Item No. 05

BEFORE THE NATIONAL GREEN TRIBUNAL
CENTRAL ZONE BENCH, BHOPAL
(Through Video Conferencing)

Original Application No. 60/2021 (CZ)
With
I.A. No. 51 of 2021

Nature Club of Rajasthan — Applicant(s)

Versus

Union of India & Ors. — Respondent(s)

Date of hearing: 02.12.2021

CORAM: HON'BLE MR. JUSTICE SHEO KUMAR SINGH, JUDICIAL MEMBER
HON'BLE DR. ARUN KUMAR VERMA, EXPERT MEMBER

For Applicant(s) : None.

For Respondent(s) : Mr. Rohit Sharma, Adv
Mr. Om Shankar Shrivastava, Adv
Mr. Shoeb Hasan Khan, Adv

ORDER

1. The Hon'ble Supreme Court, vide judgment in Deepak Kumar Vs State of Haryana & Ors. (2012) 4 SCC 629, directed that leases of minor minerals, including their renewal, even for an area of less than 5 hectares (ha) be granted only after environmental clearance from the Ministry of Environment and Forest and Climate Change (MoEF & CC). This direction was held to be necessary in view of degradation of environment on account of illegal and unrestricted upstream, in- stream and flood plain sand mining activities. Under the existing guidelines, no environmental clearance was

required for minor leases of less than 5 hectare area. The result was that there was no regulation of such mining which resulted in environmental degradation. Even bigger cluster was split up in less than 5 ha units to avoid law.

2. The Hon'ble Supreme Court observed that absence of regulation of such mining was not justified as it was threat to bio-diversity, could destroy riverine vegetation, cause erosion, pollute water sources, badly affecting riparian ecology, damaging ecosystem of rivers, safety of bridges, weakening of riverbeds, destruction of natural habitats of organisms living on the riverbeds, affects fish breeding and migration, spell disaster for the conservation bird species, increase saline water in the rivers.

3. The Hon'ble Supreme Court observed that such mining has direct impact on the physical habitat characteristics of the rivers such as bed elevation, substrate composition and stability, in-stream roughness elements, depth, velocity, turbidity, sediment transport, stream discharge and temperature. Increase in demand of sand has placed immense pressure in the supply of sand resource and mining activities were going on illegally as well as legally without requisite restrictions. Lack of proper planning and sand management disturbs marine

ecosystem and upset the ability of natural marine processes to replenish the sand.

4. The Hon'ble Supreme Court noted that core group was constituted by the MoEF&CC to examine the impact of minor minerals on riverbeds and ground waters. A draft report was prepared recommending mandatory preparation of mining plan on the pattern of mining plans for major minerals. Further recommendations are reclamation and rehabilitation of abandoned mines, proportion of hydro geological balance for minerals below ground water table limiting depth of mining to 3 meter and identification on locations where mining should be permitted was required. There is need for identifying safety zones in the proximity of intendments. Thus, strict regulatory parameters were required for regulating mining of minor minerals. It was noted that in-stream mining lowers the stream bottom of rivers which may lead to bank erosion. Depletion of sand in the stream bed causes deepening of rivers which may result in destruction of aquatic and riparian habitats. It has impact on stream's physical habitat characteristics.

5. The grievance before the Tribunal is that the river bed mining was taking place at several locations in violation of judgment of the Hon'ble Supreme Court either without any valid lease or under leases given without following the strict regulatory regime in terms of judgment of the

Hon'ble Supreme Court or in violation of lease conditions.

6. In this application the matter pertains to illegal excavation of mineral bajry in the State of Rajasthan and the use of royalty rawannas of private khatedari leases while making excavation from the river bed. That the mining of river sand is primarily being done from the river bed and it is only the transit pass (Rawannas), which are being utilized for the khatedari land. This has led the mining department to make assessment, which clearly spells volumes towards the inspection of such khatedari leases and surprisingly it was found that there is no mineral potential in the aforesaid mining leases. The mineral potential is completely absent in the mining leases despite which they have been regularly issued Rawannas and are undertaking mining clearly contrary to law. It is essential to note that every lease is being granted for capacity of tonnage per annum and the Rawannas are to be issued only for the capacity as provided under the aforesaid tonnage. But in the present case the Rawannas are being issued contrary to the tonnages for over and above in excess to the actual capacity. Furthermore, it is also noted by the report of the mining department that the Rawannas are issued for a distance of 600 to 700 KM for a truck having

capacity of almost 20 to 30 tons whereas the mineral allegedly being filled is hardly 2 to 3 tons simply to legitimize illegality. Under no circumstances a rawanna could be used in such manner to allow these rawannas to act as a validation for the multiple rounds taken by a single truck in the name of the mineral so transported. The report of the mining department prepared by ADM Vigilance clearly shows the aforesaid situation. At the same time, the area of leases falls within 5 KM of the river bed. In terms of the MOEF Sustainable Sand Mining Guideline, 2016 no leases can be operational without necessary replenishment study but clearly in contravention to the SSMG 2016 and EMGSM 2020 the leases are still in progress. In the State of Rajasthan all the leases are being allowed contrary to SSM Guidelines, 2016 and EMGSM 2020 without there being any replenishment study.

7. It is further submitted that the mining of river sand is primarily being done from the river bed and it is only the transit pass (Rawannas), for the khatedari land which are illegally utilized. This has led to grave level illegal mining and the mining department has made assessment, which clearly spells volumes about illegal practices. It is also submitted that the lease of private khatedari land for mineral bajri are working on

environmental clearance which was granted without any proper study and proper assessment of the mineral potential. These leases were primarily given on the basis of LoI issued by the department and environmental clearances issued by District Environment Impact Assessment Authority without following any due process of law and simply on the basis of the report submitted by the Environment Consultant.

8. It is further argued that the area of leases falls within 5 KM of the river bed and in terms of the MoEF's Sustainable Sand Mining Guidelines, 2016, and EMGSM 2020 no lease can be operational without necessary replenishment study. The relevant provision of MoEF's Sustainable Sand Mining Guidelines, 2016, and EMGSM 2020 guidelines is quoted hereunder for ready reference:-

> *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.

Mining Plan

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.

9. The matter was taken up by this Tribunal on 04th August, 2021 and a Committee consisting of (i) Director, Mines & Geology Department, Government of Rajasthan, Udaipur, (ii) SEIAA and (iii) Rajasthan State Pollution Control Board was constituted with the directions to submit a factual and action taken report.

10. In compliance thereof, Committee visited the site and submitted the report which is as follows:

"The members of the Committee discussed the issues raised in the O.A. as well as the issues pointed out by the Hon'ble N.G.T. in order dated 04.08.2021 and after detailed deliberation, the committee submits its report as under –

A. *Regarding issues of illegal excavation of mineral bajri, misuse of ravanas by private Khatedari lease holders while making excavation from riverbed.*
B. *The fact is that mining department has taken*

strict action against erring mine owners.

Taking in to account the various complaints of bay lease holders regarding illegal mining and misuse of eRavana and carrying out mining in the river bed in place of their respective lease areas, the State Government, carried out, first-of-its-kind, Drone Survey of the 46 mining leases of sand situated in khatedari lands in Gotan area of Nagaur district (Tehsil Rivabadi). Further, the physical verification of the pits situated in the lease areas was carried out to calculate the quantity of mineral excavated from the pits. and it was compared with the dispatch shown by the each leaseholder through eRavanas. The figures mismatched to the tune of thousands of tons of sand, and a huge penalty of around 30.84 crores has been imposed on the the 45 leaseholders of sand/bajn granted in agriculture land on 26.08.2021. Regarding issue of ravanas for a distance of 600 to 700 km for a truck having capacity of almost 20 to 30 tons, whereas mineral allegedly being filled is hardly 2-3 tons to legitimize the irregularity, it is submitted that –

> *"There were some instances of ravanas being issued of very small quantities of mineral in the year 2017, when the online issuance of Ravana that is "eRavana" was introduced for the first time by the Mines department and due to the lack of knowledge in lease holders, these irregularities took place, however, the erring 15 leaseholders in Nagaur district were not spared and a huge penalty of rupees 1138.72 lacs has been imposed."*

C. ***Further to curb the practice of misuse of***

eRavanas, the State government has issued a "Three-Weigh-Bridges circular.

At present there is a provision in the RMMCR 2017 that the lease holder shall dispatch the mineral from its lease area through unconfirmed e Ravana and it will be confirmed on any of the departmental empanelled weighbridges situated anywhere. The department received manifold complaints of misuse of eRavannas by way of getting it confirmed at distantly placed weighbridges and meanwhile transporting the illegal sand from the rivers or providing eRavannas to the persons/vehicles involved in illegal mining of sand, thereby dressing up them in a legal form. To stop this unscrupulous activity, the State Government has made it mandatory for each lease holder of sand/bajri to get the eRavanna confirmed at any one of the nearest situated three weighbridges around his/her lease, and for this purpose notices containing the list of nearest three weighbridges of each mining lease of sand/bajri situated in khatedari/land has been issued by all the offices of the department.

Similar action has been taken against mining lease owners of mineral bajri involved in illegal mining/misuse of Ravanas in Barmer (13 lease holders), Jalore (24 lease holders), Sirohi (2 lease holders), Sojat (6 lease holders), Jodhpur (10 lease holders), Rajsamand (4 lease holders) and Bhilwara (4 lease holders)

districts.

D. *The State Government after ban on river sand mining by Hon'ble Apex Court, has taken strict action against illegal mining, transportation and illegal stock of Bajri/sand and total of 38101 cases were detected, 3507 FIRs have been registered, 2186 persons have been arrested and penalty has been imposed and a total of 247.09 crores rupees have been recovered as penalty till 15.09.2021.*

E. *Regarding issue of mining lease areas falling within 5 kms of riverbed, noncompliance of Enforcement and Monitoring Guidelines for Sand Mining - 2020, it is submitted that the State government in compliance of guidelines 2020 has stopped the process of granting mining leases within 5 kms distance from river bed, SEIAA is also not processing the application for grant of E.C, wherein the applicant is not in compliance of Guidelines - 2020 issued by the MoEFCC.*

F. *Regarding mining being undertaken in monsoon season, which created pits in the khatedari lands and stops recharge/replenishment of the riverbed by the water being flown from adjoining fields and permission of mining without any replenishment study, it is submitted that in agriculture land since water flow is very limited and there is hardly any recharge of sand, As per SUSTAINABLE SAND MINING MANAGEMENT GUIDELINES, 2016 under chapter management plan, at point I(k) for river bed mining recommendations, it is recommended that no river bed mining*

should be permitted during rainy seasons. Thus, there is restriction on river bed sand mining in monsoon seasons but the same is not applicable for bajri/sand mining in agriculture and private land.

It is also pertinent to submit that that the sand mining activities in agriculture land in the State were challenged before Hon'ble High court Rajasthan Jaipur in D.B. Civil Writ Petition No. 9458/2018 Sanjay Kumar Garg vs. State of Rajasthan, The Hon'ble Court while dismissing the above writ petition vide judgment dated 27.11.2018, at Para, 24 and 25 regarding applicability of replenishment study in agriculture/private khatedhari land has observed as under:-

> *"24. We are not concerned in the Instant writ petition with mining of bajri in river beds. We are concerned with mining of bajri on private agricultural land and two instances of mining of bajri on Government land. From the tabular chart note above, mining license on Government land is in the District of Bikaner where there are no rivers."*
>
> ***"25. Though learned counsel for the writ-petitioner repeatedly laid emphasis on lack of replenishment studies being shown to this Court while granting the necessary environmental clearances, but the argument overlooks the fact that replenishment of bajri can only take place in riverbeds and not in private khatedarl lands or Government lands which are far***

away from river beds. The reason is obvious. No silt or gravel flows onto or into said lands. Thus, the contention premised on lack of replenishment studies not being conducted is rejected."

The Hon'ble High Court further observed at para 38 of the judgement as follows:-

> *"38.* ***Thus, since we are not concerned with grant of mining leases on river beds; as already held above, the requirement of replenishment study is inherently not applicable to the sites in question. On the second contention urged i.e. of environmental clearance not being granted as per law, we hold that the requirements of law pertaining to District Survey Reports and environmental clearances being granted in terms of the rules has been complied with, we reject the contentions advanced on behalfof the petitioner."***
>
> *From above submissions it is clear that the sand mining activities going on in khatedhari land was upheld by the Hon'ble High court in above mentioned matter vide order dated 27.11.2018. The order dated 27.11.2018 is under challenge before' Hon'ble Apex Court and is pending for considerations in*

SLP 31848/2018 Sanjay Garg vs State of Rajasthan without any interim order.

G. *The recommendations mentioned in the report of the Hon'ble Central empowered committee (CEC) dated 23.12.2020 are still under considerations of Hon'ble Apex Court in SLP 10587/2019 Bajri lease Holder welfare society vs. State of Rajasthan and Others and connected matters. The State government after getting approved from the State Cabinet has filed detailed reply to the CEC report and same is pending for consideration before the Hon'ble Apex Court.*

It is worthwhile to mention that the applicant is also a party in the above which is tagged 4/2013 State of Rajasthan Vs Nature club of Rajasthan which is tagged with SLP 10587/2019. Thus, the applicant is raising the same issues in O.A., which are already pending for adjudication before the Hon'ble Apex Court.

The fact is that the department has not granted any mining lease of Bajri in private khatedari land after the issuance of the Enforcement and Monitoring Guidelines for Sand Mining - 2020 in January 2020 by the MoEFCC.

