया आरम्भ किये जाने से पूर्व वन विभाग से अनापत्ति प्रमाण पत्र प्राप्त किया जाना अनिवार्य होगा।	आख्या दिनांक 25.01. 2021	A- 24°32'20.80"N 82°58'58.30"E B- 24°32'25.13"N 82°59'0.76"E C- 24°32'16.60"N 82°59'23.23"E D- 24°31'11.65"N 82°59'20.38"E E- 24°32'19.31"N 82°59'1.53"E F- 24°32'20.21"N 82°59'0.77"E
3.	सोनमट्ट	ओबरा	भगवा	4/1	12.146	पत्रांक 278/खनिज/202 0-21 दिनांक 25/01/2021	पत्रांक 2176/ओबरा/15 खनन दिनांक 16/02/2021 पत्रांक 2246/33- 1मिर्जापुर दिनांक 29/01/2021	खनिज का अभिवहन मार्ग वर्तमान में चिह्नित नहीं है अतः क्षेत्र का विज्ञापन/खनन संक्रिया आरम्भ किये जाने से पूर्व वन विभाग से अनापत्ति प्रमाण पत्र प्राप्त किया जाना अनिवार्य होगा।	आख्या दिनांक 25.01. 2021	A- 24°32'16.60"N 82°59'23.23"E B- 24°32'10.26"N 82°59'40.40"E C- 24°32'3.72"N 82°59'39.51"E D- 24°32'3.95"N 82°59'38.63"E E- 24°32'4.28"N 82°59'35.61"E F- 24°32'5.83"N 82°59'30.34"E G- 24°32'9.21"N 82°59'24.06"E H- 24°32'11.65"N 82°59'20.38"E

अतः अपेक्षित है कि अपने जनपद से सम्बन्धित खनन क्षेत्रों के व्यवस्थापन के सम्बन्ध में अग्रतर कार्यवाही नियमानुसार सम्पन्न कराने का कष्ट करें।
संलग्नक-यथोपरि।

भरदीय
(अनिल कुमार शर्मा)

सयुक्त निदेशक
-कृते निदेशक।

क्र.सं.	जनपद का नाम/ तहसील	ग्राम का नाम	खण्ड सं०/ गाटा सं०	प्रत्येक गाटे का अंश (हे० में)	कुल क्षेत्रफल (हे० में)	दियोजाजि कुल रिजर्व (घ०मी०)	उपन योग्य रिजर्व (घ०मी०)	अभ्युचित
1	2	3	4	5	6	7	8	9
बालू/मोरम (राज्य सरकार)								
1	सोनमद्र/ ओबरा	बरहगोरी	द/385	17.000	17.000	510000	306000	बालू/मोरम (राज्य सरकार)
2	सोनमद्र/ ओबरा	भगवा	1/15घ	12.146	12.146	364380	218628	बालू/मोरम (राज्य सरकार)
3	सोनमद्र/ ओबरा	भगवा	2/15घ	12.146	12.146	364380	218628	बालू/मोरम (राज्य सरकार)
4	सोनमद्र/ ओबरा	भगवा	3/1	12.146	12.146	364380	218628	बालू/मोरम (राज्य सरकार)
5	सोनमद्र/ ओबरा	भगवा	4/1	12.146	12.146	364380	218628	बालू/मोरम (राज्य सरकार)
6	सोनमद्र/ ओबरा	सरानई	221घ	36.500	36.500	1095000	657000	बालू/मोरम (राज्य सरकार)
बालू/मोरम (निजी भूमि)								
7	सोनमद्र/ ओबरा	भगवा	18घ, 19ख	0.7970 1.0250	1.822	54860	38262	बालू/मोरम (निजी भूमि)
8	सोनमद्र/ ओबरा	भगवा	15ख, 16, 17ख, 17ग	0.0630 0.1900 0.2530 0.5060	1.0120	30360	21252	बालू/मोरम (निजी भूमि)
9	सोनमद्र/ ओबरा	भगवा	15घ, 20ग	2.3650 4.2100	8.5750	197260	138075	बालू/मोरम (निजी भूमि)
10	सोनमद्र/ ओबरा	भगवा	3, 4क, 5	0.3040 0.4810 0.3790	1.164	34820	24444	बालू/मोरम (निजी भूमि)
11	सोनमद्र/ ओबरा	भगवा	8क, 8ग	0.9860 0.5060	1.4920	44760	31332	बालू/मोरम (निजी भूमि)
12	सोनमद्र/ ओबरा	अगोरी खास	291, 292, 294	0.7210 0.4230 0.4430	1.587	47610	33327	बालू/मोरम (निजी भूमि)
13	सोनमद्र/ ओबरा	अगोरी खास	298, 299क, 300क, 301, 302क, 302ख, 306ख, 303, 304, 305क	0.0570 0.0760 0.0950 0.0630 0.1010 0.0250 0.0130 0.1960 0.1700 0.1130	1.2190	36570	25599	बालू/मोरम (निजी भूमि)

