

# SUSTAINABILITY IN COAL MINES

## 1.0 Introduction

Sustainable development has commonly been considered as an oxymoron in the setting of a natural resource that is finite. The centuries-old practises of mining have tended to prioritise short-term advantages rather than considering the negative effects on the environment and communities. With the advancement of technology and growing awareness of sustainability issues, the question of how to make mining sustainable has come to the forefront. Sustainability in mining thus involves at least the following:

- The environmental dimension places a focus on the natural environment's sustainability and the availability of natural resources.
- The social dimension emphasises the need for social and cultural sustainability, which connects to questions of benefit distribution, mining costs, and decision-making process.
- The economic dimension focuses on the costs associated with upholding standards of life and the economic sustainability of those standards.

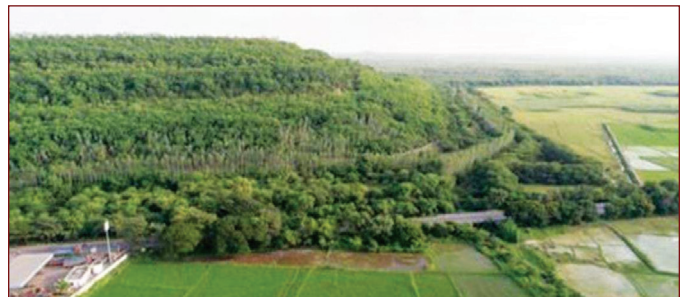
## 2.0 Sustainable Development Policy of Coal/ Lignite PSUs

The coal/lignite PSUs under the Ministry are mindful of promoting sustainability in their mining and allied activities.

### 2.1 Greening Initiatives: Bio-Reclamation/

### Plantation:

- During January 2023 to November, 2023, Coal/ Lignite PSUs planted 53.48 lakh saplings on 2,711 Ha.
- Coal/Lignite PSUs achieved a cumulative plantation area of 10,735 Ha with 234.52 lakh saplings since FY 2019-20 and doubled the target/achievement of plantation since 2019.
- In adherence to Accredited Compensatory Afforestation (ACA) guidelines, 3003 Ha of de-coaled afforested land have been identified to create ACA land bank for future coal mining projects.



Green cover on reclaimed OB dump of JVR OC-II of SCCL



Orchard Plantation, ECL



## 2.2 Development of Eco-Parks on Reclaimed Land & Mine Tourism

- Ministry of Coal and Coal/Lignite PSUs have prioritized the development of eco- parks and tourism sites to promote mine tourism.
- During January 2023 to November, 2023, Coal/ Lignite PSUs developed 4 Eco-park/Mine Tourism sites.
- From FY 2019-20 to FY 2023-24 (as of November, 2023), Coal/Lignite PSUs have successfully established 15 Eco-Parks & Mine Tourism sites, with 7 sites integrated into the local tourism circuit, emphasizing a commitment to sustainable and accessible mine tourism experiences.
- It is also planned to develop 19 new Eco-Parks/ Tourism sites in coal mining areas.



Neem-Vatika, Chanda Rayatwari Colliery,  
Chandrapur Area, WCL



Chandra Sekhar Azad Eco- Park at Bina Project, NCL

## 2.3 Utilization of Mine water for Community Use:

- Mine water is crucial for diverse community needs

such as domestic use, irrigation, groundwater recharge, and industrial applications.

- During January 2023 to November, 2023, 2,513 LKL volume of treated mine water has been supplied for community purposes of which 1,193 LKL has been supplied for drinking purpose and 2,320 LKL has been supplied for irrigation purposes.
- Between FY 2018-19 and FY 2023-24 (as on November, 2023), Coal/Lignite PSUs have supplied a cumulative volume of around 18,582 Lakh Kilo Liters (LKL) of treated mine water for community purposes, benefiting annually approximately 17.70 lakh people in 981 villages across 9 states, showcasing the vital role of mine water in promoting community welfare and sustainable development.



Rohini Pisciculture at CCL



Mine Water Treatment Plant at ECL

## 2.4 Alternative Usage of Overburden (OB)

- To promote Circular Economy (Waste to

Wealth in Coal Sector), during January 2023 to November 2023, 2 numbers of OB to M-sand Plants have been commissioned by Coal/Lignite PSUs making it a total of 4 OB Processing Plants and 5 OB to M-sand Plants till November, 2023.



Overburden to M-Sand Plant at Amlohri Plant at NCL

- 6 more such plants are under various stages of development.

## 2.5 Energy Efficiency Measures

- Efficient use of energy resources and their conservation assume tremendous significance as one unit of energy saved at the consumption level ultimately translates into equivalent reduction of carbon footprint.
- Coal/lignite PSUs have taken of various energy conservation and efficiency measures during January 2023 to November 2023, such as replacement of 1.50 lakh conventional lights with LED lights, 2,562 energy efficient ACs, 45,325 Super Fans, deployment of 136 E-vehicles, 655 Efficient Water Heaters, 235 Energy Efficient Motors for Pumps, 624 Auto-timer in street lights and installation of Capacitor Banks.

