

STRATEGY PLAN

FOR

MINISTRY OF MINES

STRATEGIC PLAN DOCUMENT MINISTRY OF MINES

1 VISION

Achieve optimal utilization of India's mineral resources through scientific, sustainable and transparent mining practices, exploration and geo-scientific research & development

2 OBJECTIVE

Reworking legislative framework for transparent, safe, scientific & sustainable mining and effective regulation

- (i) Facilitating techno-economic and scientific development in the mineral sector.
- (ii) Strengthening mechanisms for regulation of mining and curbing illegal mining
- (iii) Bringing about improvement in the functioning of GSI
- (iv) Bringing about improvement in the functioning of IBM
- (v) Effective supervision of mineral concession system
- (vi) Monitoring and improving performance of PSUs
- (vii) Promoting R&D projects
- (viii) Accelerating partnerships with resource rich countries.
- (ix) Survey & exploration of sea bed minerals up to Exclusive Economic Zone (EEZ).
- (x) Human Resource Development & Capacity building for Central & State Government and other stakeholders.

3 FUNCTIONS

3.1 Legislation for regulation of mines and development of minerals within the territory of India, including mines and minerals underlying the ocean within the territorial waters or the continental shelf, or the

exclusive economic zone and other maritime zones of India as may be specified, from time to time by or under any law made by Parliament.

3.2 Regulation of mines and development of minerals other than coal, lignite and sand for stowing and any other mineral declared as prescribed substances for the purpose of the Atomic Energy Act, 1962 (33 of 1962) under the control of the Union as declared by law, including questions concerning regulation and development of minerals in various States and the matters connected therewith or incidental thereto.

3.3 All other metals and minerals not specifically allotted to any other Ministry/ Department, such as aluminium, zinc, copper, gold, diamonds, lead and nickel.

3.4 Planning, development and control of, and assistance to, all industries dealt with by the Ministry.

3.5 Administration and management of Geological Survey of India.

3.6 Administration and management of Indian Bureau of Mines.

4 GLOBAL TRENDS IN THE MINERAL SECTOR

Globally, three trends have emerged in the minerals sector in recent years:

- (i) **Rising demand relative to supply and increasing cost of mining** has led to an increase in commodity prices. The mineral demand is likely to increase at an even faster pace—the demand for iron-ore is likely to grow at 2 to 5 per cent globally over the next 10 years. At the same time, replenishing mineral reserves has only become more difficult due to declining ore grades and additional challenges such as inadequate infrastructure and human capital, critical to support the growth of the sector.

- (ii) **Consequently, we see heightened exploration activity—companies are increasingly getting into new geographies like Africa:** Exploration spend has increased four times with the share of juniors increasing from 30 per cent to nearly 50 per cent in the last decade.

- (iii) **Governments worldwide are adopting progressive policy measures to boost mining in their countries:** The Indian government, too, has initiated several measures to reform the mining sector, e.g., MMDR Act, Sustainable Development Framework.

5 NATIONAL TRENDS IN THE MINERAL SECTOR

5.1 Performance on output parameters

Contribution of mining sector to India's GDP has been stagnant at around 1.2 per cent over the last decade. The Indian mining sector grew at a CAGR of 7.3 per cent in the last decade compared to 22 per cent in China for the same period. The mining sector employs a smaller percentage of India's population (0.3 per cent as compared to 3.8 per cent in South Africa, 1.4 per cent in Chile, and 0.7 per cent for China). In addition, employment in the Indian mining sector has grown at a rate of about 3 per cent per annum over the last 10 years.

5.2 Performance on input parameters

India's spend on exploration projects is at 0.3 per cent of the global spend (compared to 19 per cent for Canada and 12 per cent for Australia). Exploration in India is mostly restricted to a depth of 50 to 100 metre vs. as deep as 300 metre in countries such as Australia.