The details of penalty imposed & recovered in mineral bajri Leases in compliance of directorate order no. 2318 dated 26.08.2021 is as follows:

S. No.	M.L. No.	Name ofLessee	Imposed Penalty (In Lacs)	Recovered Penalty(In Lacs)
1.	19/2014	Shri Budha Ram	215. 96	-

2.	9/2014	Shri Ujjwal	47.06	-
3.	11 /2014	Shri Shiv Kumar	2.10	-
4.	18/2014	Shri Dinesh Singh	244.79	-
5.	20/2014	Shri Hanuman Ram	15.87	-
6.	5/2019	Smt. Keshar Devi	68.92	-
7.	6/2019	Shri Babu Lal	74.36	-
8.	7/2019	Smt. Priyanka Jingar	50.56	
9.	10/2019	Shri Jabid Huasen	93.74	--
10.	12/2019	Shri Kailashchand Tanwar	123.71	
11.	13/2019	Shri Omprakash	61.65	--
12.	14/2019	Shri Laxman Ram	128.34	-
13.	15/2019	Shri Suresh chand	4.08	4.08
14.	16/2019	Shri Rambux Karwasra	195.64	-
15.	17/2019	Shri Ravindra	152.97	-
16.	22/2019	Shri Hansraj	74.45	-
17.	23/2019	Shri Gulab Singh	119.09	
18.	24/2019	Shri Gulab Singh	26.89	-
19.	25/2019	Shri Jivan Ram	119.56	-
20.	28/2019	Shri Tara Ram	77.29	-
21.	34/2019	Shri Ramkishore	26.07	-
22.	35/2019	Shri Munna Ram	58.02	-
23.	36/2019	Shri Bhinya Ram	17.02	-
24.	38/2019	Shri Rajesh Kumar Garva	23.70	-
25.	39/2019	Smt. Shanti Devi	86.32	-
26.	40/2019	Smt. Shanti Devi	29.10	—
27.	43/2019	Shri Nema Ram	65.21	—
28.	6/2014	Shri Jitendra	4.27	—
29.	45/2019	Shri Anil Kumar	40.79	—
30.	51 /2019	Shri Dhanna Ram	43.67	-
31.	53/2019	Shri Gautamnath	30.35	—
32.	54/2019	Shri Joga Ram	123.06	
33.	59/2019	Smt. Presta Devi	61.72	—
34.	11 /2019	Shri Ummeda Ram	26.09	—
35.	4/2019	Shri Mahendra Godara	81.50	—
36.	63/2019	Shri Mukesh Khatik	8.44	—
37.	64/2019	Shri Mukesh Khatik	9.91	—
38.	68/2019	Shri Kalu Ram	30.44	—
39.	69/2019	Shri Jitendra Chanwariya	48.72	—
40.	75/2019	Shri Kalpit Jakhar	176	-
41.	77/2019	Shri Abdul Vahid	43.70	-
42.	86/2019	Shri Yashvardhan Singh	69.55	-
43.	92/2019	Shri Nirmal Singh	12.55	12.55

44.	52/2019	Shri Dhanna Lal	180.6	-
45.	21/2014	Shri Sita Ram	65.31	-
Total			3084.9	-

The details of penalty imposed on bajri lease holders of Gotan area for misuse of e Ravana mentioning less weight of mineral

S. No.	M.L.No	Name Lease Holder	Demand (In Rs)	Stay Order Of Court	Penalty recovered
1.	06/2014	Jitendra Kumar	163.88	05/12/2019	-
2.	09/2014	Ujjawal Dadel	23.26	11/12/2019	-
3.	18/2014	Dinesh Singh	161.52	05/12/2019	-
4.	19/2014	Budha Ram	140.66	19/12/2019	-
5.	20/2014	Hanuman Ram	41.39	17/12/2019	-
6.	21/2014	Sita Ram	195.31	19/12/2019	--
			69.51	03/02/2021	-
7.	0/2019	Keser Devi	0.208	-	0.208
8.	39/2019	Shanti Devi	4.05	-	4.05
9.	47/2019	Krishna Property Drilling Company	5.42	-	5.42
10.	69/2019	Jitendra Chanwariya	1. 87	-	1.87
11.	09/2019	RamKuwar Dukiya	274.99	-	0
12.	11/2019	Lakharam	2.30	-	2.30
13.	06/2019	Omprakash	3.64	-	3.64
			44.89	-	0
14.	10/2019	NemaRam	2.65	-	2.65
15.	36/2019	Nathram	3.21	-	0
		Total	1138.72		20.16

Details of actions taken against Bajri Leases situated in private lands

Dist. Name	Action Against Lease No.	Penalty Imposed (In Lacs)	Penalty Deposited (In Lacs)	No. Of Leases under consideration for Cancellation	Remark
Barmer	13	387.98	26.5	0	-
Jalore	24	1432.23	1.46	2	-
Sirohi	02	22.56	20.76	0	-
Sojat	06	25.02	25.02	0	- -

Jodhpur	10	120.08	11.02	2	-
Rajsamand	4	661.04	10.05	3	There Stay from Hon'ble High Court, Jodhpur leases
Bhilwara	4	262.75	6.41	0	-
Nagaur	48 (45 of Gotan + 3 of Nagaur Area)	388.95	36.78	2	Cancellation is under process for two leases and recovery in 7 leases is under stay from Hon'ble High Court, Jodhpur
Total	111	6800.61	138	9	-

Action taken against illegal mining after Supreme Court order dated 16.11.2017 to 15.09.2021

Office	No. of Cases			Total No. of Cases				No. of F.I.R	Total Person Arrested	No. of Complaint Lodged	No. of Seizures		
	Illegal Mining	Illegal Transport	Illegal Stock		Cost of Mineral Recovered (in Rs.)	Compound Fee Recovered (in Rs.)	Total Recovered				Seized Vehicles	Seized Machines	Seized Tools
Jaipur	39	6024	21	6084	41290159.75	333159065.5	374449225.3	731	872	0	6286	43	0
Tonk	26	2526	5	2557	12934978	99598602	112533580	82	67	0	2560	26	0
Sikar	7	261	3	271	2660688	23515000	26175688	2	1	0	265	2	14
Alwar	18	349	5	372	1547195	24262500	25809695	43	13	0	371	5	25
Jhunjhunu	32	499	12	543	2923890	30620000	33543890	17	6	0	503	35	0
AME, Dausa	22	1012	13	1047	7162717	38620000	45782717	120	0	0	1059	15	28
Ajmer	41	1854	5O	1945	11908996.5	111270850	123179846.5	196	92	0	1980	15	0
Nagaur	23	1297	5	1325	17345248.25	102571500	119916748.3	213	149	0	1336	21	0
Jodhpur	68	968	33	1069	18545530	76445137.5	94990667.5	41	19	0	1058	34	0
ME, Sirohi	4	708	23	735	2122244	23855000	25977244	4	1	0	739	1	0
Pali	89	1798	42	1929	8414653	117503350	125918003	12	4	0	1876	36	15
ME,Jalore	34	1130	7	1171	5355665	43265750	48621415	2	0	0	1180	33	5
ME, Barmer	38	1089	24	1151	5900503	79694998	85595501	9	0	0	1103	29	0
Bikaner	13	515	8	536	7611745	48257750	55869495	76	69	0	522	6	0
ME, Shri Ganganagar	0	141	0	141	2314735	11000000	13314735	45	20	0	146	0	0
Jaisalmer	1	136	0	137	476882	7400000	7876882	14	12	0	138	1	0
AME,Churu	0	42	0	42	332620	2900000	3232620	6	0	0	42	0	0
AME, Hanumangarh	0	32	0	32	494286.5	2500000	2994286.5	8	10	0	32	0	0
Udaipur	66	2179	71	2316	21474387.6	161437880	182912267.6	260	154	0	2345	60	4
Banswara	9	233	9	251	1076940	13719100	14796040	54	0	0	239	3	13
ME, Dungarpur	3	135	3	141	668634	9275000	9943634	19	5	0	140	3	0
ME,Pratapgarh	1	208	12	221	2441229	16990000	19431229	0	0	0	208	1	0
Bhilwara	122	3719	296	4137	25569521.15	309701573	335271094.2	878	40	0	4349	66	4
Chittorgarh	I5	1237	53	1305	9766471	131376500	141142971	133	162	0	1273	15	0
Rajsamand	56	1367	62	1485	7891061	74270550	82161611	44	15	0	1377	49	11
Kota	2	733	37	772	8834582	59300150	68134732	95	215	0	880	1	0
Bundi	0	698	18	716	7558220	40471000	48029220	143	145	0	712	0	0
Jhalawar	29	554	42	625	12201930.75	30957500	43159430.75	63	56	0	577	32	0
AME,Baran	1	395	55	451	4743380	13112650	17856030	12	10	0	396	1	0
Bharatpur	2	336	6	344	2695832	20920000	23615832	37	19	0	339	1	0
Dhol pur	1	176	6	183	1757360	12426600	14183960	2	1	0	177	2	0

Karuli	6	976	36	1018	6524515	37105000	43629515	57	26	0	977	5	0
Sawaimadhopur	11	3001	37	3049	10062250	90885000	100947250	89	3	0	3090	8	0
Grand Total	779	36328	994	38101	272609049.5	2198388006	2470997056	3507	2186	0	38275	549	119

11. The learned counsel appearing for the State further submitted that the similar matter was under consideration before the Hon'ble the High Court of Judicature, Rajasthan Bench at Jaipur (Division Bench) Civil writ No. 9458 of 2018 where vide order dated 27.11.2018 it was observed as follows:

> 9. *"The first contention urged was that in terms of a notification dated 15.01.2016 the process of environmental clearance for leases less than 5 hectares was assigned to the District Level Environmental Impact Assessment Authority. The Central Government had prepared guidelines on Sustainable Sand Mining-2016 detailing the provisions for environmental clearance for clusters, creation of District Environment Impact Assessment Authority and proper monitoring of sand mining using information technology. The preparation of the District Survey Report was as per Appendix-X to the notification dated 15.01.2016. It was urged that no mining activity could be undertaken in any district without identification of areas of aggravations or depositions after conducting proper study. It was urged that the District Survey Reports contained survey only of the river beds and of no other area and thus the*

environmental clearances granted were liable tobe struck down.

10. *The second contention urged was that without a scientific replenishment study mining in isolated patches including an agricultural land was illegal. Referring to a decision taken bythe Ministry of Environment and Forest on 22.08.2016 concerning mining operations in agricultural lands it was urged that the drainage pattern resulting into ponding effect had to be considered, which was not so done.*

11. *The third submission advanced was concerning short term permits and the argument was that short term permits could not be granted on principles analogous to grant of mining leases for parcels of land less than 4 hectare.*

12. *To deal with the three contentions advanced weproceed by noting the various legislative provisions and the decision of the Supreme Court reported as (2012) 2 SCC 629, Deepak Kumar & Ors. Vs. State of Haryana & Ors.*

13. *In the State of Rajasthan, mining of bajri was governed by the Minor Mineral Concession Rules, 1986 and as per the proviso to sub-rule (3) of Rule 63 no permission to mine bajri was required in the State of Rajasthan. A vehicle carrying bajri had to pay royalty at the departmental check post. In Deepak Kumar's case (supra) said practice was*

deprecated.

14. *In Deepak Kumar's case (supra) the Supreme Court was considering proposed auctions by the Government of Haryanaof mining mineral including gravel and sand on an area not exceeding 4.5 hectares in various districts in the State of Haryana. Illegal mining in State of Rajasthan and Uttar Pradesh also drew the attention of the Supreme Court in said decision. On the issue of breaking the homogeneous area into pieces of less than 5 hectares, the Supreme Court observed that same appeared to be to overcome the EIA notification dated 14.09.2006. The Supreme Court noted that the stand of the State of Haryana was that it had taken adequate and effective precautions to maintain 1 km separation between mining blocks of less than 5 hectares each and had imposed restrictions on quarrying in the river beds.*

15. *In paragraph 11 of the opinion the Supreme Court considering the extraction of bajri within or near a river bed in blocks of less than 5 hectares separated by 1 km. observed that possibility of collective impact may be significant and hence there was a necessity for a proper environmental assessment plan.*

16. *In the next paragraph i.e. paragraph 12 the Supreme Court highlighted that only in cases of isolated discontinued mineral deposits in less than 5*

hectares such mining leases maybe granted.

17. *In paragraph 17 the Supreme Court once again highlighted that though individual mines of minor minerals which are small in size may have insignificant impact but their collective impact on a regional scale may be significantly adverse.*

18. *In paragraph 19 the Supreme Court noted that different States had prescribed different minimum size of mining leases and in sub-para 4.2 of said paragraph suggested that there was a needto consider minimum size of a mining lease to be 5 hectares. In sub-para 4.4, the Supreme Court dealt with cluster approach for small size mines and the likely difficulties which could be faced by the Regulatory Authorities in monitoring the environmental impactand thus highlighted a desirability to adopt cluster approach in cases of smaller mine leases being operated.*

19. *The position therefore was that till the decision in Deepak Kumar's case (supra) was pronounced by the Supreme Court no environmental clearances for minor mineral leases less than 5 hectares was required. After the decision in Deepak Kumar's case (supra), vide notification dated 09.09.2013 environmental clearances for mining leases of less than 5 hectareswas provided for.*

20. *On 13.01.2015 the National Green Tribunal directed environmental clearances to be obtained by existing lease holders for mines less than 5 hectares.*

21. *On 24.12.2013, an Office Memorandum was issued by the Ministry of Environment and Forests providing for appraisal for category-B projects which include the leases for minor minerals as well. A pre-feasibility report of the project with mine plan approved by the authorized agency of the State Government were the two documents required to grant the necessary permission.*

22. *The Rajasthan Minor Mineral Concession Rules, 1986 were amended on 23.05.2012 requiring environmental clearances for mining of the minor mineral bajri. On 21.06.2012 the Rules of 1986 were amended by providing a relaxation under Rule 65A. The same provided granting short term permit.*

23. *The issue concerning mining of bajri under short term permits on river beds concerning the notification dated 21.06.2012 became a subject matter of challenge in D.B. Civil Writ Petition (PIL) No.13189/2012. Vide order dated 21.10.2013 the Division Bench did not permit the State Government to continue with the existing scheme in the absence of replenishment study being conducted. The decision of the Division Bench was challenged before*

the Supreme Court in SLP(C) No.34134/2013. The Supreme Court initially directed that permit holders could continue with mining operations but vacated its interim order on 16.11.2017 directing that unless a scientific replenishment study was completed no mining in river beds could continue.

