

**ACTION PLAN FOR
SUSTAINABLE ENVIRONMENTAL
MANAGEMENT OF
INDIAN COAL MINING SECTOR**

WHY SUSTAINABLE DEVELOPMENT FOR INDIAN COAL MINING SECTOR?

- Environmental damage by coal mining is intense and visible.
- Stakeholders' complaints against lackadaisical approach by coal mining sector to establish an acceptable sustainable environment.
- MoEFCC and CAG came down on CIL of non-compliance of EC-FC conditions and lack of Environment Policy.
- It is time for MoC to guide coal companies, make them execute best environmental practices & environmentally sustainable coal mining.
- To neutralize negative image of coal mining sector perceived by the public, media, regulators and judiciary.

FOCUS AREAS OF SUSTAINABLE DEVELOPMENT IN COAL MINING

- Coal mining sector should incorporate sustainability with regard to socio-economic aspects and ecological sensitivities into its mining process.
- Need-based sustainable development should be the focus. End aim to ease lives of the community.
- Major roles of SD at MoC are to:
 - ✓ generate new ideas to plan, prepare guidelines, advise, mentor, monitor and evaluate the environment mitigation measures carried out by Coal companies in a sustainable way and minimizing the adverse impacts.
 - ✓ act as nodal point at Ministry level.
 - ✓ formulate future policy, framework for environmental mitigation measures.
 - ✓ explore, adopt and execute “Best global practices”.
 - ✓ disseminate and share knowledge.

ENVIRONMENTAL ISSUES OF COAL MINING INDUSTRY

- Coal, forests and rivers are concentrated in the same geographical areas.
- Perception of inadequate compensations for land acquired from locals, long pending resettlement issues contributed to social dissatisfaction.
- Implementation and compliances of EMPs and MCPs falls short.
- Lack of Environmental Stewardship by mine managers & CEOs.
- Inadequate knowledge of mine managers on environmental sciences.
- Mining operations carried without concern for 'carrying capacity' of the environment and other social limitations.
- Coal mining industry need to take a comprehensive view of sustainable development that should cover stakeholder engagement, local area socio-economic development and transparency in communication and accountability.

BEST PRACTICES OF SUSTAINABLE ENVIRONMENTAL MANAGEMENT

- Sustainable development;
- Mine Reclamation including Abandoned mine reclamation;
- Ecological restoration, Biodiversity conservation, Biodiversity offsetting, creating Eco-parks & Herbal gardens, Integrated farming system, Agricultural models;
- Mine closure including progressive and final closure and Post-mining land-use;
- Water management, conservation, Rain water harvesting, Watershed development;
- Air quality and Noise management;
- Environmental Risk management;
- Resettlement of displaced families, Livelihood creation, human resource development;
- Energy conservation, Carbon neutral initiatives;
- Corporate Social responsibility (CSR) and Corporate Environment Responsibility (CER);
- Eco-mining Tourism;
- Waste reuse-recycling, waste to wealth initiatives;
- Environmental monitoring and Auditing using tools like GIS, Real-time platforms;
- Environmental R&D, rebooting Traditional environmental management practices;
- Capacity building, Strengthening and Branding

SWOT ANALYSIS

- From the SWOT analysis, it becomes evident that the Weaknesses of the Coal mining industry outnumber the Strengths of its monopoly, infrastructure, leaders, resources, manpower and financial wealth.
- Weaknesses cropped up due to its insensitivity and lackadaisical attitude of its leaders, managers and employees.
- Best practices are yet to be adopted.
- Skills development and trainings are grey area.
- Non-accountability by its managers could be one of the biggest aspect.
- Stakeholders are not happy with its operations and attitude.
- Vast Opportunities are available to negate Weaknesses and Threats.

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- Action Plan proposed based on findings of SWOT analysis, Berlin Guidelines 2000 and Best global practices.
- To achieve perceivable results, activities of Action Plan to be prioritized into Short, Medium and Long terms.
- Short term activities are which need immediate action within six months;
- Medium term activities could be achieved with in two years.
- Those categorized as Long term could be achieved within four years.

ACTION PLAN FOR SUSTAINABLE ENVIRONMENTAL MANAGEMENT OF INDIAN COAL MINING SECTOR

1. Establish Environmental Accountability at the management levels
2. Ensure Participation with stake holders
3. Socio-economic impact assessment & Planning
4. Execute considering linkages between community and environment
5. Adopt environmentally Sound Technologies and Best Practices
6. Reinforce infrastructure, training and skills in environmental management
7. Environmental management to include early and comprehensive EIAs, monitoring & auditing, risk analysis & management
8. Encourage long term investments
9. Site specific actions for all environmental attributes to be addressed

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- 1. ESTABLISH ENVIRONMENTAL ACCOUNTABILITY** in industry at the highest management and policy-making levels.
 - CEOs and Directors should recognize Environmental management as a high priority.
 - Accountability may be fixed on CEOs and Directors for poor and non-compliance of environmental management.
 - Employees' responsibility towards environmental management to be established.
 - Environmental management targets similar to production and safety should be fixed and linked with employees' Annual Performance reports and PRPs.
 - Capacity building and institutional strengthening through awareness campaigns, trainings, participatory management, inter and intra company interactions/ visits, incentivisation, recognitions, awarding should be aggressively practiced.
 - Professional consultants should be roped in to address these problems.