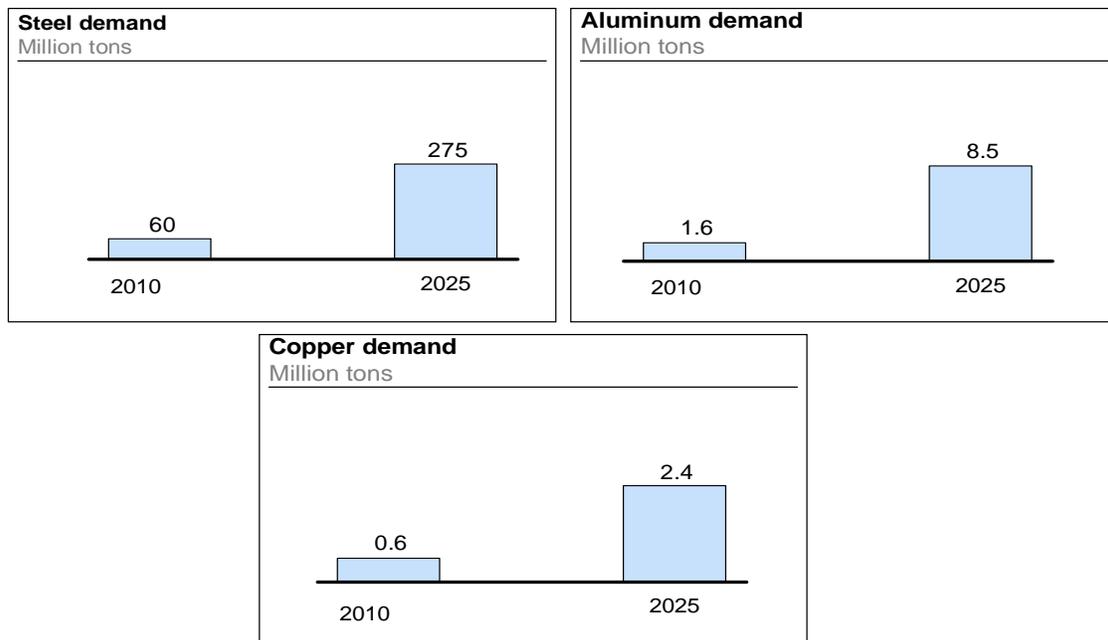
5.3 Opportunities

Despite this scenario, India is in a good starting position to transform its mining sector. This is due to India's large reserve base of coal, iron ore, bauxite manganese, etc., and also the push towards progressive policy measures initiated by the Ministry, such as the MMDR Act, and IBM/GSI reforms.

6 ASSESSMENT OF SITUATION

6.1 Mining and metals sectors can play a critical role in the economic development, attracting investment and employment generation in the country. The demand for various metals and minerals will grow 4-5 times over the next 15 years (9-11% growth per annum) against a backdrop of globally dwindling and increasingly scarce resources. There will be huge demand for the metals in view of the rapid urbanization and growth in the manufacturing sector in India as shown below in **Figure 1**. The mineral sector needs to prepare for facing the challenges in view of increasing demand and reducing resources world over.

Figure 1. Metals demand in India will increase 4 to 5 times over 15 years



6.2 With the mineral potential in India, the contribution of the mining sector in the GDP should aspire to around 7-8% over 20 years. The mining sector needs to play a major role if India has to realize the potential growth of 9% per annum in the coming years.

6.3 Development of the minerals potential could also help in mainstreaming the local communities (including tribal communities) by sharing the economic benefits of mining related activities with them in a fair and equitable manner through mechanism that give them choices and enable them to adopt changes at a pace of their choosing . Most of the mineral potential areas are in the interior tribal areas of India , where the development is the lowest .The mineral sector can potentially change the situation by providing much needed employment and infrastructure creation needs. The per capita GDP in these mineral rich, tribal dominated states vs. the India average and a similar comparison in other countries indicates the strategic need to unlock the potential of the mineral sector.

7 'TRANSFORMING' THE INDIAN MINERALS SECTOR — SIX PRIORITIES

7.1 The vision of the Ministry of Mines is to promote optimal utilisation of India's mineral resources for its industrial growth and create economic surplus using scientific exploration and sustainable mining practices. The key objectives of the Ministry are to:

- (i) Define a legislative and non legislative framework to
 - Promote scientific exploration for expanding the mineral reserves in India to its full potential (onshore and offshore)
 - Ensure globally best, fair, transparent, and efficient process for the mineral concession system
 - Enable sustainable mining
 - Address the needs of key stakeholders (states, industry, concerned ministries and departments, local communities)

- Define the mandate for the key agencies under the Ministry viz, Indian Bureau of Mines (IBM), Geological Survey of India (GSI), PSUs.
- (ii) Develop geo-scientific partnerships with the state government, industry and other stakeholders for the management of mineral resources and development of mineral based industries.
 - (iii) Support the Indian industry in accessing the mineral resources internationally to ensure raw material security.
 - (iv) Position the Ministry as a techno-economic policy formulator and promoter of sectoral scientific activities.

7.1.2 Given the starting position of the Indian mining sector, global trends in the industry, as well as the overall vision and objectives of the Ministry of Mines, targeted action is required on five key initiative areas while working closely with the stakeholders.