24. *We are not concerned in the instant writ petition with mining of bajri in river beds. We are concerned with mining of bajri on private agricultural land and two instances of mining of bajri on Government land. From the tabular chart noted above, mining license on Government land is in the District of Bikaner where there are no rivers.*

25. *Though learned counsel for the writ-petitioner repeatedly laid emphasis on lack of replenishment studies being shown to this Court while granting the necessary environmental clearances, but the argument overlooks the fact that replenishment of bajri can only take place in river beds and not in private khatedari lands or Government lands which are far away from river beds. The reason is obvious. No silt or gravel flows onto or into said lands. Thus, the contention premised on lack of replenishment studies not being conducted is rejected.*

26. *On the issue of adverse environmental impact in the form of ponding effect suffice it to state that the decision of the Ministry of Environment and Forests*

relied upon pertained to large tracts of land where mining activity was proposed to be undertaken and in this context the Ministry highlighted the requirement of considering ponding effect. As noted above, in the instant case the areas of the leases are small.

27. *We find that on 19.06.2012 in exercise of powers conferred by Section 15 of the Mines and Minerals (Development and Regulation) Act, 157, the Government of Rajasthan amended the Rajasthan Minor Mineral Concession Rules, 1986 and in sub- rule (1) of Rule 3 of the Rules of 1986, after existing clause (viii) and before existing clause (ix) clause (viii-a) was inserted, which reads as under:-*

> *"(viii-a) "Cluster" means the geographical boundary declared by the Director comprising of mining leases/quarry licences/short term permits which alreadyexists or to be granted in future. The area of a cluster declared by the Director, as far as possible, shall not exceed 50 sq. kms. and mineral concessions area at the time of formation of cluster shall not exceed 100 hectare."*

28. *The vires of said rule has not been challenged. A perusal of the rule*

shows that the concern expressed by the Supreme Court in Deepak Kumar's case (supra) has been attended to. The apprehension expressed by the Supreme Court where mining blocks were of less than 5 hectares with a distance of 1 km. maintained and thus since the mining was in a small area possibility of it having adverse environment impact has been taken care of. The Supreme Court highlighted that though individually impact may be minimum or 'nil', but as a cluster the impact may be severe.

29. *The rule in question specifies 50 sq. kms. area as the area of a cluster, which is fairly significant. By limiting mineral concessions area to not exceeding 100 hectares, the rule strikes abalance between sustained development and conservation of environment. 100 hectares equals to 1 sq. km. Thus, the rule in question limits the area of mineral concessions for mining leases/ quarry licences/ short term permits to only 1 sq. km., which would be 2% of the area of the cluster.*

30. *Notification dated 15.01.2016 incorporates Rule 3A in the Environmental Impact Assessment Notification dated 14.09.2006. It provides for a District Level Environment ImpactAssessment Authority. The rule reads as under:-*

"3 A. District Level Environment

Impact Assessment Authority:-

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

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

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

(4) The other two members of the DEIAA shall be the senior most Divisional Forest Officer and one expert. The expert shall be nominated by the Divisional Commissioner of the Division or Chief Conservator of Forest, as the case may be. The term

and qualifications of the expert fulfilling the eligibility criteria are given in Appendix VII to this notification.

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

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

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

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

DEAC in that order.

(9) A representative of the State Pollution Control Board or Committee, senior most Sub-Divisional Officer (Forest) in the district, representative of Remote Sensing Department or Geology Department or State Ground Water Department, one occupational health expert or Medical Officer to be nominated by the District Magistrate or District Collector, Engineer from Zila Parishad, and three expert members to be nominated by the Divisional Commissioner or Chief Conservator of Forest, as the case may be, shall be the other members of the DEAC. The term and qualifications of the experts fulfilling the eligibility criteria are given in Appendix VII to this notification.

(10) The members of the DEAC who are serving officers of the concerned State Government or the Union territory

Administration shall be ex-officio members except the expert members.

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

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

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

(14) Appendix-VII to the Rule stipulates the qualifications and the terms for the Experts constituting the District Level Environment Impact Assessment Authority. The

same reads as under:-

"APPENDIX VII

(See paragraph 3 A)

Qualifications and terms for the Experts in DEIAAand DEAC

1. ***Qualification:*** *The person should have at least (i) 5 years of formal University training in the concerned discipline leading to a MA or M Sc Degree or (ii) in case of Engineering/ Technology/ Architectural discipline, 4 years formal training course together with prescribed practical training in the field leading to a B. Tech/ B.E./*

B. Arch. Degree, or (iii) Other professional degree (e.g. MBA etc.) involving a total of 5 years of formal University training and prescribed practical training, or (iv) Prescribed apprenticeship/ article ship and pass examinations conducted by the concerned professional associations (e.g. Chartered Accountancy) or (v) a

University degree, followed by two years of formal training in a University or Service Academy (e.g. MBA/MPA etc.). In selecting the individual professionals, experience gained by them in their respective fields will be taken note of.

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

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

*4. **Fields:** Experts in Mining, Geology, Hydrology, Remote Sensing, Environment Quality, Environment Impact Assessment Process, Risk*

Assessment, Life Sciences, Marine Sciences, Forestry and Wildlife, Environmental Economics, Bio-diversity, and RiverEcology.

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

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

32.Appendix-VIII highlights the particulars by providing the application for mining of minor minerals under category 'B2' i.e. for land less than or equal to 5 hectares. The same reads asunder:-

"APPENDIX VIII

(See paragraph 6)

FORM 1 M

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

(II) Basic Information

(viii) Name of the Mining Lease site:

(ix) Location / site (GPS Co-ordinates):

(x) Size of the Mining Lease (Hectare):

(xi) Capacity of Mining Lease (TPA):

(xii) Period of Mining Lease:

(xiii) Expected cost of the Project:

(xiv) *Contact Information:*

Sl. No.	*Areas*	*Distance in kilometer/ details*
1.	*Distance of project site from nearest rail or road bridge over the concerned River,Rivulet, Nallah etc.*	
2.	*Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps*	
3	*Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value*	
4.	*Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests*	
5.	*Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting,over wintering, migration*	
6.	*Inland, coastal, marine or underground waters*	
7.	*State, National boundaries*	
8.	*Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas*	
9.	*Defence installations*	
10.	*Densely populated or built-up area, distance from nearest human habitation*	
11.	*Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)*	
12.	*Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)*	
13.	*Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)*	
14.	*Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)*	
15.	*Is proposed mining site located over or near fissure / fracture for ground water recharge*	

16.	*16. Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:-* *(a) The Forest (Conservation) Act, 1980;* *(b) The Wildlife (Protection) Act, 1972;* *(c) The Coastal Regulation Zone Notification, 2011.* *If yes, details of the same and their status to be given.*	
17.	*Forest land involved (hectares)*	
18.	*Whether there is any litigation pending against the project and/or land in which the project is propose to be set up?* *(a) Name of the Court* *(b) Case No.* *(c) Orders or directions of the Court, if any, and its relevance with the proposed project.*	

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

33. Appendix-X provides for the procedure for preparation of the District Survey Report. It reads as under:-

APPENDIX - X

[See paragraph 7 (iii) (a)]

PROCEDURE FOR PREPARATION OF DISTRICT SURVEY REPORT

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

Identification of areas of aggradations or deposition where mining can be allowed; and identification of areas of erosion and proximity to infrastructural structures and installations where mining should be prohibited and calculation of annual rate of replenishment and allowing time for replenishment after mining in that area.

The report shall have the following structure:

1. *Introduction*
2. *Overview of Mining Activity in the District*
3. *The List of Mining Leases in the District with location, area and period of validity*
4. *Details of Royalty or Revenue received in last three years.*
5. *Detail of Production of Sand or Bajari or minor mineral in last three years*
6. *Process of Deposition of Sediments in the rivers*

of the District

7. *General Profile of the District*
8. *Land Utilization Pattern in the district: Forest, Agriculture, Horticulture, Mining etc.*
9. *Physiography of the District*
10. *Rainfall: month-wise*
11. *Geology and Mineral Wealth In addition to the above, thereport shall contain the following:*

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

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

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

S.No.	*River or Stream*	*Portion of the river or stream recommended for mineral concession*	*Length of area recommend for mineral concession (in kilometer)*	*Average Width of are mineral concession(in meters)*	*Area recommended mineral concession (in sq uare meter)*	*Mineable mineral potential (in metric tone) (60% of total mineral potential)*
Total for the District						

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

Methodology adopted for calculation

of Mineral Potential:

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

The District Survey Report shall be prepared for each minor mineral in the district separately and its draft shall be placed in the public domain by keeping its copy in Collectorate and posting it on district's website for twenty one days. The comments received shall be considered and iffound fit, shall be incorporated in the final Report to be finalised within six months by the DEIAA.

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

34. *Appendix-XI lays down the policy to be followed for environmental clearance for mining of minor minerals including cluster situation for areas upto or less than 5 hectares. The same reads as under:-*

"APPENDIX - XI

[See paragraph 7 (iii) (b)]

PROCEDURE FOR ENVIRONMENTAL CLEARANCE FOR MINING OF MINOR MINERALS INCLUDING CLUSTER

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

i. *The data provided by the States (Sustainable Sand Mining Guidelines) shows that most of the mining leases forminor 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.*

ii. *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.

iii. *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.*

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

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

vi. *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.

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

viii. *The SEIAAs shall have supervisory jurisdiction over theDEIAAs and decisions of DEIAA shall be reviewed by the SEIAA without prejudice to any provisions under any existing law.*

Schematic Presentation of Requirements on Environmental Clearance of Minor Minerals including cluster situation

Area of lease (Hectare)	*Category of Project*	*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 and other Minor Mineral Mining on the basis of Individual mine lease								
0-5ha	*'B2'*	*Form-1MPFR and Approved Mine Plan*	*No*	*Yes*	*Project Proponent*	*Project Proponent*	*DEAC / DEIAA*	*DEIAA SEIAA SPCB CPCB MoEFCC Agency*

> 5 ha and < 25ha	*'B2'*	*Form-I, PFR and Approved Mine Plan and EMP*	*No*	*Yes*	*Project Proponent*	*Project Proponent*	*SEAC /SEIAA*	*Nominated by MoEFCC*
> 25 ha < 50 ha	*'B1'*	*Yes*	*Yes*	*Yes*	*Project Proponent*	*Project Proponent*	*SEAC / SEIAA*	
>50 ha	*'A'*	*Yes*	*Yes*	*Yes*	*Project Proponent*	*Project Proponent*	*EAC/ MoEFCC*	
EC Proposal of Sand Mining and other Minor Mineral Mining in cluster situation								
Cluster area of mine leases upto 5ha	*'B2'*	*Form-1MPFR 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 leaes > 5ha and < 25 h	*'B2'*	*Form-1MPFR and Approved Min e Plan and one*	*No*	*Yes*	*State, State Agency, Group Of Project Proponents Project Proponent*	*Project Proponent*	*DEAC / DEIAA*	
a with no individual lease > 5ha		*EMP for all leases in the Cluster*						
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	*'A'*	*Yes*	*Yes*	*Yes*	*State, State Agency,*	*Project Proponent*	*EAC/ MoEFCC*	
any of the individual lease >50 ha					*Group of Project Proponents Project Proponent*			

35. A perusal of the three Appendixes would show that complete concern to balance the environment and mining of bajri and boulders has been taken care of. Thus, as regards the requirements of law are concerned we find that the legal provisions in the State of Rajasthan concerning mining of bajri on private khatedari lands and Government lands away from river beds, conforms to the principles of sustainable development

and takes care of the environment.

36. Data provided by the State of Rajasthan shows that in the State of Rajasthan environmental clearance has been granted for mining of bajri in private khatedari lands in various Tehsils of District Bikaner. The number is 49. The lease area varies between 2 hectares to a maximum of 4.96 hectares. In District Nagaur 14 mining leases for bajri in private khatedari lands with environmental clearance have been granted. The area varies between 1 hectare to 5.28 hectares. On Government lands bajri mining leases with environmental clearance has been granted to 12 persons in District Bikaner. In Districts Barmer, Nagaur, Rajsamand, Kota, Bhilwara and Sawai Madhopur 15 short term permits on private lands have been granted with environmental clearance. In Districts Rajsamand, Nagaur, Bikaner and Chittorgarh 14 short term permits on Government lands have been granted with environmental clearance.

37. With reference to Appendix-VIII, environmental sensitivity requires distance from road, bridges, river and nallahs to be taken into account. The ecology sensitive areas such as wetlands, watercourses, biospheres, mountains and forests have also to be taken into account. Similarly areas where sensitive species of flora or fauna breeding and nesting from migratory birds have also to be taken into account. In the absence of specific challenge to the District Survey Reports we are not inclined to hold a roving and fishing

enquiry into the District Survey Reports in these areas based whereon environmental clearance has been granted. It is trite that there is a presumption that official acts and decisions are legal unless shown to be to the contrary.

38. Thus, since we are not concerned with grant of mining leases on river beds; as already held above, the requirement of replenishment study is inherently not applicable to the sites in question. On the second contention urged i.e. of environmental clearance not being granted as per law, we hold that the requirements of law pertaining to District Survey Reports and environmental clearances being granted in terms of the rules has been complied with, we reject the contentions advanced on behalfof the petitioner.

39. We also highlight that in respect of mining leases environmental clearances were by and large granted in the year 2016. Mining leases were granted much prior. Environmental clearances were granted in the year 2016 on account of the notification issued in January, 2016 requiring existing leases to be considered from the point of view of environmental clearances.

40. Pertaining to short term permits, the rules as noted above permit so. In respect of short term permits we additionally highlight that even otherwise adverse environmental impact would be minimal on account of the fact that the quantity of bajri which can be excavated has been specified. The short term permits have been

granted because bajri is required for Government projects of great public importance.

