

Illegal Sand Mining- Its effect on Ecology and Environment

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‘Isn’t humanity committing suicide with this indiscriminate and tyrannical use of nature?’-
Pope Francis

INTRODUCTION

Mining is an important economic activity which has the potential of contributing to the development of areas endowed with the resources. Materials recovered by mining include bauxite, coal, diamonds, iron, precious metals, lead, limestone, nickel, phosphate, rock salt, tin, uranium etc. Mining in a wider sense can also include extraction of petroleum, natural gas, and even water. Mining activities form an integral part in the economic development of any country endowed with mineral resources..

In India, the mining industry is a major contributor to the GDP, accounting for a share of 2.2-2.5% of the GDP and providing employment generation for 1.1 million people of the country. Minerals like iron ore, manganese, bauxite, granite etc are exported by India. However, illegal mining is a bane which has plagued our country since years. Illegal mining is defined as ‘any reconnaissance or prospecting or mining operation undertaken by any person or company in any area without holding a reconnaissance permit or a prospecting license or a mining lease²’ as required under the Mines and Minerals (Development and Regulation) Act, 1957.

In the recent years, mining scams have made headlines largely due to the sheer amount of capital involved and the level of environment degradation caused by illegal mining operation all over the country, ranging from Jharkhand to Kerala and Uttarakhand to Tamil Nadu. According to the Justice M B Shah Commission of Inquiry which was set up in November 2010 to investigate illegal mining of Iron Ore and Manganese, the mining scam in Odisha led to a loss of around Rs 50,000 crore while in Karnataka, the loss was around one lakh crore. Revenue loss to the exchequer is seemingly the only tangible cost of illegally mined sand, but the impact that it has on environment and ecology is far greater and far graver. In this article, the devastating effects of illegal sand mining in India and the true extent of the destruction caused, shall be unveiled.

SAND MINING

Sand Mining is a coastal activity referring to the process of the actual removal of sand from the foreshore including rivers, streams and lakes. Sand is mined from beaches and inland dunes and dredged from ocean beds and river beds. In India, the main sources of sand are: 1. Rivers

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² Rule 2 (ia), Mineral Concession Rules, 1960

(riverbed and flood plain), 2. Lakes and reservoirs 3. Agricultural fields 4. Coastal / Marine sand 5. Palaeo-channels

In the recent years, there has been a manifold increase in sand mining. With infrastructure investment taking a giant leap forward, the demand for construction equipment has greatly increased and is expected to rise further. However, desert sand, which seems to stretch across the globe forever, does not serve this purpose due to its consistency and chemical properties. By contrast, sand extracted from the bottom of oceans, beaches, rivers and gravel beds consists of minerals and metals such as titanium, thorium, silicon which are used to manufacture microchips, silicon chips and solar panels, build houses or aircrafts, and to produce cosmetics, abrasives, glass, plastics, and even toothpaste.³

Illegal sand mining has been carried in almost all parts of the country and is an open secret. The nexus between the mining companies, bureaucracy and the law enforcement agencies prevents any strict action against defaulters. According to reports, mining companies have tacit links to various politicians who are either shareholders in such companies or receive a certain royalty from the profits made⁴. The presence of a violent and formidable sand mafia prevents many people from raising their voices. The few who tried met a gruesome end, such as DK Ravi, an Indian Administrative Service officer from Karnataka, who was found hanging in his home under mysterious circumstances, Paleram Chauhan, an activist who had spoken out against illegal sand mining on community land in the village and had filed complaints with the local authorities, was shot dead by assailants in broad daylight in his home at Raipur-Khadar. The men who are alleged to be his killers lead the mining mafia in the village. They were arrested but later released on bail. Six months later, one of Paleram's sons, who was a witness in the case, was found dead near railway tracks also under mysterious circumstances⁵. The list also includes IPS Officer Narendra Kumar, who was also crushed to death by sand mafia in same district while he was conducting a raid on illegal sand mining, Sandeep Kothari, a MP based journalist, used to write against illegal sand mining activities was found burnt to death in Nagpur, Maharashtra and countless others.

