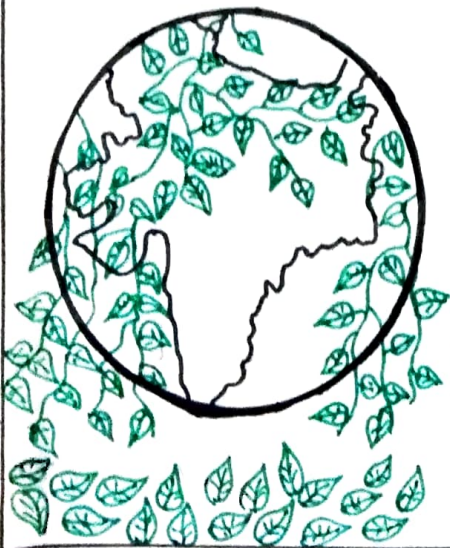


PROJECT

OF

ENVIRONMENTAL

ESSENTIAL
STUDIES



Raniganj Girls' College

Course Name: Environment Studies

Course Code: AEE101

Topic of the project: Different aspects of Air, Soil, Water, Noise pollution

A Project Report

Submitted by Semester-I students (Academic Year 2021-22)

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CERTIFICATE

This is to certify that this project titled “Different aspects of Air, Soil, Water, Noise pollution” submitted by the students for the award of degree of B.A. Honours/ Program is a bonafide record of work carried out under my guidance and supervision.

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I am making this project not only for marks but to also increase my knowledge.

THANKS AGAIN TO ALL WHO HELPED ME

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Introduction ->

Sand is a naturally occurring granular

Material composed of finely divided Rock and mineral particles. it is one of Most widely used commodity for different Purposes with majority in construction Activities. Sand and gravel are mined World-wide and account for the largest Volume of Solid material extracted globally It is used primarily in construction of Houses, buildings and other infrastructure Project (e.g. bridges, roads primarily in Construction activities. Sand and gravel Are mined world-wide and account for the Largest volume of Solid material extracted Globally. Based on a rough estimation, The total Sand Consumption in india Is around 700 million tonnes in 2016



-17 which has been derived from the Cement Consumption. Sand is mainly found in the Oceans, rivers, lakes & Reservoirs, Steeps Flood plains, and hills & mountains. in the Country the main Source of Sand is from River plains, in streams minning Coastal Areas and agricultural fields. Among all The Sources, River bed is the most Comm On and prevalent Source of Sand in the Country. Sand is mined / removed From These areas either manually or through Mechanical extractors.

1) Regulatory provisions for Sand (minor mineral)

Sand is classified as a minor mineral and It is defined in the mines and minerals (Development) and Regulation Act, 1957 (MMDR Act.) as follows:

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"Minor minerals means building stones, gravel, ordinary clay, ordinary sand other than sand used for prescribed purpose, and any other mineral which the Central Government may, by notification in the official gazette declare to be a minor mineral".

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

As :

- (iv) Purpose of stowing in coal mines.
- (v) For manufacture of silicate cement
- (vi) Manufacture of Sodium Silicate and for
- (vii) Manufacture of pottery and glass.

Further, Section 15 of the MMDR Act empowers state governments to make rules for regulating the grant of mineral concessions in respect of minor minerals.

The regulation of grant of mineral concessions

And complete administrative Control for Minor minerals is, therefore, within the Legislative and administrative domain of the State governments. Hence, under the power Granted, the state governments have framed Their own minor minerals Concession Rules and policies related to the same. but under Section 23c of the MMDR Act, 1957 empowers state governments to frame rules to Prevent illegal mining, transportation and Storage of minerals.