41. As held by the Supreme Court in the decision reported as (2002) 10 SCC 606, T.N. Godavarman Thirumulpad Vs. Union of India & Ors., it cannot be disputed that no development is possible without some adverse effect on the ecology and environment and the projects of public utility cannot be abandoned and it is necessary to adjust the interest of the people as well as the necessity to maintain the environment. A balance has to be struck between the two interests. Where the commercial ventures bring in results, which are far more useful for the people, difficulty of a small number of people has to be by-passed. The comparative hardships have to be balanced and the convenience and benefit to a large section of the people has to be given preference over comparatively less hardships.

42. As observed by the Supreme Court in the decision reported as (2009) 9 SCC 737, Tirupur Dyeing Factory Owners Vs. Noyyal Rivers Ayacutdars Protection Association, the concept of sustained development covers the development that meets the needs of the person without compromising the ability of the future generation to meet their own needs. It means the development that can take place and which can be sustained by nature/ecology with or without mitigation. Therefore in such matters, the required standard is that

the risk of harm to the environment or to the human health is to be decided in public interest according to a reasonable persons test.

43. Concerning M/s Daulat Singh and sons, suffice it to state that mining lease was to mine Ball Clay, Fire Clay, Red & Yellow Ochre. Gravel and friable sand stone which is a form of bajri is a by-product. Necessary permission has been granted by the Mining Department to sell the same. Remaining codal formalities came to be halted in view of the stay order granted by the learned Single Judge. Since the writ petition is being dismissed the authorities shall process the application of said applicant as per law.

44. The writ petition is dismissed."

12. Learned counsel for the Applicant has submitted that similar matter with regard to the illegal sand mining and imposition of penalty on the vehicles has been considered by the Hon'ble the Supreme Court of India in Civil Appellate Jurisdiction in S.L.P. No. (C) 10587 of 2019, I.A. No. 29984 of 2021 and Hon'ble Court vide order dated 11th November, 2021 has observed as follows:

*"1. Realising the damage caused to lakes, riverbeds and groundwater on account of quarry/ mining leases, the Ministry of Environment, Forest and Climate Change ("**MoEFCC**") constituted a Core Group by its order dated 24.03.2009, to look into the following points:*

"(i) To consider the environmental aspects of mining of minor minerals (quarrying as well as riverbed mining) for their integration into the mining process. Specific safeguard measures required to minimise the likely adverse impacts of mining on environment with specific reference to impact on water bodies as well as groundwater so as to ensure sustainable mining.

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

9. A report was submitted by the Core Group on the basis of which several recommendations were made by the MoEFCC relating to sand mining in March, 2010. Later, Model Guidelines on "Environmental Aspects of Quarrying of Minor Minerals" were formulated in 2010 for sustainable mining of minor minerals, along with draft rules titled Minor Minerals Conservation and Development Rules, 2010. In ***Deepak Kumar v. State of Haryana,*** *this Court directed the State Governments and Union Territories to implement the recommendations made by the MoEFCC in its report of March, 2010 and the Model Guidelines framed by the Ministry of Mines within a period of six weeks from the date of the judgment. The State Governments and*

Union Territories were also directed to frame necessary rules under Section 15 of the Mines and Minerals (Development and Regulation) Act, 1957 ***("MMDR Act").*** *The above directions were issued by this Court after recording the deleterious effects of sand mining on biodiversity, such as destabilization of the soil structure of river banks and loss of habitat, to name a few.*

10. Pursuant to the directions issued by this Court in ***Deepak Kumar*** *(supra), the Rajasthan Minor Mineral Concession Rules, 1986 ("****1986 Rules****") were amended by notifications dated 23.05.2012, 19.06.2012 and 21.06.2012. By the said notifications, mining leases for sand were to be given by tender / auction for a period of five years. Letters of Intent ("****LoIs****") were to be issued to the eligible applicants by the competent authority and the eligible applicants were required to submit the requisite No Objection Certificates, Environmental Clearance ("****EC****") and approved mining plan. As the grant of EC was likely to be delayed, the State of Rajasthan incorporated a provision in the 1986 Rules by way of the amendment dated 21.06.2012, permitting sand mining through the then existing system of Royalty Collection*

Contract and issue of Temporary Work Permit, till EC is granted.

11. A total of 130 mining plots were identified for conduct of auction for sand mining. Tenders were received for 105 plots. LoIs were issued to each of the successful bidders with respect to the105 plots, who were further directed to submit a mining application and obtain EC under the notification dated 14.09.2006 issued by the MoEFCC ("EIA Notification, 2006") and submit the same within a period of 12 months. Between November, 2013 and March, 2016, 65 out of the 82 LoI holders presented final Environment Management Plant (EMP) after Environment Impact Assessment (EIA) study and public hearing. The Expert Appraisal Committee (EAC) constituted under the EIA Notification, 2006 by the MoEFCC recommended grant of EC to these 65 LoI holders. As EC was not granted by the MoEFCC to most of the LoI holders within a period of six months, the State of Rajasthan sought for extension of time for continuing the then existing system of sand mining by way of Royalty Collection

Contract. The High Court refused the request made by the State Government by an order dated 21.10.2013. Aggrieved thereby, the State Government filed SLP (C) No. 34134 of 2013 before this Court. This Court passed an interim order dated 25.11.2013 permitting the 82 LoI holders, who had submitted their applications for obtaining EC to the MoEFCC, to carry on mining operations in accordance with the notification dated 21.06.2012 amending the 1986 Rules. Temporary Work Permits were issued to 80 out of the 82 LoI holders to carry on mining operations pursuant to the said interim order. The interim order dated 25.11.2013 was extended by this Court on 24.02.2014 and 27.03.2014. Ultimately, by an order dated 16.11.2017, this Court restrained all the 82 mining lease / quarry holders from carrying on mining of sand and bajri, unless a scientific replenishment study is completed and EC is granted by the MoEFCC. This Court was concerned about the continuation of mining without EC. The State Government stopped the mining activities pursuant to the order passed by this Court

on 16.11.2017.

*Shortly after, a notification was issued by the State of Rajasthan on 28.12.2017 with respect to Rule 51 of the Rajasthan Minor Mineral Concession Rules, 2017 ("**2017Rules**"), permitting grant of short-term permits for excavation of sand in Khatedari lands only for Government- related works or organisations aided by the Government. The 2017 Rules were amended on 25.06.2018 by which Rule 17A was inserted, enabling the Government to grant mining lease in Khatedari lands to Khatedars.*

12. On 28.02.2018, sub-rule (4) of Rule 5 of the 2017 Rules was amended. By the said amendment, the time period of one year for fulfilment of the conditions of the LoIs, including execution and registration of mining lease, was extended to 13 months from the date of commencement of the 2017 Rules, failing which the rights

of the applicants would stand forfeited. According to the State Government, the LoIs of 74 members of the Bajri Lease LoI Holders Welfare Society had lapsed owing to non- fulfilment of conditions within the period of 13 months. The remaining 8 LoI holders, who had been issued EC and subsequently granted mining leases, could not continue with mining operations without the requisite replenishment study reports.

13. The Bajri Lease LoI Holders Welfare Society challenged the vires of sub-rule (4) of Rule 5 of the 2017 Rules in the High Court of Rajasthan. On 09.04.2019, the High Court dismissed the writ petitions. Thereafter, the Petitioner-Society filed SLP (C) No.10587 of 2019 assailing the judgment of the High Court. Notice was issued in the matter and an interim order was passed on 10.05.2019 restraining cancellation of the LoIs of the members of the Petitioner-

*Society. On 19.02.2020, this Court, taking note of the scale of the issue of illegal sand mining in the State of Rajasthan, directed the Central Empowered Committee ("**CEC**") to submit a report on the problems relating to sand mining that are faced by traders, consumers, transporters, the State and other stakeholders and also on measures to stop illegal sand mining.*

12. The CEC submitted its report to this Court dated 23.12.2020, in which the following recommendations have been made:

A. *"All the Khatedari leases located within 5 kms fromthe river bank as well as leases where violation of the lease conditions including misuse of e-ravannas are detected are terminated forthwith and the State Government shall not issue fresh Khatedari leases except for Palaeo deposits in the District of Binaker without the approval of this Hon'ble Court.*
B. *The State Government shall dispense with the Excess*

Royalty Collection Contract system in respect of any kind of sand mining leases forthwith and the royalty shall be paid on line by the lessee to the StateGovernment and generate royalty paid e-ravanna before transporting of sand from the mining site;

C. *The MoEF&CC will issue EC in respect of all the valid LoI holders recommended by the EAC in its meeting held during 2014- 2016 without insisting on submission of scientific study report as a precondition for grant of EC within a period of three months. MoEF&CC shall also prescribe detailed methodology in consultation with CMPDI for undertaking replenishment study during the course of mining as discussed in para 11 (iii) of this Report.*

D. *River sand mining in Rajasthan is permitted to be conducted after obtaining all statutory clearances and payment of dues and applicable taxes following the procedure listed in para 11 (iii) of this report.*

E. *The MoEF&CC shall arrange for scrutiny of the DSR prepared as*

provided in MoEF&CC Guidelines of 2016 and 2020 and the production figures approved in the DSR are scrupulously followed by the authorities under the EP Act 1986 while issuing the EC.

F. *The period of actual mining of sand under TWP should be adjusted against the five-year lease period.*

G. *Government of Rajasthan will constitute an Empowered Committee headed by the Chief Secretary to consider and settle claims of excess payments collected from the LoI holders during the period of working under TWP. The Committee shall examine each of the cases and take a decision in this regard within a period of six months from the date of orders. Monthly progress reports in this regard may be sent to CEC.*

H. *The State Government will auction the sand mining leases after proper ground demarcation and after assessing the extractable sand resources as given in the approved DSR and after obtaining no objection certificates from all concerned authorities. The sale of mining blocks objected to by any of the*

government departments shall not be put up for tender/auction.

I. *State Government to review the amendments to Rule 5(4) of RMMCR, 2017 so that it will not be an impediment for execution ofsand mining lease.*

J. *For brazen violation of this Hon'ble Court order dated 16.11.2017 exemplary penalty of Rs.10 lakhs per vehicle and Rs.5 lakhs per cu.m of sand seized may be imposed as a deterrent. This will be in addition to what has already been ordered/collected by the State agencies as penalty/compensation.*

K. *State Government of Rajasthan is directed to conduct drone survey in respect of all the remaining Khatedari leases and complete the same within the next four months to assess the irregularities if any committed by them. A copy of this Report may alsobe made available to CEC."*

12. The State of Rajasthan has filed Interlocutory Application No. 29984 of 2021 requesting this Court to accept the recommendations made by the CEC in respect of all points, except recommendations 'A' and 'J'.

Recommendation 'A' relates to termination of Khatedari leases within 5 km of the river bank and restriction on the StateGovernment to grant fresh Khatedari leases without the approval of this Court. Recommendation 'J' pertains to exemplary penalty of Rs.10 lakh per vehicle and Rs.5 lakh per cubic metre of sand seized for violation of the order passed by this Court on 16.11.2017.

13. The reasons given by the State of Rajasthan for its objection to the recommendation made by the CEC for cancellation of Khatedari leases is that mineral wealth lying in agricultural land should also be utilized. The State Government has brought to the notice of this Court that a request was made to the MoEFCC to revisit the Enforcement & Monitoring Guidelines for Sand Mining, 2020 ("2020 Sand Mining Guidelines") regarding excavation of sand within the periphery of 5 km from the river bed. In view of scanty rain fall patterns in the State, the submission of the State is that mining leases in agricultural fields should be permitted. Insofar as additional penalty recommended by the CEC for the illegal sand mining and transportation is concerned, the State is of the opinion that the penalties recommended are excessive and their recovery would be difficult.

14. Interlocutory Application No. 54981 of 2021 seeking intervention has been filed on behalf of 10 Khatedars who asserted that no illegal sand mining is being carried on bythem. It was argued on their behalf that these Khatedars have been acting in accordance with the

conditions of their lease. It was contended that the CEC committed an error in recommending cancellation of their mining leases. The said Khatedars found fault with recommendation 'C' of the CEC in favour of the LoI holders.

15. The CEC, in its report, has highlighted the delay in the grant of EC by the MoEFCC to the LoI holders as the cause for widening the gap in demand and supply of sand, which has resulted in proliferation of illegal sand mining activities tomeet the shortfall in supply. The recommendation made by the CEC is that the MoEFCC will issue EC in *respect of all the valid LoI holders recommended by the EAC, within a period of three months, without insisting on submission of the scientific replenishment study report as a pre-condition for the grant of EC, with the replenishment study due to be undertaken during the course of mining.*

16. In spite of the order passed by this Court on 16.11.2017 that no river sand shall be permitted unless a scientific replenishment study is completed and EC is granted, 194 mining leases of Khatedari lands have been granted in the State of Rajasthan, with most of these lands being in close proximity of the river banks of the State. 114 Khatedari leases are within a distance of 100 metres or less from the river bank and only 23 Khatedari leases have been granted beyond a distance of 5 km from the river bank. The CEC has stated in its report that the agricultural lands do not have deposits of quality sand suitable for construction, being a mixture of sand, silt

and clay. The Khatedars have been exploiting the locational proximity to the river banks by excavating sand from the river bed, instead of restricting the mining to their leasehold areas, completely in violation of the mining plan. The quantity of sand is in excess of the permissible limit which is transported by being shown as having been mined in the Khatedari lands. The CEC has commented upon the involvement of sand mafia in the trade of sand illegally mined by the Khatedars as well as the involvement of authorities in the State of Rajasthan. Therefore, the CEC has recommended the cancellation of all Khatedari leases located within 5 km from the river banks as well as those leases where violation of lease conditions including misuse of e- ravannas are detected. The CEC further recommended that no fresh Khatedari leases shall be granted, except for Palaeo deposits, without the approval of this Court.

