

GOVERNMENT OF INDIA  
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

**LOK SABHA**  
**UNSTARRED QUESTION NO. 4154.**  
TO BE ANSWERED ON 13.12.2019

4154. MS. LOCKET CHATTERJEE

Will the Minister of ENVIRONMENT, FOREST AND CLIMATE CHANGE be pleased to state:

- (a) whether the Government is aware that illegal sand mining from rivers is rampant in West Bengal;
- (b) if so, the details thereof along with its environmental effects; and
- (c) the corrective measures taken by the Government in this regard?

**ANSWER**

**MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE**  
**(SHRI BABUL SUPRIYO)**

(a): Yes Sir.

- (b): Illegal mining is observed in certain stretches near at West Bengal- Odisha border of Rivers Subarnarekha. The effects of sand and gravel mining are as follows:
- I. Extraction of bed material in excess of replenishment by transport from upstream causes the bed to lower (degrade) upstream and downstream of the site of removal.
  - II. In-stream habitat is impacted by increase in river gradient, suspended load, sediment transport and sediment deposition. Excessive sediment deposition for replenishment increases turbidity which prevents penetration of light required for photosynthesis and reduces food availability of aquatic fauna.
  - III. Riparian habitat including vegetative cover on and adjacent to the river banks it controls erosion, provide nutrient inputs into the stream and prevents intrusion of pollutants in the stream through runoff. Bank erosion and change of morphology of the river can destroy the riparian vegetative cover.
  - IV. Bed degradation are responsible for channel shifting, causing loss of properties and degradation of landscape, it can also undermine bridge supports, pipe lines or other structures.
  - V. Degradation may change the morphology of the river bed, which constitutes one aspect of the aquatic habitat.
  - VI. Degradation can deplete the entire depth of gravelly bed material, exposing other substrates that may underlie the gravel, which could in turn affect the quality of aquatic habitat. Lowering of ground water table in the flood plain because of lowering

of riverbed level as well as river water level takes place because of extraction and draining out of excessive ground water from the adjacent areas. So, if a floodplain aquifer drains to the stream, groundwater levels can be lowered as a result of bed degradation.

- VII. Lowering of the water table can destroy riparian vegetation.
- VIII. Excessive pumping of ground water in the process of mining in abandoned channels depletes ground water causing scarcity of irrigation and drinking water. In extreme cases it may create ground fissures and subsidence in adjacent areas.
- IX. Flooding is reduced as bed elevations and flood heights decrease, reducing hazard for human occupancy of floodplains and the possibility of damage to engineering works.
- X. The supply of overbank sediments to floodplains is reduced as flood heights decrease.
- XI. An un-scientific and unregulated sand and gravel mining tends to increase channel bankscouring and erosion. This causes a large degree of meandering of rivers and sometimes it could be in kms.
- XII. Rapid bed degradation may induce bank collapse and erosion by increasing the heights of banks.
- XIII. Polluting ground water by reducing the thickness of the filter material especially if mining is taking place at top of recharge fissures.
- XIV. Choking of sand layer which acts as filter for ingress of ground water from river by dumping of finer material, compaction of filter zone due to movement of heavy vehicles. It also reduces the permeability and porosity of the filter material.
- XV. Removal of gravel from bars may cause downstream bars to erode if they subsequently receive less bed material than is carried downstream from them by fluvial transport.
- XVI. Ecological effects on bird nesting, fish migration, angling, etc.
- XVII. Indiscrete mining activities lead to increased concentration of suspended sediment in the river which in turn causes siltation of water resources projects.
- XVIII. Un-scientific and unregulated sand and gravel mining leads to the severe health hazards like air quality degradation and dust fog.
- XIX. Direct destruction from heavy equipment operation; discharges from equipment and refueling.
- XX. Biosecurity and pest risks.
- XXI. Impacts on coastal processes.

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

Ministry of Environment, Forest and Climate Change (MoEF&CC) has notified the Environment Impact Assessment (EIA) Notification, 2006, as amended from time to time, under the Environment (Protection) Act, 1986 which deals with the process to grant Environmental Clearance to ensure mining are carried out with appropriate environmental safeguards. Further, MoEF&CC has issued Sustainable Sand Mining Management Guidelines 2016, which inter-alia, emphasizes the procedure for monitoring of sand /river bed mining w.r.t. the

monitoring of the mined out material which is key to the successful implementation of sustainable Environment Management Plan. So use of IT and IT enabled services for effective monitoring along with process reengineering has been made a part of the notification. The gist of monitoring mechanism, inter-alia, are (i) The movement of sand is controlled through Transit Permit. The security feature of Transit Permit should be as Printed on IBA approved MICR paper; Unique Barcode; Unique QR code; Fugitive Ink Background; Invisible Ink Mark; Void Pantograph and Watermark; (ii) Use of IT and IT enabled services for effective monitoring of the quantity of mined out material and transportation along with process reengineering has been made a part of the Notification; (iii) Stringent Monitoring of movement of mined out material from source to destination using Information Technology tools: bar coding, SMS etc. Till date there is no authentic data on how much sand is being mined, this system will generate real time data on mined out sand; and (iv) The route of vehicle from source to destination shall be tracked through the system using check points, Radio-frequency identification (RFID) Tags, and Global Positioning System (GPS) tracking.

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