



Sand a minor mineral

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Why is in news? Coal India Ltd to Launch M-Sand Projects in a Big Way

Sand is classified as a **“minor mineral”**, under **The Mines and Minerals (Development and Regulations) Act, 1957** (MMDR Act) and **administrative control over minor minerals vests with the State Governments**, and accordingly, regulated through State specific rules.

Due to high demand, regulated supply and complete **ban of sand mining during monsoon** to protect river ecosystem, finding alternative to river sand became necessary.

Sand Mining Framework (2018) prepared by Ministry of Mines envisages **alternative sources of sand** in the form of **Manufactured Sand (M-Sand)** from crushed rock fines (crusher dust), sand from Overburden (OB) of coal mines.

During Opencast mining the overlying soil and rocks are removed as waste to extract coal and the fragmented rock (Overburden or OB) is heaped in dumps.

Most of the waste is disposed off at the surface which occupies considerable land area and requires extensive planning and control to minimize the environmental impact of mining.

Coal India Ltd (CIL) has envisaged to process the overburden rocks for sand production in mines where **Overburden material contain about 60% sandstone** by volume which is harnessed through crushing and processing of Overburden.

Manufactured Sand (M-Sand) from overburden of coal mines have several benefits in terms of economy and environmental sustainability, including:

Cost-effectiveness: Using manufactured sand can be more cost-effective than using natural sand, as it can be produced in large quantities at a lower cost.

Consistency: Manufactured sand can have a consistent grain size and shape, which can be beneficial for construction projects that require a specific type of sand.

Environmental benefits: Using manufactured sand can help to reduce the need for mining natural sand, which can have negative environmental impacts. Additionally, using the overburden from coal mines can help to repurpose materials that would otherwise be considered waste.

Reduced water consumption: Using manufactured sand can help to reduce the amount of water required for construction projects, as it does not require washing before use.

Better workability: Manufactured sand is more angular and has a rougher surface, which makes it more workable for construction projects.

Land occupied by OB dumps can be freed for alternative useful purposes

Recovery of sand from waste overburden is the best out of waste product

Commercial sale of produced sand can generate additional revenue for coal companies

Apart from commercial use, sand produced shall also be consumed for sand stowing in Underground Mines enhancing safety & conservation

Lesser Sand extraction from river will reduce erosion of channel bed & banks and protect water habitat

Help maintaining water table