17. Section 23C of the MMDR Act empowers the State Governments to make rules for preventing illegal mining, transportation and storage of minerals. This Court in Deepak Kumar (supra) directed the State Governments / Union Territories to formulate rules in accordance with the Model Guidelines. Pursuant to the directions issued by this Court and the National Green Tribunal ("NGT"), the Sustainable Sand Mining Management Guidelines, 2016 were issued ("2016 Sand Mining Guidelines"). The responsibility for implementation of the said Guidelines was placed on the State Governments

which had to create a mechanism to measure the mined-out mineral and its transportation and also to ensure that the amount of mineral mined does not exceed the quantity permitted in the EC. The 2016 Sand Mining Guidelines recommended use of Transport Permits with bar codes, for generation of reports showing the daily lifting of sand and user performance reports. Transport Permits with bar codes would also enable vehicles carrying sand to be tracked from source to destination. Dissatisfied with the ineffective monitoring mechanism, failure of the Mines Surveillance System as well as lack of an effective institutional monitoring mechanism not only at the stage of the grant of EC but at subsequent stages with respect to illegal sand mining, the NGT, in an order dated 05.04.2019 in National Green Tribunal Bar Association v. Virender Singh in OA No. 360 of 2015 and connected matters, directed the MoEFCC and the State Governments to review extant monitoring mechanisms and consider revision of the 2016 Sand Mining Guidelines. Consequently, the MoEFCC issued the 2020 Sand Mining Guidelines.

18. The damage caused to the environment due to rampant unscientific illegal mining needs no reiteration. Unabated illegal mining has resulted in the emergence of sand mafia who have been conducting illegal mining in the manner of organized criminal activities and have been involved in brutal attacks against members of local communities, enforcement officials, reporters and social activists for objecting to unlawful sand

excavation. The statistics provided by the State Government highlights the magnitude of the problem as about 2411 FIRs have been registered in relation to illegal mining in the State of Rajasthan, between 16.11.2017 and 30.01.2020. When this Court has restrained 82 mining lease / quarry holders from carrying on mining of sand and bajri unless a scientific replenishment study is completed and EC is issued by the MoEFCC, the State of Rajasthan ought not to have issued mining leases in favour of the Khatedars. It is clear from the report of the CEC that the majority of the Khatedari leases are within 100 metres from the river bed. The 2020 Sand Mining Guidelines prescribe that mining plan for mining leases on Khatedari lands shall only be approved if there is a possibility of replenishment of the mineral or when there is no possibility of river bed mining within 5 km of the patta land / Khatedari land. Agreeing with the CEC's conclusions on the issue of mining leases in Khatedari lands facilitating legalisation of transportation and sale of illegally extracted sand, we approve the recommendation of the CEC that all Khatedari leases which are located within 5 km from the river bed and those leases where lease conditions have been violated have to be terminated forthwith and that Khatedari leases shall be granted only with the permission of this Court.

19. The CEC has recommended imposition of exemplary penalty of Rs.10 lakh per vehicle and Rs.5 lakh per cubic metre of sand seized, which

would be in addition to what has already been ordered / collected by the State agencies as compensation. Compensation / penalty to be paid by those indulging in illegal sand mining cannot be restricted to the value of illegally-mined minerals. The cost of restoration of environment as well as the cost of ecological services should be part of the compensation. The "Polluter Pays" principle as interpreted by this Court means that the absolute liability for harm to the environment extends not only to compensate the victims of pollution but also the cost of restoring the environmental degradation. Remediation of the damaged environment is part of the process of "Sustainable Development" and as such the polluter is liable to pay the cost to the individual sufferers as well as the cost of reversing the damaged ecology.

20. The scale of compensation by those who are involved in illegal mining has been dealt with by the NGT in National Green Tribunal Bar Association v. Virender Singh (supra). In its order dated 26.02.2021, the NGT considered and approved the Report submitted by the Central Pollution Control Board dated 30.01.2020, in pursuance of its earlier orders, on scale of compensation to be recovered for violation of norms for mining on "Polluter Pays" principle. Additionally, para 9.2 of the 2020 Sand Mining Guidelines provides as follows:

> *"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."

13. Section 21(5) of the MMDR Act empowers the State Government to recover the price of the illegally-mined mineral, in addition to recovery of rent, royalty or tax. The penalty recommended by the CEC for illegal sand mining is in addition to the penalty that can be imposed by the State Government in terms of Section 21(5) of the Act. However, the basis for imposition of exemplary penalty of Rs. 10 lakh per vehicle and Rs. 5 lakh per cubic metre of sand has not been stated by the CEC in its report. The CEC is directed to follow the directions given by the NGT in respect of imposition of penalty / determining scale of compensation for illegal mining and the provisions of the 2020 Sand Mining Guidelines and determine the penalty / compensation afresh and submit a report to this Court within a period of eight weeks from today.

9. The recommendations made by the CEC, except recommendation 'J', are approved for implementation forthwith. IA No. 29984 of 2021 and IA No. 54981 of 2021 are disposed of.

***20.** SLP (C) No. 10587 of 2019 and SLP (C) No. 10670 of 2019 are directed to be listed after eight weeks."*

14. The Learned Counsel appearing for the Ministry of Environment, Forest and Climate Change (MoEF&CC) has argued that the Respondent Ministry has formulated the new guidelines i.e. "Enforcement & Monitoring Guidelines for Sand Mining" (EMGSM 2020) supplemental to the existing guidelines i.e. Sustainable Sand Management Guidelines 2016, which focus on the effective monitoring of the sand mining, the identification of sand mineral sources, its dispatch and end-use by consumers and the general public. Further, this document will serve as a guideline for collection of critical information of enforcement of the regulatory provision(s) and also highlights the essential infrastructural requirements necessary for effective monitoring for sustainable sand mining.

15. Learned Counsel appearing for the MoEF&CC has submitted that the Monitoring Guidelines as issued by the Ministry is required to be followed. It is to be noted that enforcement of Monitoring Guidelines for Sand Mining was issued in January, 2020 by the Ministry of Environment and Forest. The relevant paras are quoted below:

> a) *"Parts of the river reach that experience deposition or aggradations shall be identified. The Leaseholder/ Environmental Clearance holder may be allowed to extract the sand and gravel deposit in these locations to manage aggradations 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 ¼th 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."

4.1.1 Preparation of District Survey Report. "Sustainable Sand Mining Guidelines, 2016" issued by MoEF&CC requires preparation of District Survey Report (DSR), which is an important initial step before grant of mining lease/LoI. The guidelines emphasize detailed procedure to be followed for the purpose of identification of areas of aggradations/ 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 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 aggradations/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 (MSand). 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 aggradations/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, Desilting 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 aggradations/deposition needs to be ascertained by comparing the level difference between the outside riverbed OGL and water level. Once the area of aggradations/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 ¾th part of the river, width needs to be identified on a map. Out of the ¾th part area, where there is a deposition/aggradation of the material needs to be identified. The remaining ¼th area needs to be kept as no mining zone for the protection of banks. The specific gravity of the material also needs to be ascertained by analyzing the sample from a NABL accredited lab. Thus, the quantity of material available in metric ton needs to be calculated for mining and no mining zone 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 aggradations 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.*

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, desiltation 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. The details regarding cluster and contiguous cluster needs to be provided in Annexure-VI.*

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 postmonsoon) to estimate the volume of replenished material. The particle size distribution and bulk density of the deposited material are required to be assessed from a NABL recognized laboratory. Considering the bulk density and the volume, the estimation of replenishment in weight will be calculated after considering safeguards and stability of the slopes and riverine regime. Some of the common methods used for field data acquisition for replenishment study.

5.2.1. Physical survey of the field by the conventional method

i. The conventional survey technical using DGPS and other survey

tools are used to define the topography, contours and offsets of the lease area. The survey should clearly depict the important attributes of the stretch of the river and its nearby important civil and other feature of importance. Such information will provide the eligible spatial area for mining. The contour and the elevation benchmarks will provide the baseline data for assessing the pre and post-study period scenario.

ii. *Physical benchmarks are to be fixed at appropriate intervals (preferable 1 in 30 m) and the Reduced Level (RL) shall be validated from a nearby standard RL. These RL should be engraved on a steel plate (Bench Plate) and shall be fixed and placed at locations which are free from any damages and are available in pre and post-study period. The bench plates shall be available for use during the mining period as reference for all mining activity. Reference pillar may also be used in place of Bench Plates with visible and readable demarcation on the ground as common reference points to control the topographic survey and mining activity.*

iii. *Baseline data on elevation status for a grid of 10 m x 10 m is preferred to have accuracy in the assessment. It is expected that two consecutive cross-sections in longitudinal and lateral direction should not be more than 10-meter distance apart, however, the regulatory authority may fix these intervals depending on the geographical and site-specific conditions, only and after providing the scientific reason for such deviation.*

iv. *The changes observed in the elevation in per and post scenario at each node should be depicted in graphical forms with an appropriate scale to estimate the area of deposition and erosion. These graphical presentations*

should depict the active channel regime and the flow bed elevation with other important features required to be considered for estimation of the mining area. The area of deposition and erosion shall be calculated for each cross-section after giving due regard to the stability and safety of active channel banks, and other features of importance. The elevation level shall be in reference to the nearest bench-plates established for the purpose.

v. *The levels (MSL & RL) of the corner point of each grid should be identifiable and safety barriers (Non-Mining) demarcated as restricted in consensus with Mineral Concession Rules of respective State, and the provision mentioned in this Sustainable Sand Mining Management Guidelines.*

vi. *A clear identification is required to be highlighted between grids under mineable and grids under the non-mineable area. These baseline data (pre and post) be subjected to stimulation with the help of data mine software to derive at the replenishment area and corresponding volume and estimated weight.*

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

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

ix. *One sample per 900 square meters (30 m x 30 m) shall be preferred sample density for*

assessment of bulk density for estimation of deposition rate. Care should be taken that the sample for assessment of bulk density is taken from the deposition zone and not from erosion. However, depending on the site condition, river morphology and geographical condition, sample density may be adjusted. Reason for such deviation shall be appropriately highlighted in the report with supporting scientific data.

5.2.4Replenishment 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.*

16. The matter of sand mining and its effects has been discussed in the case of K. Rajasekar vs. The Chief Secretary to Government decided on 16.02.2018 by Hon'ble the Madras High Court the relevant paragraphs are quoted below:

> *"12. The learned counsel for the writ petitioners in the respective writ petitions contended that the State has been undertaking mining operations without any regard to the environment. The agents engaged by the State for mining and transportation of sand indulged in all kinds of illegal activities and the same resulted in causing considerable damage to the environment. By placing reliance on the report submitted by the Court Commissioners, it was contended that time has come to stop the sand quarrying operations across the River Cauvery and Coleroon in the interest of the ecology. It was further contended that the natural resources, which is the public wealth has been looted by the State in collusion with the intermediaries.*
>
> *13. The learned Advocate General by placing reliance on the affidavit filed by the Principal Secretary to the Government, Public Works Department and the supporting affidavit filed by the Chief Secretary to the Government submitted that the State would undertake sand mining*

after satisfying all the legal requirements and without adversely affecting the ecology. According to the learned Advocate General, the State would discharge the obligation undertaken without causing any kind of damage to the environment. The learned Advocate General took us through the proposal indicated in the affidavit filed by the Principal Secretary to the Government to demonstrate that in case the steps suggested by the Government is taken, it would enable the State to undertake mining operations without affecting the environment…..

24. The adverse effect of sand mining without a proper mine plan was indicated by the Hon'ble Supreme Court in Deepak Kumar and others v. State of Haryana and others [(2012) 4 SCC 629]

9. Extraction of alluvial material from within or near a streambed has a direct impact on the stream's physical habitat characteristics. These characteristics include bed elevation, substrate composition and stability, in stream roughness elements, depth, velocity, turbiditysediment transport, stream discharge and temperature. Altering these habitat characteristics can have deleterious impacts on both instream biota and the associated riparian habitat. The demand for sand continues to increase day by day as building and construction of new infrastructures and expansion of existing ones is continuous thereby

placing immense pressure on the supply of the sand resource and hence mining activities are going on legally and illegally without any restrictions. Lack of proper planning and sand management cause disturbance of marine ecosystem and also upset the ability of natural marine processes to replenish the sand.

25.Quarrying of river sand, it is true, is an important economic activity in the country with river sand forming a crucial raw material for the infrastructural development and for the construction industry but excessive in stream sand and gravel mining causes the degradation of rivers. In stream mining lowers the stream bottom of rivers which may lead to bank erosion. Depletion of sand in the streambed and along coastal areas causes the deepening of rivers which may result in destruction of aquatic and riparian habitats as well. Extraction of alluvial material as already mentioned from within or near a streambed has a direct impact on the stream's physical habitat characteristics.

Conditions imposed by the Environment Authority

25. The environmental clearance issued for mining of sand contained the following mandatory conditions:-

i. *The Licensee must use minimum number of poclains*

and it should not be more than two in the project site.

ii. *The District Administration should assess the site for Environmental impact at the end of first year to permit the continuation of the operation.*

iii. *The Annual replenishment report certified by the authorised agency must be submitted to the prescribed authority. In case, the replenishment is low, the mining activity/production levels shall accordingly be decreased/stopped.*

iv. *There shall be no quarrying of sand in any river bed or adjoining area or any other area which is located within 500 m radial distances from the location of any bridge, water supply system, infiltration well or pumping installation.*

v. *The ultimate working depth shall be 1 m from the present natural river bed level and the thickness of the sand available shall be more than 3 m in the proposed quarry site.*

vi. *The sand quarrying shall not be carried out below the ground water table under any circumstances. In case, the ground water table occurs within the permitted depth at 1 meter, quarrying operation shall be stopped immediately.*

vii. *The sand mining should not disturb in any way the turbidity, velocity and flow pattern of the river water.*

viii. *The mining activity shall be monitored by the Taluk level Force once in a month by conducting physical verification.*

ix. *After closure of the mining, the licensee shall immediately remove all the sheds put up in the quarry and all the equipments used for operation of sand quarry. The roads/pathways shall be levelled to let the river resume its normal course without any artificial obstruction to the extent possible.*

x. *The mined out pits to be backfilled where warranted and area should be suitably landscaped to prevent environmental degradation.*

32. The natural resources are valuable assets of the State. It is the primary duty of the State to conserve the natural resources for our future generation. The citizens must be in a position to enjoy the resources without causing damage to the environment and the ecology. There must be an institutional framework and enforcement mechanism to prevent illegal and excess quarrying.

