

GOVERNMENT OF INDIA
MINISTRY OF MINES
LOK SABHA
UNSTARRED QUESTION No. 2985
ANSWERED ON 06.08.2025

AI-BASED MINING

2985. SHRI K GOPINATH:

Will the Minister of MINES be pleased to state:

- (a) the details of mines across the country where drone surveys, AI-based mineral assessment and IoT-based monitoring systems have been implemented to promote sustainable mining;
- (b) the reforms incorporated in existing mining license regulations to mandate environmental protection, water recycling and mine closure plans in mining areas along with the proposed new policies in this regard;
- (c) the present status of Digital Mining Dashboards, real-time production monitoring and AI-based safety systems; and
- (d) whether the said measures have been made mandatory and if so, the details thereof?

ANSWER

THE MINISTER OF COAL AND MINES
(SHRI G. KISHAN REDDY)

(a): The Central Government has adopted technology in mining sector for monitoring the mining activities using application of digital aerial images (drone and satellite) by incorporating regulatory provisions in the Mineral Conservation and Development Rules, 2017 [MCDR, 2017].

A Drone Data Management System (DDMS) has been developed for online submission of digital aerial images. During the last three years, a total of 3,852 digital images have been submitted on this portal. These steps ensure better supervision of mining operations.

The Ministry of Mines has also incorporated provisions for Sustainable Mining Practices under Chapter-V of MCDR, 2017 which provides Rules for precaution against air pollution, prevention of discharge of toxic liquid, precaution against noise, control of surface subsidence etc. Rule 35 of MCDR, 2017 provides for star rating of the mining leases based on the sustainable mining practices adopted by the miners.

(b): As per existing law, before execution of the mining lease, it is mandatory for the prospective lessees to obtain the requisite statutory clearances, including Environmental Clearance. The lease holders are required to ensure compliance of the terms and conditions of the clearances and approvals accorded by the respective authorities, failing which necessary action is taken by the concerned authorities under the respective Acts and applicable Rules/Guidelines.

The mining projects are also mandated to obtain the No Objection Certificate for ground water extraction subject to specific conditions under the guidelines issued by the Ministry of Jal Shakti to regulate and control ground water extraction in India. Further, groundwater monitoring and quantity of recycled water as a percentage of total water withdrawal from external sources are included as parameters in the evaluation template for star rating of mines.

Under MCDR, 2017, every lease holder is also required to prepare a Progressive Mine Closure Plan (PMCP) and Final Mine Closure Plan (FMCP). The lease holders are mandated to submit a yearly report informing about the extent of protective and rehabilitative works carried out as per the mine closure plan, failing which the financial assurance given by the lease holder is forfeited by the State Government.

(c) & (d): The Indian Bureau of Mines (IBM) has developed the Mining Tenement System (MTS) portal, which is designed to streamline processes, enhance transparency, and improve efficiency in mineral resource management. It also promotes the objective of ease of doing business. It has various modules which are being used by various stakeholders for the purpose of reporting. Also, an MTS Dashboard has been developed which is dynamic and provides updated information regarding production by the leaseholders. The MTS portal has been developed as per Rule 73 of MCDR, 2017.