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- 2. ENSURE PARTICIPATION WITH STAKE HOLDERS** on environmental and social aspects of all phases of mining activities.
- Social and community issues to be identified through SIA followed by a risk and opportunity assessment, leading to development of a Community Engagement Plan.
 - Coal mining Companies need to generate employment and business opportunities outside of the mining industry also, and help develop people's skills and capacities.
 - Capacity building and strengthening proposed to its own employees may be extended to the communities and stakeholders also.
 - Other areas to be focused are improvement of public health; enhancing the local environment; building community pride; strengthening local institutions; working with marginalized groups.
 - NGOs and Professional consultants should be roped in to address the problem of non-connectivity with the community.

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- 3. SOCIO-ECONOMIC IMPACT ASSESSMENT & PLANNING.** Non-engagement with the surrounding society and stakeholders by the coal companies has always been a big complaint. In such a negative environment, SIAs help to:
- ✓ identify the key social, environmental, demographic and economic factors that constrain or drive changes in the community
 - ✓ understand how the establishment or closure will impact on the community
 - ✓ define key baselines that impact mining operations
 - ✓ identify potential risks and opportunities to the community
- Coal companies should realise participation of community in decision making are key features of a policy regime that will demonstrate best practice and support the sustainable development.
 - Social-economic impacts should be taken into account at the earliest stages of project development and continue up to the post-closure period.
 - Undertaking SIAs through professional experts would result in better outcomes.

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4. EXECUTE CONSIDERING LINKAGES BETWEEN COMMUNITY AND ENVIRONMENT

- Nature's goods and services are the ultimate foundations of life and health.
- Ecosystems are the planet's life-support systems.
- Assess strategies for avoiding disease and injury caused by ecosystem disruption.
- Inclusion of health in sustainable development planning through formulating Health impact assessment of major mining projects.
- Capacity-building initiatives that assess health and environment linkages to be put in place.
- Community engagement provides access to local knowledge about the effects of ecological factors.
- To achieve the goal of enhancing & conserving ecosystems, wide-ranging reforms of governance, institutions, laws and policies are required.

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5. ADOPT ENVIRONMENTALLY SOUND TECHNOLOGIES AND BEST PRACTICES

- Emphasis on transfer of appropriate Green technologies that mitigate environmental impacts.
- Inclusive work with different sectors is key to implementing technology in mining.
- Access to cross-sectoral expertise, collaborating with universities, governments and civil society.
- Introduce Circular economy, Footprint reductions, low-Carbon technologies through minimizing waste and quantity of contaminants produced.
- Using renewables such as solar energy to power vehicles will ensure a sustainable low carbon technology.
- Reduce consumption of energy and water.
- Innovation also supports environmental conservation.

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6. Reinforce the infrastructure, information systems service, training and skills in environmental management.

- Data integration and monitoring using GIS tools and Real-time platforms.
- Training SOPs, Capacity building Roadmaps, Policy frameworks are to be an integral part of mining operations.
- Sustainable development and environmental management skills of employees, CEOs and Directors to strengthen.
- Ensure adequate resources, staff and requisite training to implement environmental plans.

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7. Environmental management to include early and comprehensive EIAs, monitoring & auditing, risk analysis & management

- Adopt risk analysis and risk management in the design, operation, and decommissioning of mining activities, including handling and disposal of hazardous mining and other wastes.

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8. Encourage long term investments.

- Provide additional funds and innovative financial arrangements to improve environmental performance of existing mining operations.
- Evaluate and adopt economic and administrative instruments such as incentive policies to encourage the reduction of pollutant emissions and introduction of innovative technology.

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9. Site specific actions for all environmental attributes to be addressed

- In addition to above Generic Actions, Sites/company specific actions need to be addressed.
- To achieve perceivable results, the activities of the Action Plan may be prioritized into Short Term, Medium Term and Long Term.
- Short term activities are those which need immediate action and could be taken up on war-foot scale to be achieved within six months;
- Medium term activities could be achieved with in two years.
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EXECUTION MECHANISM OF ACTION PLAN

- Ensure laws relating to the environment and other natural resources like forest and land work in harmony with mining laws.
- Complying EMPs, Mining plans, Environmental, Forest Clearance conditions itself will solve most of the issues of sustainable development.
- Mining industry must ramp up its engagement, partnership and dialogue with other industry sectors, government, civil society and local communities.
- Companies must work to integrate changes into their core business to achieve goals.
- Fixing accountability is the Mantra of Success.

EXECUTION MECHANISM OF ACTION PLAN

- Govt. may set up an independent, multi-disciplinary Unified Authority on the pattern of the DGMS, which is staffed with varied scientific and technological experts required to regulate all matters related to sustainable development.
- This authority must also be empowered to enforce compliance of the clearances by all coal mines in the country throughout operation right up to final and post closure.
- Govt. may enact a “Sustainable Coal Mining Code” to consolidate all statutory provisions governing opening/closing, EC-FC matters related to coal mines.

EXECUTION MECHANISM OF ACTION PLAN

- An empowered unified authority can ensure effective compliance with all statutes related to mining, environment, forest, and mine opening/closure in coal mines by using GIS-based tools for remote surveillance in conjunction with quarterly inspections of each coal mine.
- This authority will also facilitate job creation and contribute to a reduction in coal imports by ensuring “ease of doing business”.
- Ultimately, this will contribute to the realisation of India’s Sustainable Development Goals and facilitate both energy security and sustainability for the country.

THANK YOU