33. The mining should be undertaken by the State without any adverse impact on the environment. The State alone is responsible for this sorry state of affairs. There is no proper mechanism to check the illegal quarrying and the excess sand mining. The authorities who are given the mandate to operate

the sand quarry are not at all concerned with the environment and ecology. They are conducting mining activities in collusion with the mining mafia and looting the natural wealth.

34. The River sand is an essential raw material for construction activity. The cost of construction nowadays depends upon very much on the cost of sand. The State for supply of sand to the people at affordable rate ought to have quarried the River sand judiciously and in compliance with the environmental norms and without causing destruction of Rivers. There is no dispute that depletion of sand in the stream bed would result in deepening of rivers and it would have a cascading effect on the environment. Therefore, a balance has to be struck taking into account the need to preserve the ecology and the need for quarrying River Sand for the economic development of the State.

40. The Hon'ble Supreme Court in M.C.Mehta v. Kamal Nath [1997 (1) Supreme Court Cases 388] made it clear that if there is a law made by the State legislature, the Courts can serve as an instrument of determining legislative intent in the exercise of its powers of judicial review:

> *"35. We are fully aware that the issues presented in this case illustrate the classic struggle between those members of the public who would preserve our rivers, forests, parks and open lands*

in their pristine purity and those charged with administrative responsibilities who, under the pressures of the changing needs of an increasingly complex society, find it necessary to encroach to some extent upon open lands heretofore considered inviolate to change. The resolution of this conflict in any given case is for the legislature and not the Courts. If there is a law made by Parliament or the State Legislatures the courts can serve as an instrument of determining legislative intent in the exercise of its powers of judicial review under the constitution."

43. The quarrying operations, even in those quarries where there are shoals of sand, must be undertaken only by abiding the norms and conditions of the environmental clearance. The quarry site shall be closed immediately after removing the available shoals of sand. The area and the depth of the quarry shall be in accordance with the permission granted by the environmental authorities. Such quarrying operations would be subject to the result of the Special Leave Petition pending before the Hon'ble Supreme Court in SLP No.2831 of 2018.

45. The Government must undertake a scientific study with the help of experts to identify the mineral deposits and its exact location. The State must excavate the minerals only from the places identified by the experts and by following the conditions imposed by the environmental authorities. Interlinking roads inside the river must be removed to check the illegal mining and transportation of minerals. The levelling of roads inside the river shall be done on a phased manner and giving priority. The sand mining shall not be undertaken in respect of locations where illegal sand mining has already been carried out.

46. The State must ensure that the sand quarries would adhere to the norms regarding extent and depth. The boundary of the quarry shall be demarcated by following the procedure set-out under Clause 2 (ii) of the conditions imposed by the environmental authority.

17. We have two things, sovereignty of the State and the doctrine of public trust. We have to make a balance between the two though the State has every authority to utilize the land but Public Trust Doctrine says that the property of the public should be utilized for the public purposes and not for the private purposes. The water bodies, lake, air and land all these are the public

properties and should be made available to all for maintaining the health and environment. This Doctrine of public trust and precautionary measures was discussed in public interest litigation no. 87/2006; Bombay Environmental Action Group Vs. State of Maharashtra 2018 SCC online Bombay 2680.2019(1) Bombay CRI and it was held as follows:-

"Apex Court observed thus:

"2. The Indian society has, for many centuries, been aware and conscious of the necessity of protecting environment and ecology. Sages and saints of India lived in forests. Their preachings contained in vedas, upanishads, smritis, etc. are ample evidence of the society's respect for plants, trees, earth, sky, air, water and every form of life. The main motto of social life is to live in harmony with nature. It was regarded as a sacred duty of everyone to protect them. In those days, people worshipped trees, rivers and sea which were treated as belonging to all living creatures. The children were educated by elders of the society about the necessity of keeping the environment clean and protecting earth, rivers, sea, forests, trees, flora, fauna and every species of life."

" The ancient Roman Empire developed a legal theory known as the "doctrine of the public trust". It was founded on the premise that certain common properties such as air, sea, water and forests are of immense importance to the people in general and they must beheld by the Government as a trustee for the free and unimpeded use by the general public and it would be

wholly unjustified to make them a subject of private ownership. The doctrine enjoins upon the Government to protect the resources for the enjoyment of the general public rather than to permit their use for private ownership or commercial exploitation to satisfy the greed of a few."

In the case of M.C. Mehta v. Kamal Nath, in paragraph 34 and 35, the Apex Court held thus:

"34. Our legal system - based on English common law - includes the public trust doctrine as part of its jurisprudence. The State is the trustee of all natural resources which are by nature meant for public use and enjoyment. Public at large is the beneficiary of the sea- shore, running waters, airs, forests and ecologically fragile lands. The State as a trustee is under a legal duty to protect the natural resources. These resources meant for public use cannot be converted into private ownership.

35. We are fully aware that the issues presented in this case illustrate the classic struggle between those members of the public who would preserve our rivers, forests, parks and open lands in their pristine purity and those charged with administrative responsibilities who, under the pressures of the changing needs of an increasingly complex society, find it necessary to encroach to some extent upon open lands heretofore considered inviolate to change. The resolution of this conflict in any given case is for the legislature and not the courts. If there is a law made by Parliament or the State Legislatures the courts can serve

as an instrument of determining legislative intent in the exercise of its powers of judicial review under the Constitution. But in the absence of any legislation, the executive acting under the doctrine of public trust cannot abdicate the natural resources and convert them into private ownership, or for commercial use. The aesthetic use and the pristine glory of the natural resources, the environment and the ecosystems of our country cannot be permitted to be eroded for private, commercial or any other use unless the courts find it necessary, in good faith, for the public good and in public interest to encroach upon the said resources."

In the case of Fomento Resorts & Hotels Limited v. Minguel Martins 4, In paragraphs 53 to 55 and 65, the Apex Court held thus:

55. The public trust doctrine enjoins upon the Government to protect the resources for the enjoyment of the general public rather than to permit their use for private ownership or commercial purposes. This doctrine puts an implicit embargo on the right of the State to transfer public properties to private party if such transfer affects public interest, mandates affirmative State action for effective management of natural resources and empowers the citizens to question ineffective management thereof.

54. The heart of the public trust doctrine is that it imposes limits and obligations upon government agencies and their administrators on behalf of all the people and especially future generations. For example, renewable and non-renewable

resources, associated uses, ecological values or objects in which the public has a special interest (i.e. public lands, waters, etc.) are held subject to the duty of the State not to impair such resources, uses or values, even if private interests are involved. The same obligations apply to managers of forests, monuments, parks, the public domain and other public assets. Professor Joseph L. Sax in his classic article, "The Public Trust Doctrine in Natural Resources Law: Effective Judicial Intervention" (1970), indicates that the public trust doctrine, of all concepts known to law, constitutes the best practical and philosophical premise and legal tool for protecting public rights and for protecting and managing resources, ecological values or objects held in trust.

55. The public trust doctrine is a tool for exerting long- established public rights over short-term public rights and private gain. Today every person exercising his or her right to use the air, water, or land and associated natural ecosystems has the obligation to secure for the rest of us the right to live or otherwise use that same resource or property for the long-term and enjoyment by future generations. To say it another way, a landowner or lessee and a water right holder has an obligation to use such resources in a manner as not to impair or diminish the people's rights and the people's long-term interest in that property or resource, including down slope lands, waters and resources.

65. We reiterate that natural resources including forests, water bodies, rivers, seashores, etc.

are held by the State as a trustee on behalf of the people and especially the future generations. These constitute common properties and people are entitled to uninterrupted use thereof. The State cannot transfer public trust properties to a private party, if such a transfer interferes with the right of the public and the court can invoke the public trust doctrine and take affirmative action for protecting the right of people to have access to light, air and water and also for protecting rivers, sea, tanks, trees, forests and associated natural ecosystems." (emphasis added) 54. Public at large has a right to enjoy and have a benefit of our forests including mangroves forest. The pristine glory of such forests must be protected by the State. The mangroves protect our environment. Therefore, apart from the provisions of various statutes, the doctrine of public trust which is very much applicable in India makes it obligatory duty of the State to protect and preserve mangroves.

PRECAUTIONARY PRINCIPLE

55. In the case of M.C. Mehta (Badhkal and Surajkund Lakes matter) v. Union of India, the Apex Court held thus:

"10. In M.C. Mehta v. Union of India [(1987) 4 SCC 463] this Court held as under:

"The financial capacity of the tanneries should be considered as irrelevant while requiring them to establish primary treatment plants. Just like an industry which cannot pay minimum wages to its

workers cannot be allowed to exist, a tannery which cannot set up a primary treatment plant cannot be permitted to continue to be in existence for the adverse effects on the public. Life, public health and ecology have priority over unemployment and loss of revenue problem."

The "Precautionary Principle" has been accepted as a part of the law of the land. Articles 21, 47, 48-A and 51-A(g) of the Constitution of India give a clear mandate to the State to protect and improve the environment and to safeguard the forests and wildlife of the country. It is the duty of every citizen of India to protect and improve the natural environment including forests, lakes, rivers and wildlife and to have compassion for living creatures. The "Precautionary Principle" makes it mandatory for the State Government to anticipate, prevent and attack the causes of environment degradation. We have no hesitation in holding that in order to protect the two lakes from environmental degradation it is necessary to limit the construction activity in the close vicinity of the lakes."

18. It is argued on behalf of the learned counsel appearing for the MoEF&CC that sand mining contributes to construction of buildings infrastructure development, it helps in extracting minerals and provides both

economic and social benefits. Even though, the Government has implemented step to stop illegal sand mining and produce an alternative by supplying manufacturing of sand yet there is still illegal mining happening. Sand is an important economic resource and also source of Silica for making sodium silicate, a chemical compound used for manufacture for both common and optical glasses. The economic aspect of sand are not confined to it value as raw-material. Besides its economic importance, sand also constitutes an important biotic component in aquatic eco- system like rivers. Depletion of sand in the stream bed and along coastal areas causes the deepening of rivers and in estuaries and the enlargement of the river mouths causing major habitat disruptions that favoured some species or other and caused overall declines in biological diversity and productivity.

19. Learned counsel appearing for the MoEF&CC has also raised the issue that the control of illegal mining is purely within the domain of the State Government. It is necessary to quote the relevant paragraphs with regard to rule making power of the State which is enshrined in the constitution as follows:

> *"28. Entry-54 of List I-Union List of the Seventh Schedule of the Constitution of India deals with regulation of mines and mineral development under the control of the Union. Entry-54 of List-I reads as under:*

"54. Regulation of mines and mineral development to the extent to which such regulation and development under the control of the Union is declared by Parliament by law to be expedient in the public interest."

- *Entry-23 of List II-State List of the Seventh Schedule of the Constitution provides as under:*

"23. Regulation of mines and mineral development subject to the provisions of List-I with respect to regulation and development under the control of the Union."

- *The Act, 1957 i.e. the Mines and Minerals (Development and Regulation) Act, 1957 is enacted by* the Parliament to provide for the development and regulation of mines and minerals. Section 3(e) of the Act, 1957 defines 'minor minerals'. It reads thus:

"(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;"

- *Sub-section (1-A) of Section 4 of the Act, 1957 prohibits transportation and storage of minerals in the following manner:*

"4(1-A) 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 there under."

- *Section 15 of the Act, 1957 gives power to the State Government to make rules in respect of minor minerals. Section 15 is extracted below:*

"15. Power of State Governments to make rules in respect of minor minerals.--(1) The State Government may, by notificationin 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 rights of third parties may be protected (whether by way of payment of compensation or otherwise) in cases where any such party is prejudicially affected by reason of any prospecting or mining operations;

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

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

(k) the construction, maintenance and use of roads, power transmission lines, tramways, railways, 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 therefore, and the powers of the revisional authority; and

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

2) Until rules are made under sub-section (1), any rules madeby 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 sub- section (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.

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

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

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

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

"33. Section 23-C of the Act, 1957 gives power to the State Government to make rules for preventing illegal mining, transportation and storage of minerals. Section 23-C reads thus:

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

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

following matters, namely:

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

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

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

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

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

(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).”

20. India is developing at a faster pace and much

technological advancement has already 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.

21. 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.

22. Guidelines issued in 2020 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.

23. Principal Bench of this Tribunal 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."

24. In O.A No.360/2015, this Tribunal considering the matter of illegal sand mining vide order dated 05.04.2016 observed as follows:

> *8.Despite this, the menace of illegal sand mining in India continues unabated. As per reports, the sand business in India employs over 35 million people and is valued at well*

over $126 billion per annum. In the year 2015-2016, there were over 19,000 cases of illegal minor minerals including sand in the country. In Uttarakhand, a 115 years old bridge collapsed due to overloaded sand trucks. In Maharashtra, 26,628 cases of illegal sand mining were recorded in the year 2017. The State of Maharashtra has the highest number of cases of non- compliance of Sustainable Sand Mining Management Guidelines, 2016. The State of Kerala suffered hugely in 2004 Tsunami and 2018 floods which several report explain were aggravated by illegal sand extraction. The issue of illegal sand mining is also rampant in the states of Goa, Bihar, Tamil Nadu, Uttarakhand, Telangana, Jammu and Kashmir amidst others.

