

CHAPTER – VI

ADDITIONAL STUDIES: DISASTER MANAGEMENT

6.1 INTRODUCTION

All types of industries face certain types of hazards which can disrupt normal activities abruptly, similarly River Bed Mining also has impending dangers or risk which need be addressed for which a disaster management plan has been formulated with an aim of taking precautionary steps to avert disasters and also to take such action after the disaster which limits the damage to the minimum.

Nevertheless, the following natural problems may be encountered during the mining operation.

1. Increase in gradient of the river – one of the most frequently occurring hazards of the riverbed mining is the increase of river gradient due to haphazard mining practices. Due to selective mining in vast patches of the bed, the amount of suspended load, turbidity and velocity of the water may increase which may affect the overall behavior of the stream.
2. Dumping of waste material – The waste left from the river bed mining consists of unusable aggregates and mainly clay. The clay is generally dumped back in the mined out areas. Subsequently the clay gets mixed with stream water to result in increased turbidity and siltation downstream.
3. Water pollution – The left over aggregates are fine-grained particles that are lifted easily by increase of stream water velocity. Retention times of these particles are long and quality of water is affected consequently.

As per proposal made under the mining plan, during proposed working the area will be developed by means of manual opencast mining method. Exploitation and transportation of minerals are to be carried out by manual means. Water table will not be touched during processed working.

No high risk accidents like landslides, subsidence flood etc. have been apprehended.

But possibility of accidental disaster is also not ruled out. Therefore, all the statutory precautions should be taken for quick evacuation as per the Mines Act 1952, the Mines Rules 1955, MMR-1961 and MCDR-1988.

6.2 RISK ASSESSMENT AND DISASTER MANAGEMENT PLAN

The possible risks in the case of riverbed mining project are bank erosion, floods, accidents due to transportation etc.

Mining and allied activities are associated with several potential hazards to both the employees and the public at large. A worker in a mine should be able to work under condition, which are adequately safe and healthy. At the same time, the environmental condition should be such as not to impair his working efficiency. This is possible only when there is adequate safety in mines. Hence, safety is one of the most essential aspects of any working mine. safety of the mine and the employees will be taken care according to the mining rules & regulations, which are well defined with laid down procedure for safety, which when scrupulously followed safety is ensured not only to manpower but also to working environment.

6.2.1 Possible Risks Due To Inundation & Its Control

Mining will be done during the non-monsoon periods; therefore, problem of inundation is not likely to happen.

6.2.2 Dewatering

Depth of mine is limited to 3m depth only from the riverbed level whereas the ground water flows at 40 to 45m below the bed level.

Hence, no dewatering is required.

6.2.3 Possible risks due to failure of pit slope & its control

Pit will be created of limited depth only i.e. 3m thus the chance of failure of pit slope does not exist.

6.2.4 Possible risks due to failure of waste dump & its control

No waste dump is created therefore the question of failure of waste dump does not exist.

6.2.5 Possible risks due to fire & its control

The operation does not anticipate any fire disaster.

6.2.6 Measures to Prevent Accidents Due to Trucks and Dumpers

- All transportation within applied mining lease working should be carried out directly under the supervision and control of the management.
- The vehicles will be maintained in good condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Road signs will be provided at each and every turning point up to the main road (wherever required).
- To avoid danger while reversing the equipment's/ vehicles especially at the working place / loading points, stopper should be posted to properly guide reversing/ spotting operating, otherwise no person should be there within 10 km radius of machine.
- A statutory provision of the fences, constant education, training etc. will go a long way in reducing the incidents of such accidents.

6.2.7 Other possible measures to avoid risks/ disaster due to river bed mining.

- Unwanted material including mineral or spillage (if any) should not be stacked on the banks as it will hinder the flow of water in monsoon season.
- Mining of minerals / working shall be started from the center from dip to rise and then laterally in 1 meter slice so that the river course could not get affected.
- The minerals will be mined out in a uniform way so that the river flow/ course shall not get disturbed.
- Riverbanks will not be excavated to from access ramps.

- Only excavated river gravel should be used to deposit against the river bank to form access ramps.

Maintenance and monitoring:

The area will be monitored every week by competent person and if maintenance is needed will be done as per requirement.

6.3 SOCIAL IMPACT ASSESSMENT, R&R ACTION PLAN

There will be the positive impact on the villagers of the nearby villages in the form of employment, business promotion and social welfare. There is no human settlement in the applied lease area. Thus there is no impact on the human settlement and thus no R & R plan is required.

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