It has been observed that the demand of Sand has increased over the years due to Significant infrastructure development in the Country. The legitimate supply of Sand is Not enough to cater to the demand. There are many instances of illegal mining Noticed and reported. also Constitutional Bodies like Hon'ble Supreme Court, High

Courts of the state and national Green Tribunal (NGT) have taken up illegal mining issues to prevent the state and national level damage to the environment. This has further constrained the supply of this commodity. Since in majority of the states sale prices are not regulated, Supply Commission makes the prices of Sand to increase and in many cases exorbitantly. Ministry of environment, forest and climate change (MOEFCC) has issued Sustainable Sand Mining management Guidelines, 2016 in March 2016 which inter-alia, addresses the issues relating to regulation of Sand mining and provides a detailed program for ensuring that issues relating to regulation of Sand mining and provides an emphasis on the preparation of River Sand is done in a sustainable manner. The guidelines program for ensuring

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That mining of river sand is done in a sustainable manner. The guidelines emphasize on the preparation of District Survey Report (DSR) which needs to be prepared for each district. The guidelines also present a set of rules to be followed for operations and monitoring part. These further emphasize on making resources available, mapping of these resources at the district level, identification of appropriate sites for extraction, appraisal of the extraction process, putting in place the required environmental safeguards and rigorous monitoring of the volume of extracted material. Special emphasis is given on monitoring of the mined out which is key to the success of environment management plan. Usage of IT and IT enabled for effective monitoring of the quantity of mined out material and transport station is also part of the guidelines.

(7)

2.) Executive Summary of MoEFCC's Sustainable Sand Mining Management

Below is the executive summary of the Sustainable Sand mining management guidelines, 2016 Issued by MoEFCC.

The Sand and gravel are one of the most important construction materials ensuring their availability is vital for the infrastructure in the country. There are different sources of sand and gravel, the most important among them is the river. As the requirement of these construction materials is on rise, they also are very vital for the health physical character of the river and the different important functions of the river.

3.) Legal and regulatory Framework

In this section, the existing legal and regulatory framework of sand mining in the selected states was reviewed and its, focusing on

Two main aspects i.e. the were looked into:

- Applicable acts, rules and regulation governing the Sector and the processes authorit for various provisions
- latest policy and changes brough-up/proposed In the states to carry out Sand mining In a sustainable way
- Internal as well as external environment that affects the functioning of Sand mining And sales, directly or indirectly by analyzing the past trends and also from the view of various stakeholders Discussed during phase - I
- Steps taken to prevent adverse impact of mining of sand on the environment.

4.) Sand mining mapping

Standardization of the processes are extremely important and brings efficiency

In the system. however, the state follow different Sand mining in each state and use the information for to map the complete process chain of Sand mining formulation of the framework with standardized processes. To do the same, detailed information on the process chain was gathered during the state visit. in addition a, number of of reaches were identification of the reaches to the sale of sand to the end user. in Addition to this, a responsibility matrix was also prepared mapping the responsibilities of individuals within the process. Some of the details that have been captured are:

- Sand demand in the state
- Alternate Sources of natural sand in the state

MANAGEMENT PLAN

Cap Permit Mining Volume Based on Measured Annual Replenishment %

In the first year following adoption of the Management plan, a volume equal to the estimated annual replenishment could be extracted from the of channel replenishment (up to the elevation of the selected channel configuration) would need to occur before subsequent extraction could take place. the concept of example, replenishment account for the episodic nature of sediment transport. For during wet periods with high streams flows and a high contribution of sediment from hill slopes and tributaries, monitoring data would show the sand

Extract Sand and Gravel from the Down Stream portion of the Bar:

Retaining the upstream one to two thirds of the bar and riparian vegetation while excavating from the downstream one to two third of the low flow channel necessary for aquatic life. Sand and

Gravel would be re-deposited in the excavated downstream one to two thirds of the bar (or downstream of the widest point of the bar) where an eddy would form during sediment transporting flows. In contrast, if excavation occurs on the entire bar after removing existing riparian vegetation, there is a greater potential for widening and braiding of the low flow channel.

(c) Concentrate Activities to Minimise Disturbance:

River bed extraction activities should be concentrated or localised to a few bars rather than spread out over many bars. This localisation of extraction will minimise the area of disturbance of upstream and downstream effects. Skimming decreases habitat and species

Diversity - these effects should not be expanded over a large portion of the area.

(d) Limit River Bed extraction Methods to Bar Skimming

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