9. Natural resources are 'public goods' and the Doctrine of Equality must guide the State in determining the actual mechanism for distribution of natural resources. It takes into account the rights and obligations of the State vis-a-vis its people and the demands that the people be granted equitable access to natural resources and they are adequately compensated for the transfer of these resources for public domain and regulation of rights and obligations of the State vis-à-vis private parties seeking to acquire the resources which demands that the procedure adopted and distribution is just and transparent.

10.Public Trust Doctrine primarily rests on the principle that certain resources like air, sea, water and forest have great importance to public as a whole and it is wholly unjustified to make them a subject of private ownership. The public trust doctrine enjoins upon the Governments to protect the resources for enjoyment of general public rather than to permit the use for private ownership of commercial purposes.

11. When the State holds a resource that is freely available for the use of public, it provides for a high degree of judicial scrutiny on any action of the State in dealing with the subject in a prudent manner. It is the duty of the State to provide complete protection to the natural resources as a trustee of the public at large. Moreover, a policy to give free sand must be justified as a welfare measure but even this consideration cannot justify unregulated and unscientific mining unmindful of impact on environment. If in the course of mining, damage is caused, cost of the same must be recovered from such violators. In any case, the authorities cannot avoid their duty under the environmental law to prevent and restore the damage which is an inalienable duty of the State.

Sudarsan Das v. State of West Bengal

Vide order dated 04.09.2018 in O. A. No. 173/2018, Sudarsan Das v. State of West Bengal & Ors, the Tribunal considered the issue of unchecked mechanised sand mining on the banks of river Subarnarekha by use of suction pumps, earth movers and netting in an area falling under Jaleshwar Tehsil, Balasore District, Odisha on the Odisha – West Bengal Boarder area and neighbouring district of West Medinapur in the State of West Bengal. The mining was being done by a method whereby ground water is allowed to seep into excavation of 40 to 50 feet beneath the river and collected in sumps and pumped away for disposal. No environmental clearance had been taken nor consent taken from the Pollution Control Board. This was impacting the ecology of the river including its channel geometry, bed elevation, substratum composition and stability, instream roughness of the bed, flow velocity, discharge capacity, sediment transpiration capacity, turbidity, temperature, etc. Such indiscriminate mining was the cause of the river Subarnarekha changing its course every year and made susceptible to flooding during every monsoon, threatening the safety of the villages situated along the river bank due to the banks being severely eroded in villages Rajnagar, Mankia, Kanrpur,Totapada, Beherasahi and Praharajpur. The

authorities confirmed that illegal mining was taking place at large scale without any Environmental Clearance under the Environment (Protection) Act, 1986 or Consent under the Water (Prevention and Control of Pollution) Act, 1974 or the Air (Prevention and Control of Pollution) Act, 1981.

Sustainable Sand Mining and Management Guidelines, 2016 were also not being followed. There was adverse impact on the ecology. No Management Plan was prepared for replenishment of preventive steps. Safeguards suggested in the report of High-powered Committee in September, 2016 were also not been adopted.

12. The Management Plan as per the guidelines is to require system of replenishment as well as preventive steps during the sand mining. Replenishment and reclamation of riverine sand are the integral part. Guidelines also deal with the issue of depth of mining and strict regulatory regime. The management of mining clusters should have a separate approach. Management of sand deposited after the floods should be treated as separate for mining. Monitoring system proposed includes safeguards during transport as well as checking of condition of mining.

13. The Tribunal noted that Ministry of Mines and Indian Bureau of Mines (IBM) had developed Mines Surveillance

System (MSS), with assistance from Bhaskaracharya Institute for space applications and Geoinformatics (BISAG), Gandhinagar and Ministry of Electronics and Information Technology (MEITY). The Mining Surveillance System (MSS) is a satellite- based monitoring system which aims to establish a regime of responsive mineral administration by curbing instances of illegal mining activity through automatic remote sensing detection technology.

14. In view of above, the Tribunal directed the MoEF&CC to revise its guidelines as in-spite of the guidelines already issued, the monitoring mechanism was not working effectively. The directions of this Tribunal are:

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

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

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

vii. *The Mining Department may make a provision for keeping apart atleast 25% of the value of mined material for restoration of the area affected by the mining and also for compensating the inhabitants affected by the mining.*

viii. *One of the conditions of every lease of mine or minerals would be that there will be independent environmental audit atleast once in a year by reputed third party entity and report of such audit be placed in public domain.*

ix. *In the course of such environmental audit, a three member committee of the local inhabitants will also be associated. Composition of three members committee may preferably include ex-*

servicemen, former teacher and former civil servant. The Committee will be nominated by the District Magistrate."

25. The matter of imposition of environmental compensation was taken up in O.A. No. 360/2015 vide order dated26.02.2021 as follows:

"8. Another issue bearing on the enforcement mechanism is the action against the vehicles used in illegal sand mining. Seizure of such vehicles is required and release of seized vehicles lightly defeats the purpose of the coercive measures. Since the vehicles are in a way weapon of offence, the same cannot be dealt with in the manner disputed property is dealt with under section 451 Cr.PC. by releasing the same in favour of the ostensible owner by taking an entrustment/indemnity bond/sapurdginama. In Sujit Kumar Rana, (2004) 4 SCC 129 and order dated 26.03.2019 in Cr. A. 524/2019, State of Madhya Pradesh v. Uday Singh, it was held that special procedure for seizure and release of such vehicles prevails over the procedure under Section 451 Cr.P.C. This Tribunal earlier directed, in the case of illegal mining in Meghalaya that such vehicles should be released only on the payment of 50% of the

showroom value. The same was affirmed by the Hon'ble Supreme Court in 2019 (8) SCC 177. Similar order was passed by the Tribunal on 10.01.2019 in O.A. No. 670/2018, Atul Chouhan v. State of U.P., which stands affirmed by the Hon'ble Supreme Court vide order dated 07.05.2019 in C.A. No. 1590/2019. ***Thus, the procedure under Cr.P.C. for release of vehicles on superdari without stringent conditions would not apply in respect of action taken for enforcement of Sustainable Guidelines issued under the Environment (Protection) Act, 1986 (EP Act) and for enforcement of orders of this Tribunal under Section 15 of the National Green Tribunal Act, 2010 (NGT Act).*** *However, having regard to the difficulty expressed by the State that requirement to pay 50% of the showroom value of the vehicle was resulting in vehicles not being released at all, the earlier order was modified on 19.02.2020 to the effect that following scale of amount be recovered for release of the seized vehicles:-*

Sr. No.	***Category of Vehicle***	***Penalty Amount***

1	*Vehicles/Equipments/Excavators with showroom value more than Rs. 25 lacs and less than 5 years old.*	*Rs. 4 lacs*
2	*Vehicles/Equipments/Excavators with showroom value more than Rs. 25 lacs and more than 5 years but less than 10 years old.*	*Rs. 3 lacs*
3	*For the remaining Vehicles older than 10 years/Equipments/ Excavators which are otherwise legally permissible to be operated and not covered by Serial No. 1 and 2.*	*Rs. 2 lacs*
Note – I:*On repetition of the offence by the same vehicle/ equipment, Order dated 05.04.2019 will be applicable.* ***Note – II:****The option of release may be available for a period of one month from the date of seizure and thereafter, the vehicles may be confiscated and auctioned.*		

9. *Following further directions were issued :-*

"6. ***The State may issue an appropriate Office Order/Rule to the above effect and publish the same. Needless to say that any private contract between a financer and a debtor cannot affect the States' sovereign power to protect the environment and take incidental coercive measure for enforcement of rule of law. Lien of the State will override any private interest. The above compensation regime will be over and above any existing Rules or provisions. The amount collected may be remitted to the State PCBs/PCCs for being utilized for restoration of the environment.***

7. The above course of action will be permissible to all the States at their option."

Scale of compensation

for violations on polluter pays principle

10. Vide order dated 17.08.2020, the Tribunal considered the CPCB report dated 30.01.2020, in pursuance of earlier orders on scale of compensation to be recovered for violation of norms for mining on polluter pays principle and the matter was deferred for further consideration of such scale and further orders in the light of the EMGSM 2020. ***On the issue of scale of compensation for violations, the Tribunal held that the same has to be calculated having regard to the polluter pays principle and not mere loss of royalty. This requires taking into account value of the illegally mined material and cost of restoration of the environment.*** *CPCB did the exercise by constituting an expert Committee. The Tribunal considered the report as follows:-*

"8. The Committee considered two approaches:

(I) Approach 1: Direct

Compensation based on the market value of extraction, adjusted for ecological damages.

(II) ***Approach 2: Computing a Simplified NPV for ecological damages.***

9. *In the first approach, the criteria adopted is:*
   - *Exceedance Factor (EF).*
   - *Risk Factor (RF).*
   - *Deterrence Factor (DF).*

10. *Approach 2 is demonstrated by following formula:*

"Till such time as data and information for a comprehensive NPV is worked out in a site specific manner to account for all (or atleast the major) ecological damages, a simplified NPV, proxied on the market value of the illegally extracted amount may be computed. In this case the NPV approach would imply that ***the total benefits from the activity of sand mining (as represented by the market value of the extracted amount) be deducted from the total ecological costs*** *imposed by the activity. In the absence of data on benefits and costs separately, we recommend a modification of the formula as shown below:*

Total Benefits(B) = Market Value of illegal extraction : D(refer Table 1)

*Total Ecological Costs = Market Value Adjusted for risk factor: D * RF (refer Table1).*

*For present purposes, it is assumed that the Benefits would accrue only in the first year (in which the extraction of the illegally mined material takes place), while the ecological costs would continue to be felt over a period of time. NPV is to be calculated for a period of 5 years on the net value, Σ (**C-B**), at a discount rate ranging from 8**%-5%**, varying in inverse with the risk factor. Thus, where the highest risk factor (say 1) is applicable, the*

discount rate applicable would be the lowest (say 5% in this case).”

11. *Final recommendation is as follows:*

“Thus, it is recommended that the annual net present value (NPV) of the amount arrived at after taking the difference between the costs and the benefits through the use of the above approach, maybe calculated for a period of 5 years ata discount rate of 5% for mining which is in a severe ecological damage risk zone. The rationale for levying this NPV is based on expert opinion that reversal and/or restoration of the ecological damages is usually not possible within a short period of time and rarely is it feasible to achieve 100% restoration, even if the sand deposition in the river basin is restored through flooding in subsequent years. The negative externalities of the mining activity are therefore to be accounted for in this manner. Ideally, the worth of all such damages, including costs of those which can be restored should be charged. ***However, till data on site-specific assessments becomes available, this approach may be adopted in the interim.*** *In situations where the risk categorization charged. However, till data on site-specific assessments becomes available, this approach may be adopted in the interim. In situations where the risk categorisation is unavailable or pending calculation, the following Discount Rates may be considered:*

“Compensation Charge Scenario II - explicit accounting of NPV

Market Value

of Illegally

Mined Material

*(D)5000*400*

2000000/- Annual Value of Foregone Ecological Values

*D*RF = 2000000/-*

- *Net Present Value (after netting out market value of illegally mined material) - i.e., Total Compensation to be levied*

  = NPV=PV-D

  = Rs. 66,58,953/-

Compensation Charge in above case:

Approach 1 (no explicit accounting of NPV)	***Approach 2 (explicit accounting of NPV)***
D*(1+RF+DF)	***@ 5% discount rate and over 5 years***
Rs. 46,00,000/-	*Rs. 66,58,953/-*

12. The Tribunal directed undertaking of scenario analysis, as suggested on behalf of the applicant and to furnish a further report accordingly. Further report dated 12.10.2020 has been filed by the CPCB reiterating its earlier report. ***We propose to approve approach-2 in the report.*** *Apart from the above, a report dated 15.01.2021 has been filed bythe Oversight Committee for the State of UP to which reference will*

bemade later.

Procedure for DSR/EC

13. *Vide order dated 14.10.2020 in O.A. No. 40/2020, Pawan Kumar v. State of Bihar & Ors., the issue of preparation of District Survey Report (DSR) by Experts was considered. Vide Notification dated 25.07.2018 issued by the MoEF&CC, under Section 3(2)(v) of the EP Act, 1986 amending EIA Notification dated 14.09.2006, procedure for preparation of DSR for sand mining/riverbed mining was laid down.* ***The DSR is crucial as it contains Environment Management plan, including the replenishment study and other safeguards and is the basis to consider the environment impact of mining based on which decision to grant the Environmental Clearance is taken****. The Tribunal held that for such crucial exercise, the* ***Experts should be out of those accredited by the***

National Accreditation Board of Education and Training/ Quality Control Council of India (NABT/QCCI) in terms of O.M. of MoEF&CC dated 16.03.2010*. Verification by the District Magistrate and evaluation by the SEAC was also necessary. Accordingly, following directions were issued in relation to a matter arising from the State of Bihar:-*

"(ii) As the DEIAA is not functioning as a consequence of the decision of the Tribunal in Satendra Pandey (supra), ***the DSR shall be prepared through a consultant(s) accredited by the National Accreditation Board of Education and Training/ Quality Control Council of India in terms of O.M. of MoEF&CC dated 16.03.2010.***

(iii) The DSR so prepared shall be submitted to the District Magistrate who shall verify the DSR only in respect of the relevant facts pertaining to the physical and geographical features of the district which shall be distinct from the scientific findings based on the parameters prescribed in the SSMMG- 2016.

After such verification, the District Magistrate shall forward the DSR for examination and evaluation by the State Expert Appraisal Committee (SEAC) having regarding to the fact that the SEIAA comprises of technical/scientific experts. The SEAC after appraisal of the report shall forward it to the SEIAA for consideration and approval if it meets all scientific/technical requirements.

(iv) While preparing the DSR, the MoEF&CC Accredited Agency/Consultant shall scrupulously follow the procedure and the parameters laid down under the SSMMG-2016 and EMGSM- 2020 read in sync with each other."