ENVIRONMENTAL DEGRADATION CAUSED BY ILLEGAL SAND MINING

Illegal sand mining is a pan Indian activity. The impact of sand mining on the environment in the major states where this takes place is given below-

A. Tamil Nadu

Sand mining, especially illegal sand mining in Tamil Nadu state is done on river beds, basins and beaches, It has been on an increase, since the beginning of the 1990s following a boom in the construction industry. Palar River Basin, Vaigai River Basin and Thamirabarani River

³ <http://intpolicydigest.org/2015/04/19/illegal-sand-mining-is-a-thing-and-it-s-a-problem/>, last visited on 17th June, 2016, 13:46 p.m

⁴ <http://blogs.wsj.com/indiarealtime/2013/08/06/why-india-has-a-sand-mafia/>, last visited on 14th June, 2016, 00:39 a.m

⁵ <http://www.frontline.in/the-nation/rivers-no-more/article7447581.ece>, last visited on 18th June 2016, 17:52 p.m

Basin are the major victims⁶. Illegal quarrying is happening in these areas in broad daylight. The mining of aggregates in rivers has led to *severe damage including pollution and changes in levels of pH. Removing sediment from rivers has caused the said rivers to cut its channel through the bed of the valley floor and has changed the riverbed itself.* The removal of more than 12 million tonnes of sand a year from the Vembanad Lake catchment has led to the *lowering of the riverbed by 7 to 15 centimetres a year.* It has also resulted in a loss of *aquifer storage, increased flood frequency and intensity by reducing flood regulation capacity.* However, lowering the water table is most threatening to water supply as it has *exacerbated drought occurrence and severity as tributaries of major rivers dry up when sand mining reaches certain thresholds. Illegal sand mining has also caused erosion.* Damming and mining have reduced sediment delivery from rivers to many coastal areas, leading to accelerated *beach erosion*⁷

B. Kerala

Sand mining is rampant in Kerala on the beds of all its 43 rivers and their branches and tributaries. The major rivers of Kerala, Bharatapuzha and Periyar, which could be called as the life lines of Kerala are subjected to uncontrolled mining taking the *water level to an unprecedented low.* The case is same with all other rivers and their tributaries. The fall in the water level is causing *depletion of ground water in the surrounding land areas resulting in drying up of even drinking water sources* besides having serious adverse impacts on the agriculture of the State which has been experiencing drought situation in recent years⁸. Some areas of the river have turned *into mud filled pits* and are infamously referred to as ‘killing fields’ and ‘death-traps’ as there have been incidents wherein innocent civilians have drowned in them.⁹

C. National Capital Region

In NCR, the illegal sand mining mostly occurs along the Yamuna riverbed in the cities of Delhi, Noida, Haryana and the Aravalli ranges. This indiscriminate sand mining in the river beds of Yamuna, Ghaggar, Tangri, Markanda, Krishnavati has *threatened the biodiversity, destroyed riverine vegetation, caused erosion, polluted water sources* etc. Over the years, *extensive damage has been caused to the ecosystem of these rivers, has weakened the river beds, led to destruction of natural habitats of organisms living on them, affected fish breeding and migration, spelled disaster for the conservation of many bird species, increased salinity of water in the rivers* etc.¹⁰ 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

⁶ ‘Illegal sand mining rampant in Palar basin’ - The Hindu. October 10, 2013

⁷ M. Palanisamy vs. The State of Tamil Nadu, 2012 (4) CTC 1

⁸ Lok Sabha Debates, Need To Check The Unprecedented Level Of Environmental Degradation, on 2 August, 2015

⁹ <http://www.thehindu.com/news/cities/Kochi/sand-mining-turning-keralas-rivers-into-deathtraps/article5930593.ece> last visited on 18th June 2016 at 04:10 a.m

¹⁰ ENVIRONMENTAL IMPACT OF SOIL AND SAND MINING: A REVIEW, M. Naveen Saviour, International Journal of Science, Environment and Technology, Vol. 1, No 3, 2014, Pg 125 - 126

going on legally and illegally without any restrictions. Lack of proper planning and sand management has caused *disturbance of marine ecosystem and also upset the ability of natural marine processes to replenish the sand.*¹¹

Illegal mining in the Aravallis is mainly done to extricate the silica sand which is available below the groundwater level. Thus, the mining is carried out below the water table by dewatering the mine. The pumping of groundwater is *affecting the groundwater regime of the surrounding areas*¹². Due to the dewatering of mines, there has been a *severe decline in groundwater levels and reduction in discharge of groundwater into the surrounding wells*. All the groundwater which was discharged has neither been recycled or nor drained into nearby streams and lakes or abandoned pits but released into drains, *severely contaminating and polluting them and rendering it unusable*. Also, the *drainage pattern of the area had been drastically modified due to haphazard mining and dumping of the waste material*. This, in turn, *has had adverse effects on the natural path of groundwater flow in the area, resulting in a decline in water levels*¹³.