7.2 Expanding resource and reserve base by stepping up exploration and aiding international acquisition of strategic minerals. The sector needs to systematically invest towards:

7.2.1 Exploring and expanding the resource and reserve base for minerals having adequate potential in India (iron ore, bauxite, lead, zinc, etc.). The following initiatives are necessary to enhance mineral exploration in India:

- The current geological survey efforts of the GSI should be increased further. GSI should coordinate with concerned agencies Geological Programming Board.
- GSI should digitise and make the baseline data (existing data and additional data generated by GSI and private sector reconnaissance) publicly available on its internet portal to enable exploration companies in their exploration effort.
- GSI is planning four major programmes in the next 10 years

including online GIS, national geochemical mapping and national aeromagnetic mapping.

- GSI and progressively, the State Directorates, should step up regional resource assessment activities to identify known mineralisation areas.
- In addition, GSI should coordinate with the Ministry of Earth Sciences to assess mineral potential in offshore areas (including exclusive economic zone, territorial waters, international waters) and create a plan to enable exploration and development of resources.

7.2.2 Internationally acquiring strategic minerals with low availability. These include cobalt, nickel, fertiliser minerals, etc. that have low reserve base, lower likelihood of future finds in India and scarce supply/consolidated market structure globally.

The acquisition of these key minerals will require to conduct a 25-year demand–supply analysis for India and prioritise the resources to be acquired, and to prioritise the geographies to be targeted for resource acquisition / supply.

7.3 Reducing permit delays to create a more favourable policy environment: With the passing of new MMDR Bill, 2011 in the next few months and then to put in place the structural mechanisms for reducing permit delays.

7.4 Setting up core enablers for mining—infrastructure, human capital and technology: A set of core enablers across infrastructure, human capital and technology are necessary to support the growth of the mining sector.

7.4.1 India needs to develop infrastructure capacity to support the mining sector: Developing infrastructure capacity to support the mining sector will require collaboration with railways, ports and surface transport ministry to pursue the top 50 infrastructure projects (railway sidings, trunk lines, doubling of track, use of better equipment) for the mining sector.

7.4.2 To take steps to bridge the impending shortage of human capital in mining, especially for mining engineers, diploma holders and skilled/semi-skilled labour. This will require:

- increase in the mining engineering seats by around 4,000 over 10 years (three times the current number) in relevant institutes.
- to include mining-specific courses at ITIs in the six major mining states.
- to include mining as a priority sector in the National Skill Development Corporation (NSDC) charter to facilitate private sector participation in skill development for the mining sector.

In the long-term, create an ecosystem to support joint research programs by GSI, IBM with participation from academic institutions, industry players and foreign research agencies.

7.5 Ensuring sustainable mining and development: Draft sustainability development framework (SDF) is progressive and is tailored to the unique national context. To enforce the overall framework, the following additional measures are required:

- Enforce critical components of sustainability through regulatory changes e.g., increase financial commitment for mine closure and link it to post-closure rehabilitation cost (e.g., financial guarantee in Quebec is 70 per cent of the post-closure cost).
- Once SDF is accepted, clearly define the activities required to implement SDF principles, provide best-practice case studies and flesh out concepts for implementation.

7.6 Creating an information, education and communication plan

7.6.1 The Indian mining sector has seven key stakeholders: local community, public representatives (NGOs, MLA, panchayats), central government bodies (Planning Commission, PMO, etc.), related ministries (MOEF, Railways, etc.), State Governments, mining sector ecosystem (mining and associated legal/financial companies) and the international community. To communicate three key themes to its stakeholders:

- The mining sector is critical for the country in terms of GDP growth, tax, employment, and as an enabler of industrialisation.
- Mining activity can be stepped up in a responsible and sustainable manner while generating benefits for and addressing concerns of all stakeholders.
- The transformation agenda for the Indian mining sector needs to be developed keeping in mind the unique challenges and context.

7.6.2 This will require active participation of all concerned stakeholders. The above themes are to deliver through an Information, Education and Communication (IEC) plan based on four design principles:

- **Prioritising themes by stakeholders:** For instance, central government bodies and other ministries need to understand the significance of mining in India, and the international community needs to be informed about the unique realities of India and the progressive measures adopted by the Ministry of Mines.
- **Choosing the right medium of communication:** This is important to reach various stakeholders. For example, meetings with NGOs and local panchayats can address the concerns of local community; setting up mining parks will educate the broader community on the benefits of mining, etc.
- **Multiple stakeholders must drive communication efforts:** These include the Ministry of Mines, state governments, as well as mining companies.
- **Bring about tangible, visible change through relevant stakeholders:** This would be the most credible element of the IEC.