Item No.14

Court No. 1

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

Original Application No. 109/2024

Akash Dubey

Applicant

Versus

Union of India & Ors.

Respondent(s)

Date of hearing: 01.04.2024

**CORAM: HON'BLE MR. JUSTICE PRAKASH SHRIVASTAVA, CHAIRPERSON
HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER
HON'BLE DR. A. SENTHIL VEL, EXPERT MEMBER**

Applicant: Mr. Gaurav Kumar Bansal, Adv. for Applicant

Respondent: Mr. Somesh Chandra Jha & Mr. Akash Kishore, Adv. for MoEF & CC
Ms. Priyanka Swami, Adv. for SEIAA, UP
Mr. Ashish Madaan & Mr. Ayush Mishra, Advs. for R – 10

ORDER

1. In this original application, complaint of the applicant was that the respondent no.10-project proponent had committed act of forgery in filing its Form-I for Environmental Clearance (EC) for extraction of Morrum Mining on the river bed of Sone River at Arazi No.15 Cha, Khand No.02, Village Bjhagwa, Tehsil-Obra, District Sonbhadra, Uttar Pradesh whereas there is no morrum in that area.

2. The applicant had also stated before the Tribunal that State Level Expert Appraisal Committee (SEAC) had constituted a Joint Committee of Professor Jaswant Singh, Member, SEAC, RO, UPPCB, Sonbhadra and Mining Officer, Sonbhadra and that Joint Committee though had visited the site but report was not submitted because no morrum was found at the site.

3. Considering the said issue, Tribunal by order dated 29.01.2024 directed the Joint Committee constituted by SEAC to submit a copy of the report before the Tribunal and in compliance, thereof, report dated 15.03.2024 has been submitted by RO, UPPCB, Sonbhadra. It has been pointed out that in that Joint Committee report, Mining Officer has not signed. Joint Committee constituted by SEAC had found as under:-

“1. *At the time of site visit it was observed that the mining lease is plain/soil land with flora in which, agriculture was being done by local farmers. (Photographs of the farming attached).*

2. *The lease is located in the outer reach of the rear end of river bank, due to which there is very low possibility of the occurrence of mineral deposit during floods in future and makes it unsustainable from mining point of view.*

3. *There are water bodies in the lease area at the time of inspection, hence no mineral can be excavated from the water bodies/submerged area. No mineable mineral (mornim) was observed in the lease area at the time of physical inspection.”*

4. Joint Committee report discloses a shocking fact that the mining lease is for the area which is an agricultural land area and in which there is no possibility of occurrence of mineral deposit during floods and which is unsustainable for mining point of view.

5. Stand of the Applicant is that on the basis of such mining lease in fact the mining operation is being done by lease holders in other areas where the mineral exists.

6. Having regard to the above position, we deem it proper at this stage to constitute a Joint Committee comprising of representative of Member Secretary, CPCB and Advisor/JS in-charge of EIA Mining (Non-Coal) MoEF&CC.

7. Representative of Member Secretary, CPCB will act as a nodal agency.
8. Joint Committee will visit the site and ascertain the correct position on the spot and also the truthfulness of the allegations of *modus operandi* adopted by State officials/Project Proponent to carry out illegal mining on the basis of lease in respect of the area where no mineral exists.
9. The Committee will submit the report within six weeks by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF.
10. A copy of this order be forwarded to Members of the Joint Committee by email for compliance.
11. List on 08.07.2024.

Prakash Shrivastava, CP

Sudhir Agarwal, JM

Dr. A. Senthil Vel, EM

April 01, 2024
Original Application No. 109/2024
JG.