

Environmental Protection And Sustainable Development In Indian Metal Ferrous Mineral Sector

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Abstract

Sustainable development is a buzz word in natural resources development today. In view of the increased awareness of environmental problems, the accent on sustainable development has grown in recent times, particularly in respect of activities which degrade the environment and affect communities adversely. Mining is one such activity. Mining also presents a contrast. It represents one of man's earliest activities and with time, the use of minerals has increased both in volume and variety in order to meet a wide range of demands of society. The result is that the present day society, especially in emerging economies like India and China is crucially dependent on the minerals industry for sustained economic progress that will alleviate poverty and improve the quality of life. In these circumstances, sustainable mineral development boils down to bringing about a balance between economic, social and environmental well-being now and for the future. Achieving a dynamic balance between supply and demand for minerals, good governance and environmental management, economic and social stability and intra-generational and inter-generational equity is the challenge that India faces today for the development of its mineral sector. Consequently, the primary objective of this study is to provide an overview of various aspects of the country's mining industry (mainly metalliferous minerals) as it impinges on the issues relating to sustainable development. It seeks to identify the operational principles of sustainable development that are relevant for mining and examines how governmental and industry practices and procedures can be aligned to these principles for a more satisfactory outcome than exists today. As such it is hoped that the report will be of value to those who are involved in the process of mineral development in the country.

Introduction

The main objective of the study is to analyze the emerging issues of sustainable development in India's mineral sector. To that end it seeks to identify the operational principles of sustainable development in the context of the mining industry in India, examines the current regulatory mechanism for achieving sustainable mineral development and analyzes the prevalent national and international practices for achieving sustainability in mineral operations. On the basis of this analysis, the report identifies some areas of concern and makes recommendations for improvements and reforms including the measures needed to integrate mineral development with social concerns, environmental integrity and good governance. The relevance of the study for development planning arises from the fact that mineral development has a close interface with the issues of environment, development,

welfare of local (indigenous) communities and poverty alleviation and its sustainability is crucial for the promotion of inclusive growth.

Methodology:

The study is both reflective and empirical in nature and has been done through a combination of desk research and limited field study. The desk research covered both national and international publications, government reports and documents, reports of non-governmental organizations, company documents, court judgments, and studies by scholars and international organizations. The statistical data have been sourced from the Ministry of Mines (Government of India), the Indian Bureau of Mines, the Central Statistical Organization, selected state governments, and other relevant organizations. A number of documents and studies were also accessed through internet. The purpose of the field study which covered the four mining states of Odisha, Goa, Karnataka and Jharkhand, was to gather data and textual information on the sustainable development practices being adopted by mining enterprises and also to understand the operation of the current legal and institutional arrangements for ensuring sustainable mineral operations in these states. Qualitative research methods such as semi-structured interviews with open-ended questions and focus group discussions were used to collect the relevant information. Some relevant data on sustainability measures adopted by a few mining companies were also obtained through mailed questionnaires.

Mining, more than any other industrial activity, tends to leave a strong negative impact on environment and society. However, a complete ban on mineral extraction is not possible as modern society and civilization are heavily dependent on minerals and mineral production. The efforts instead should be to limit the negative consequences of mining through the application of the concept and principles of sustainable development to mining operations. 'Sustainable development', an all-inclusive, somewhat ambiguous concept basically means economic and social development that endures over the long-term and its core ethic is intergenerational equity. Sustainability principles have application for all stages of mine life cycle – exploration, mine planning, construction, mineral extraction, mine closure and post-closure reclamation and rehabilitation. These principles include elements such as intra and inter-generational equity, the precautionary principle, scientific mining, management of environmental and socio-economic impacts, creation of substitute capital in the form of social and physical infrastructure and stakeholder engagement. However, two main pre-conditions for achieving sustainability are the existence of good governance and self-regulating mining enterprises which are economically viable, financially profitable and technically efficient.

Conclusion

Most international mining companies are taking proactive and collaborative measures in dealing with environmental and social responsibility issues in the mine cycle and incorporating sustainability issues in their operations. It is noteworthy that many international agencies have developed environmental guidelines for mining operations and major mining companies have adopted codes of conduct, and are operating community development programs that in some cases surpass conformity to laws and regulations. The companies are conscious about the environment in which they operate, although the emphasis they give to a number of conceptual and practical issues concerning sustainable mineral development have been discussed in the report. The analysis has thrown up a few findings and also suggestions for reform. The major conclusions and recommendations have been summarized in this chapter. The mining industry in India, for its healthy development, must adopt the principles of sustainable development that seek to balance economic, social and environmental well

being now and for the future. Aligning government policies, laws and procedures as well as industry behaviour and practices to these principles poses a major challenge in the country's mineral sector.

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