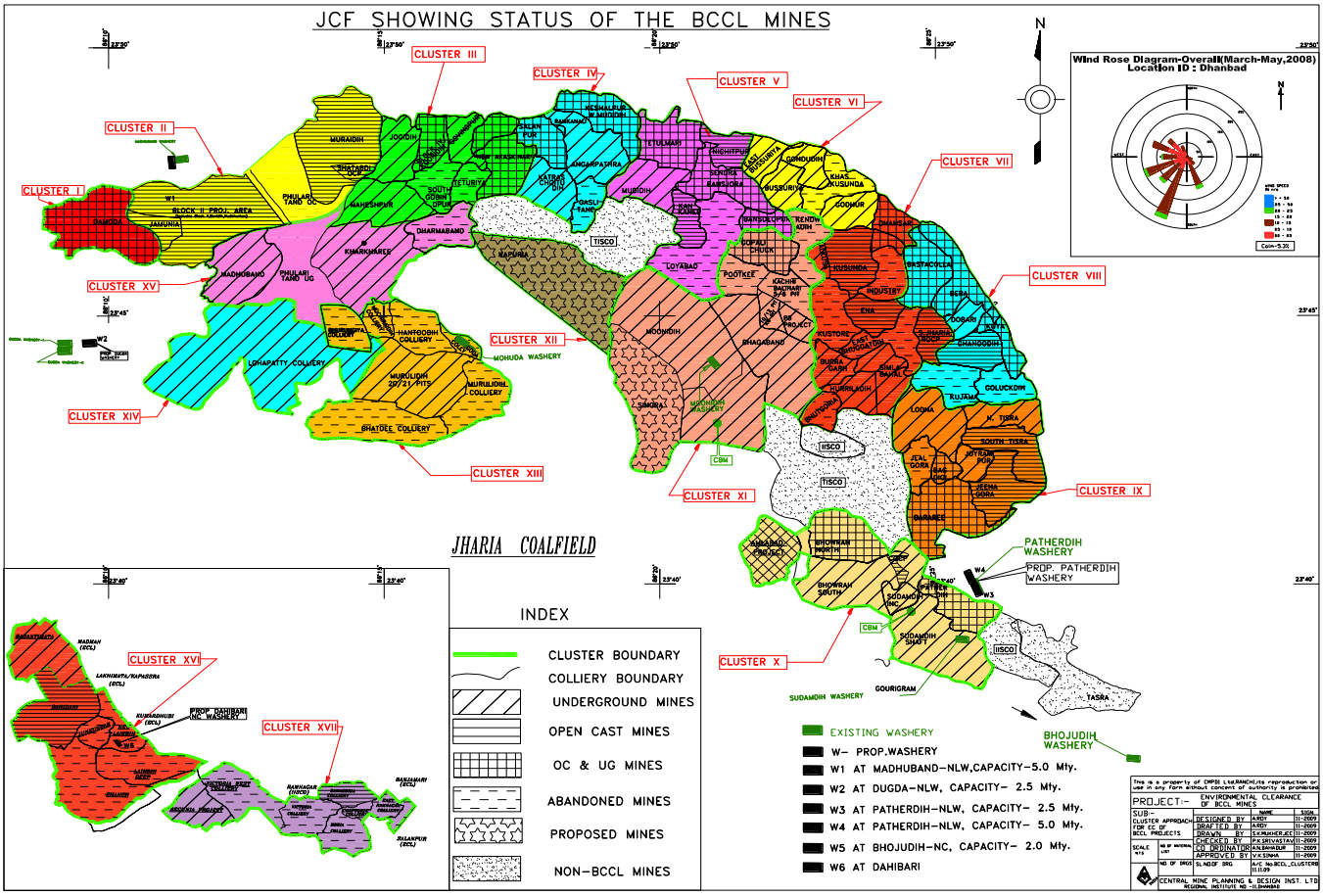
Cluster Concept of BCCL Mines



The concept of grouping mines into a cluster arose during the meeting of Secretary (Env) and Secretary (Coal), GOI held on 28.02.2008 with a view that a common EIA-EMP could be prepared for the entire cluster and clearance obtained for all the mines in the cluster. The EAC (T&C) in the meeting held in September 2008 discussed the matter and it was decided that a background would be circulated to the EAC for discussion/finalization and thereafter forwarded to the Ministry of Coal/Coal companies under M/s Coal India Ltd to facilitate undertaking suitable study on the feasibility of cluster approach for coal mines located in the Jharia and Ranigunj coalfields.

