

India's Dependence on Coal

Posted at: 29/08/2025

India's Dependence on Coal: A Double-Edged Sword

Context

A new report titled *"Regulating Coal Operations: Environmental and Social Impacts through the Lens of the NGT"* was released in New Delhi.

The report emphasizes that coal will continue to play a dominant role in India's energy system for many decades, making environmental degradation and health risks unavoidable. It underscores the importance of involving local communities in decision-making and calls for health impact assessments in coal-rich regions.

India's Dependence on Coal

Why India Depends Heavily on Coal

- **Energy Security:** Over 70% of India's power generation (2022-23) comes from coal. Unlike imported oil and gas, coal offers a degree of energy independence due to abundant domestic reserves (~350 billion tonnes).
- **Industrial Backbone:** Thermal power fuels industries like steel, cement, aluminium, fertiliser, and railways. Coal's affordability and reliability help industries withstand global energy market volatility.
- **Cost and Infrastructure Lock-In:** Coal plants are relatively cheaper to construct and operate for long periods. Existing investments in railways, coal-handling systems, and state utilities reinforce dependence.
- **Employment:** Millions in Jharkhand, Chhattisgarh, Odisha, and West Bengal rely on coal mining for their livelihoods, making a sudden shift politically and socially challenging.
- **Renewable Limitations:** Despite growth, solar and wind face challenges in storage, grid stability, and round-the-clock supply, keeping coal as the primary baseload energy source.

- **Transition Barriers:** Insufficient financing, limited technology transfer, and lack of worker reskilling plans slow down the pace of decarbonisation.
-

Environmental and Health Consequences

- **Air Pollution:** Coal regions record PM10 levels up to five times the safe limit (e.g., Jharia, Ennore).
 - **Water Contamination:** Fly ash leaks pollute rivers and reduce soil fertility.
 - **Biodiversity Loss:** Mining operations clear forests and fragment wildlife habitats.
 - **Public Health Risks:** Coal pollution is linked to silicosis, respiratory illnesses, and neurological issues from heavy metals and fly ash.
 - **Livelihood Impacts:** Farming, fishing, and livestock rearing are severely affected, often leading to poverty and migration.
-

Governance and Regulatory Gaps

- **Weak Enforcement:** Some plants manipulate emissions data (e.g., Ennore).
 - **Inconsistent Compensation:** Farmers in Mejia and Chandrapur face delays or inadequate payouts.
 - **Exclusion of FRA Rights:** Tribal and forest communities are often sidelined from consent processes under the Forest Rights Act (2006).
 - **Superficial Participation:** Local voices rarely find space in regulatory decision-making.
-

Key Recommendations from the Report

- **Health Impact Assessments (HIAs):** To be made mandatory alongside Environmental Impact Assessments (EIAs).

- **Community Participation:** Local committees with villagers, NGOs, and experts should oversee restoration and monitoring.
 - **Independent Monitoring:** Continuous third-party audits of air, water, soil, and health indicators.
 - **Mission-Mode Restoration:** Central and state authorities must treat clean-up efforts as urgent.
 - **Just Transition Strategy:** Integrate equity, livelihood alternatives, and worker skill training into coal exit plans.
-

The Way Forward

- **Diversify Energy Sources:** Expand solar, offshore wind, and green hydrogen to reduce coal dependence.
 - **Just Transition Fund:** Establish financial mechanisms for coal worker rehabilitation and livelihood diversification in mining states.
 - **Health-Focused Planning:** Make HIAs a standard requirement for project approvals.
 - **Greater Accountability:** Strengthen NGT and Pollution Control Boards with authority for community-led oversight.
 - **Circular Economy:** Expand fly ash use in construction materials such as cement, bricks, and roads.
 - **International Climate Finance:** Tap into G-20, the Green Climate Fund, and Just Energy Transition Partnerships (JETP) to fund India's energy transition.
-

Conclusion

Coal will remain a cornerstone of India's energy system for decades. However, without strong community involvement, strict regulatory enforcement, and a well-designed just transition plan, the environmental and social costs of coal will far outweigh its economic advantages. India must balance energy security with social equity and climate commitments.

Source : Down to Earth

Dr. Shivakumar's



AKKA IAS ACADEMY
www.akkaias.com