Thus, the impact of sand mining in these three states has had a devastating impact on the ecological and riparian life. Illegal mining has also spelled doom for other states such as Madhya Pradesh, where mining along the Tawa river, a tributary of river Narmada, resulted in the *river changing its course and breaking its banks leading to mass flooding* in several villages along its banks including Pahanbarri in Hoshangabad district, displacing over 300 families¹⁴. The same is happening in the states of Uttarakhand and Uttar Pradesh where excessive illegal mining of sand along the riverbed of Ganga has added to the *pollution of the river, affected the marine life (tractors and trucks along the banks of the river crushed the eggs of the turtles and alligator who had laid them on the banks of the river)*. The changing of the river course also contributed to the massive floods in Uttarakhand in 2013 in which over 6000 people lost their lives¹⁵. The rampant quarrying of sand has changed the landscape of the river beds to such an extent that there are now *deltas forming, changing the course of the river and significantly increasing the threat of floods, putting at risk settlements nearby*. There are now around 100 *deltas in the Ganga* at Haridwar alone. The *Kosi too has formed deltas in Bajpur*. Despite this, the sand mafia continues to operate brazenly ravaging sands from the banks of rivers.

MEASURES TAKEN

Sand, being minor mineral, comes under jurisdiction of State government. There is no mechanism developed either by State or Central government which determines the amount of sand being annually mined in the country, or what is sustainable level at any given location. State govts have failed in restricting the illegal mining with Kerela being the only state which

¹¹ SUSTAINABLE SAND MANAGEMENT GUIDELINE REPORT, Ministry of Environment, Forest and Climate Change, Sept 2015

¹² Bhure Lal Committee Report, 21st October 2002, Pg 148

¹³ M.C. Mehta vs Union Of India & Ors, Writ Petition (Civil) 4677 of 1985 on 18th March, 2004

¹⁴ <https://sandrp.wordpress.com/2016/02/01/river-sand-mining-in-india-in-2015/> last visited on 1st July, 2016 at 14:56 p.m

¹⁵ http://www.thenewsminute.com/news_sections/290, last visited on 7th July, 2016 at 15:10 p.m

decided to impose a total ban on sand mining from six rivers and to allow restricted sand extraction in five other rivers for the next three years.

As the operation of the illegal sand mining mafia increase manifold causing immense damage to the environment, several PIL's are filed in the various courts of the country and the burden has now fallen upon the judiciary to combat this blight. The landmark judgement in this regard was given in the case of *Deepak Kumar v. State of Haryana*¹⁶ wherein the SC directed all Union Territories and State Governments to seek Environmental Clearances (EC) from Ministry of Environment, Forest & Climate Change (MoEF&CC) for mining minor minerals even in less than 5 ha or renew the same after prior approval from the MoEF&CC. Before this order, mining areas of less than 5 ha were exempted from EC enacted under Environmental Impact Assessment (EIA)-2006.

The NGT reiterated this stand of the SC in *National Green Tribunal Bar Association v. Ministry of Environment & Forests & Ors*¹⁷ and ordered a ban on sand excavation across the country without seeking prior approval for the same from State Environment Impact Assessment Authority (SEIAA) and MoEF&CC. The green court also directed all concerned departments in States to ensure compliance of its orders.¹⁸

In April 2015, the NGT slammed MP govt. for failing to stop illegal sand mining in Narmada & Ken Rivers. The green tribunal also directed the concerned agencies not to release vehicles involved in mining without its permission while in February 2015, NGT imposed a ban on all mining activities around Sariska National Park, Alwar (Rajasthan). The court observed that 85 mining leases were operating in the area without obtaining EC from SEIAA Rajasthan and rebuked the State Govt. for shutting its eyes on indiscriminate sand mining. In September 2015, while hearing a petition filed by two villages complaining of rampant sand extraction in the middle of Chapora River, Goa, NGT Pune Bench put a ban on illegal sand mining in Goa. The green panel also directed to Directorate of Mines and Geology to conduct strict vigilance to check sand mining during nights. In October 2015 NGT halted riverbed mining in Neugal River near Palampur, Himachal Pradesh asking State forest and mining departments to submit their report.¹⁹

CONCLUSION

Various High Courts have also tried to regulate and restrict sand mining in different parts of the country but, in the absence of the support of the executive and weak legislations, haven't achieved much success. This is a telling story of on-going directions of the courts and untiring assurances of state governments. What falls within the cracks of this conversation are the actual safeguards and mandatory legal requirements. With such a lackadaisical attitude of the law enforcement agencies towards this burning issue, the ecology and the aquatic system continues to bear the brunt of society's perennial and infinite greed.

¹⁶ Deepak Kumar v. State of Haryana AIR 2012 SC 138

¹⁷ National Green Tribunal Bar Association Vs. Ministry of Environment & Forests & Ors, O.A 171/ 2013

¹⁸ Supra 15

¹⁹ Ibid

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