A presentation on 'Feasibility study of Cluster Concept for preparation of EIA-EMP study for cluster of mines of Bharat Coking Coal Limited' was made before the EAC(T&C) on 24.11.2009 incorporating suggestions made by the EAC(T&C) . All the 103 mines of BCCL in Jharia and Raniganj coalfields consisting of 65 operating mines, 34 mines closed for production and 4 proposed mines were grouped into 17 clusters on the basis Environmental rationale. MoEF has approved this Cluster Concept in Dec., 2009 and then onwards MoEF approved the TORs for all the 17 Clusters and environment clearance to 16 Clusters covering all mines of BCCL located in Jharkhand. The following environmental rationale were considered while grouping the mines into clusters:

1. Ambient air quality in a cluster of mines.
2. Conservation of coal
3. Rock/OB waste management
4. Ecological restoration
5. Socio-economic environment
6. Fire abatement measures
7. Prominent wind direction
8. Surface hydrology
9. Environmental corridors

A cluster consists of a group of mines with mine lease boundary lying in close vicinity and includes Operating mines, Abandoned/ closed mines, Proposed projects, Washeries in close vicinity With a view to take up:

- ecological reclamation & restoration of closed/ abandoned mines especially voids, dumps & unstable areas due to fire and subsidence
- Putting them to post-mining land use

By expeditious utilization of the common resources of existing/ proposed mine

Cluster concept ensures clear environmental benefits, address the issues of abandoned mines and their reclamation and dovetailing with the Jharia Action Plan. Common control and mitigation measures is possible with common resources in a cluster. Integrated environmental management plan for critical activities may be drawn more effectively for the compliance of environmental standards in a cluster as stated below:

Land management:

- Effective large scale Reclamation, Waste management and Post-mining land-use planning.
- Reclaimed land can be handed over back to State Govt. for gainful utilization.
- Amalgamation of small lease mines into clusters will facilitate in scientific extraction of coal blocked in barriers of small mines thus increasing conservation of coal

Water management:

- Major drainage systems will not be disturbed/ diverted.
- Effective water management and water conservation can be done.
- Green belts along the banks will be done, this will check erosion, improve water conservation, help in rain water harvesting, and improve aesthetics and overall environment. Some of the quarries will be converted to pond ecosystems and can be developed into eco-parks and for drinking water purpose.

Air quality management:

- Emissions (GHGs) can be controlled from mineral transportation, mining, fires etc. Effective and better Air quality Impact assessment and Modeling possible and so a better AQMP can be designed.
- Diversion of roads and rail lines as per Jharia Action Plan possible. (i.e. Common Transportation System for addressing air pollution problems). Green belts along major roads will help in emissions control and noise attenuation.

Ecological management:

Effective large scale Bio-reclamation strategies for closed and operating mines possible. Native species, medicinal plants parks and block plantation with fruit and commercial trees will be done which are useful to the local society. This will attract in migration of fauna and establishing of micro ecosystems. Degraded vegetation land and fallow lands will be converted into vegetable farms.

Socio-economic improvement:

Good R&R package available to affected people. People and infrastructure are safe and free from dangers of fire and subsidence. Pollution free and aesthetic environment with acceptable post-mining land-use is possible. It will enhance Quality of life, amenities, literacy, employment opportunities will increase. Common Resettlement township in the vicinity of a cluster of mines will facilitate socio-economic benefits to PAPs through large scale reclamation of land and putting them to post-mining land use like Forest with potential to support surrounding communities, agriculture, horticulture, fisheries, animal husbandry etc. Surplus mine water from a cluster of mines can be collected in a reservoir and utilized for drinking, irrigation etc for benefit of the peripheral villages of the cluster.