8 IMPLEMENTATION PLAN

The strategic plan sets out target for the Ministry with definite timelines.

Sl. No.	Strategic Initiative	Sub-item	Measurable Indicator
1	Reworking legislative framework for transparent, safe, scientific & sustainable mining and effective regulation	(i) MMDR Bill 2011 to replace the MMDR Act, 1957. (ii) Draft Sub-legislation for MMDR Bill, 2011	(i) Examine and submit to the Cabinet the recommendations of Standing Committee on MMDR Bill 2011 (Within months of receiving Report of the Standing Committee). (ii) Completion of drafts of sub-legislations w.r.t. MMDR Bill 2011 covering mineral concession grants, scientific mining, royalty and regulatory aspects. (Within months of receiving approval of the Cabinet).
2.	Enhance exploration activity particularly for base and strategic minerals and rare earths.	(i) National Geochemical, Geomorphological Map and Aeromagnetic maps on 1:50,000 scale. (ii) Execute GSI's Phase-III Portal Project to put out precompetitive data. (iii) Create mechanisms to access venture capital. (iv) Publish Detailed Information Dossiers (DID) on	(i) All existing 1:50,000 maps in GIS environment by 2014. (ii) By 2015. (iii) Document prepared in collaboration with DEA (Cap Markets) and TSX. (iv) DID : Base metal- published in 2011. DID : PGE, REE- to be published by end of 2013 along with Gold.

		base metals, PGE, REE diamonds, etc.	
3.	Facilitating techno-economic and scientific development in the mineral sector.	<p>(i) Sub Sectors Development Plans for copper, aluminium, lead & zinc, chromite.</p> <p>(ii) Non-legislative items in National Mineral Policy, 2008.</p> <p>(iii) Sustainable Development Framework (SDF) for the Mining Sector.</p>	<p>(i) Preparation of sub Sector Reports for metals.</p> <p>(ii) Implementation of non-legislative items of National Mineral Policy 2008.</p> <p>(iii) Organizing workshops. Implementation of SDF as a pilot Project in two States and then finalization of standard template for SDF for mining sector.</p>
4.	Develop a distinct Geoscientific role for the Ministry and for GSI focusing on fundamental, multidisciplinary and societal scientific issues.	<p>(i) Position GSI as centre for specialized and multidisciplinary geosciences and HR development for deployment across sector.</p> <p>(ii) Develop geoscientific partnerships with State Governments, Central institutions, including offshore research and global change issues.</p> <p>(iii) Create multi-Ministry National Geoscience Council to lay down geosciences policy directions and coordinate.</p>	<p>(i) Implementation of HPC Report - 73 out of the 74 major recommendations have been implemented. Planning Commission has not approved the remaining one. .</p> <p>(ii) Conversion of Central Geological Programming Board (CGPB) into National Geoscientific Programming Board (NGPB).</p> <p>(iii) Creation of Council : Geoscience Advisory Council Created – three meetings have been held till date.</p>

5.	Bringing about improvement in the functioning of IBM	<p>(i) Restructuring of functioning of IBM as per recommendation of the Committee constituted for the purpose.</p> <p>(ii) Implementation of Project of Mining Tenement.</p> <p>(iii) Development of ore accounting software through DPR.</p> <p>(iv) Implementation of UNFC system of classification of mineral reserves.</p>	<p>(i) Seeking approval of Cabinet for strengthening of IBM.</p> <p>(ii) Publishing of 'National Mineral Inventory – An Overview' on regular basis.</p>
6.	Reposition the Ministry from a 'regulatory' role to a 'techno-economic', 'scientific' and 'facilitatory' role.	<p>(i) Generate techno-economic policy papers and provide for discussions.</p> <p>(ii) Forge relationships with Industry associations for metals, mining technologies, equipment technologies, exploration technologies.</p> <p>(iii) Facilitate Industry in accessing technology assets abroad.</p> <p>(iv) Hold and facilitate holding of and participation in workshops, Seminars, Explorations, Trade Shows, etc. to facilitate policy making and Industry.</p>	<p>(i) Identify develop and fund institutions in this regard.</p> <p>(ii) Create Business Development Plans for each area.</p> <p>(iii) Get into MoUs, prepare Country specific Dossiers on opportunities, participate in events, create G2G environment and facilitate B2G opportunities for Indian business.</p> <p>(iv) Coordinate the participation of Ministries concerned and Industry in global events including PDAC, Indaba, Mining Congress in China, Australia and Singapore. Organise annual shows in India through CII and FIMI.</p>