14. *Considering the above, vide order dated 04.11.2020 in O.A. No. 726 of 2018, Rupesh Pethe v. State of M.P. & Ors., the Tribunal directed that the above direction ought to be followed pan India, as follows:-*

"5. ***The above direction may be followed by the State of MP also for the sake of uniformity.*** *Further information required to be furnished is about the extent of illegal mining, extent of action taken, including the compensation recovered, vehicles seized and other coercive measures*

and impact of such action. The State of M.P. may compile relevant directions on the subject including the binding order of any Courts or Tribunal. This exercise may be undertaken jointly by the Secretary Geology and Mining, Member Secretary State PCB and Member Secretary SEIAA. In light of above, the State may further revise its policy and exercise. Let further compliance status be furnished before the next date 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.

6. We are of the view that the above directions need to be followed by all other States where the issue of mining is relevant.

7. A copy of this order be forwarded to the Chief Secretaries of all the States and UTs by e-mail for compliance."

Adverse impact of unscientific/unregulated Sand

Mining

15. It is undisputed that there is huge degradation of environment on account of unregulated sand mining which is otherwise a lucrative activity. It poses threat to bio-diversity, could destroy riverine vegetation, cause erosion, pollute water sources, badly affecting riparian ecology, damaging ecosystem of rivers, safety of bridges, weakening of riverbeds, destruction of natural habitats of organisms living on the riverbeds, affects fish breeding and migration, spell disaster for the conservation bird species, increase saline water in the rivers. It has direct impact on the physical habitat characteristics of the rivers such as bed elevation, substrate composition and stability, in-stream roughness elements, depth, velocity, turbidity, sediment transport, stream discharge and temperature. Increase in demand of sand has placed immense pressure in the supply of sand resource and mining activities were going on illegally as well as legally without requisite restrictions. Lack of proper planning and sand management

disturbs marine ecosystem and upset the ability of natural marine processes to replenish the sand. The Hon'ble Supreme Court (in Deepak Kumar, supra) noted that core group was constituted by the MoEF&CC to examine the impact of minor minerals on riverbeds and ground waters. A draft report was prepared recommending mandatory preparation of mining plan on the pattern of mining plans for major minerals. Further recommendations are reclamation and rehabilitation of abandoned mines, proportion of hydro geo-logical balance for minerals below ground water table limiting depth of mining to 3 meter and identification on locations where mining should be permitted was required. There is need for identifying safety zones in the proximity of intendments. Thus, strict regulatory parameters were required for regulating mining of minor minerals. It was noted that in- stream mining lowers the stream bottom of rivers which may lead to bank erosion. Depletion of sand in the stream bed causes deepening of rivers which may result in destruction of aquatic and riparian habitats. It has impact on stream's physical

habitat characteristics.

16. In State (NCT of Delhi) v. Sanjay, (2014) 9 SCC 772, at page 790, it was observed :

> ***"32.*** *The policy and object of the Mines and Minerals Act and Rules have a long history and are the result of an increasing awareness of the compelling need to restore the serious ecological imbalance and to stop the damages being caused to the nature. The Court cannot lose sight of the fact that* ***adverse and destructive environmental impact of sand mining has been discussed in the UNEP Global Environmental Alert Service Report. As per the contents of the Report, lack of proper scientific methodology for river sand mining has led to indiscriminate sand mining, while weak governance and corruption have led to widespread illegal mining. While referring to the proposition in India, it***

was stated that sand trading is a lucrative business, and there is evidence of illegal trading such as the case of the influential mafias in our country.

33. The mining of aggregates in rivers has led to severe damage to rivers, including pollution and changes in levels of pH. Removing sediment from rivers causes the river to cut its channel through the bed of the valley floor, or channel incision, both upstream and downstream of the extraction site. This leads to coarsening of bed material and lateral channel instability. It can change the riverbed itself. The removal of more than 12 million tonnes of sand a year from Vembanad Lake catchment in India has led to the lowering of the riverbed by 7 to 15 cm a year. Incision can also cause the alluvial aquifer to drain to a

lower level, resulting in a loss of aquifer storage. It can also increase flood frequency and intensity by reducing flood regulation capacity. However, lowering the water table is most threatening to water supply exacerbating drought occurrence and severity as tributaries of major rivers dry up when sand mining reaches certain thresholds. Illegal sand mining also causes erosion. Damming and mining have reduced sediment delivery from rivers to many coastal areas, leading to accelerated beach erosion.

34. *The Report also dealt with the astonishing impact of sand mining on the economy. It states that tourism may be affected through beach erosion. Fishing, both traditional and commercial, can be affected through destruction of benthic fauna. Agriculture could*

be affected through loss of agricultural land from river erosion and the lowering of the water table. The insurance sector is affected through exacerbation of the impact of extreme events such as floods, droughts and storm surges through decreased protection of beach fronts. The erosion of coastal areas and beaches affects houses and infrastructure. A decrease in bed load or channel shortening can cause downstream erosion including bank erosion and the undercutting or undermining of engineering structures such as bridges, side protection walls and structures for water supply.

35. *Sand is often removed from beaches to build hotels, roads and other tourism-related infrastructure. In some locations, continued construction is likely to lead to an unsustainable situation and destruction of the main natural attraction for visitors—beaches themselves.*

Mining from, within or near a riverbed has a direct impact on the stream's physical characteristics, such as channel geometry, bed elevation, substratum composition and stability, instream roughness of the bed, flow velocity, discharge capacity, sediment transportation 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 instream biota and riparian habitats. This disturbance may also cause changes in channel configuration and flow paths

.....Today, demand for sand and gravel continues to increase. Mining operators, instead of working in conjunction with cognizant resource agencies to ensure that sand mining is conducted in a responsible manner, are engaged in full-time profiteering. Excessive

in-stream sand and gravel mining from riverbeds and like resources causes the degradation of rivers. In-stream mining lowers the stream bottom, which leads to bank erosion. Depletion of sand in the stream-bed and along coastal areas causes the deepening of rivers and estuaries and enlargement of river mouths and coastal inlets. It also leads to saline water intrusion from the nearby sea. The effect of mining is compounded by the effect of sea level rise. Any volume of sand exported from stream-beds and coastal areas is a loss to the system. Excessive in- stream sand mining is a threat to bridges, river banks and nearby structures. Sand mining also affects the adjoining groundwater system and the uses that local people make of the river. Further, according to researches, in-stream sand mining results in the destruction of aquatic and riparian habitat through wholesale changes in the

channel morphology. The ill effects include bed degradation, bed coarsening, lowered water tables near the stream- bed and channel instability. These physical impacts cause degradation of riparian and aquatic biota and may lead to the undermining of bridges and other structures. Continued extraction of sand from riverbeds may also cause the entire stream-bed to degradeto the depth of excavation."

Need for regulation under the Water, Air and EP Acts by PCBs, apart from the Mining authorities under the Mining law

27. ***We direct all the States/UTs to strictly follow the SSMG-2016 read with EMGSM-2020 reinforced by mechanism for preparation of DSRs (in terms of directions of this Tribunal dated 14.10.2020 in Pawan Kumar, supra and 04.11.2020 in Rupesh Pethe, supra),***

Environment Management Plans, replenishment studies, mine closure plans, grant of EC (in terms of direction dated 13.09.2018 in Satendra Pandey, supra), assessment and recovery of compensation (as per discussion in Para 25), seizure and release of vehicles involved in illegal mining (in terms of order dated 19.02.2020 in Mushtakeem, supra), other safeguards against violations, grievance redressal, accountability of the designated officers and periodical review at higher levels. As already noted, EMGSM-2020 contemplates extensive use of digital technology, including remote sensing.

28. ***We further direct that periodic inspection be conducted by a five-members Committee, headed and coordinated by the***

SEIAA and comprising CPCB (wherever it has regional office), State PCB and two expert members of SEAC dealing with the subject. Where CPCB regional office is not available, if MoEF&CC regional office is available, its Regional Officer will be included in the Committee.

Where neither CPCB nor MoEF&CC regional office exists, Chairman, SEIAA will tie up with the nearest institution of repute such as IIT to nominate an expert for being included in the Committee. Such inspection must be conducted at least thrice for each lease i.e. after expiry of 25% the lease period, then after 50% of the period and finally six months before expiry of the lease period for midway correction and assessment of damage, if any. The reports of such inspections be acted upon and placed on website of the SEIAA.

Every lessee, undertaking mining, must have an environment professional to facilitate sustainable mining in terms of the mining plan and environmental norms. This be overseen by the SEIAA. Environment Departments may also develop an appropriate mobile App for receiving and redressing the grievances against the sand mining, including connivance of the authorities and also amechanism to fix accountability of the concerned officers. Recommendations of the Oversight Committee for the State of UP quoted earlier may be duly taken into account.

The mechanism must provide for review at the level of the Chief Secretary at least once in every quarter, in a meeting with all concerned Departments in the State. The Chief

Secretary UP may ensure further action in the light of the report of the Oversight Committee.

Similarly, at National level, such review needs to be conducted atleast once in a year by the Secretary, Environment in coordination with the Secretaries Mining and Jalshakti Ministries the CPCB.

Publication of Annual Reports

29. ***We further direct all the States/UTs to publish their annual reports on the subject and such annual reports may be furnished to MoEF&CC by 30th April every year giving status till 31st March. First such report as on 31.03.2022 may be filed with the MoEF&CC by all he States/UTs on or before 30.04.2022. The report may also be simultaneously posted on the website of the Environment***

Department of the States/UTs. Based on such reports, MoEF&CC may consider supplementing its Guidelines from time to time. The MoEF&CC may prepare a consolidated report considering the reports from the States/UTs and publish its own report on the subject, preferably by 31st May every year.

Interaction at National Level

30. We direct the Secretary MoEF to convene a meeting in coordination with the CPCB and Mining and Jalshakti Ministries of Central Government and such other experts/individuals at National level and representatives of States within three months for interaction on the subject which may be followed by such meetings being convened by the Chief Secretaries in all States in next three

months. Holding of such meetings will provide clarity on enforcement strategies and help protection of environment."

26. Accordingly, we are of the view and direct as follows:

(i) District authorities are directed to control illegal sand mining and are required to make surveillance, patrolling and enforcement. Electronic surveillance through UAVs/Remote Sensing is a good surveillance option especially in areas where sand mafias are active. Night vision drones could be used for checking mining activity at night. Sensitive spots need to be identified and police presence- both static presence and dynamic patrolling needs to be beefed up there. DMs / SSPs be made directly responsible for checking illegal mining.

(ii) DSRs need to be prepared very carefully. They should be based on physical surveys and replenishment studies. Since sand deposition is a dynamic issue, they need to be regularly updated. While awarding lease deeds, important environmental parameters like deposition and

replenishment of sand, areas of erosion, distance from infrastructural structures need be considered.

(iii) In the absence of replenishment studies and physical inspection before award, many times sites are awarded where there is no sand. The lease holder per force indulges in mining adjoining areas, some of which may be environmentally not very suitable. Before award of LOI, physical inspection should be mandatory.

(iv) Storage Godowns should be away from the river bank. Otherwise, illegal mining can be carried on under the garb of storage by the leaseholder himself.

(v) Geo-fencing of sites, their physical demarcation, allotment of geo-coordinates to all the pillars and their constant physical inspection and electronic surveillance is a must to ensure that the mining activity is as per the approved mining plan and no illegal mining, detrimental to environment, is going on.

(vi) There has to be a mechanism to ensure that the actual mining activity conforms to the approved Mining Plan and the approved

Environment Management Plan (EMP). Besides the statutory system of Departmental inspections, there has to be a system of annual mandatory Environmental Audit by experts. Environment Department can empanel some experts/expert institutions with standard TORs and Remuneration terms which could be utilized by the Mines Department on a regular basis. This way the District Administrations can access good technical experts with standard conditions in a transparent way without bothering about tedious time-consuming tender formalities.

(vii) There has to be an effective mechanism for restoration of environment in case of its degradation due to mining. A portion of the royalty could be reserved for it as Environment Restoration Fund. The Environment Department can empanel some reputed institutions with standard terms for preparing environmental restoration plans which could be used directly by the Mining Department without the arduous formalities. These plans could be funded by the Environment Fund as

mentioned above. Already a number of mineral rich districts have a sizeable District Mineral Fund at the disposal of the District Collector. However, since there is no mechanism available at the level of District Collector for preparation of Environment Restoration Plans, this fund is normally used for works other than environmental restoration.

(viii) All the mining activity should strictly comply with Provisions of EIA Notification 2006, Sustainable Sand Mining Guidelines, 2016; The Environmental Protection Act, 1986; The Water (Prevention and Control of Pollution) Act, 1974; The Air (Prevention and Control of Pollution) Act, 1981 and Regulations of Central Ground Water Authority.

(ix) 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.

(x) Demarcation of mining area with pillars and geo-referencing should be done prior to the start of mining.

(xi) 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.

(xii) 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."

(xiii) The sand mining should not disturb in any way the turbidity, velocity and flow pattern of the river water.

(xiv) The mining activity shall be monitored by the Taluk level Force once in a month by conducting physical verification.

(xv) After closure of the mining, the licensee shall immediately remove all the sheds put up in the quarry and all the equipments used for operation of sand quarry. The roads/pathways shall be levelled to let the river resume its normal course without any artificial obstruction to the extent possible.

(xvi) And further in terms of the directions of the Hon'ble Supreme Court of India in Goa Foundation, supra, Para 76 read with T.N, Godavarman

Thirumulpad vs. Union of India (2014) 4 SCC 61. Secretary, Environment, Rajasthan to take necessary steps for controlling and regulating the illegal sand mining or bajry and misuse of ravannas while transportation of illegal mining and in case if it found that there are illegal mining, immediate legal and remedial action must be initiated and environmental compensation should be realized in addition to replenishment of the area.

27. **The Original Application No. 60/2021 alongwith I.A. No. 51/2021 are finally disposed of**.

Sheo Kumar Singh, JM

Arun Kumar Verma, EM

02nd December, 2021
O.A. No. 60/2021 (CZ)
I.A.No.51/2021
PU