DEVELOPMENT OF HIGH VALUE MINERALS/METALS AND PRECIOUS STONES

MINERAL REGIME IN ACTION

Indian mineral regime can be divided in three distinct categories:

(i) 95% of the bulk minerals like limestone, bauxite and almost 30% iron ore are captive to industries for which they are raw materials. The balance quantity is extracted by a large number of concessionaires spread all over the country. With the exception of iron ore (which got a boost because of Chinese demand), these are extracted to the extent of their requirements of the units to which they are captive. Since the areas granted are much in excess of the requirements of the consuming units, exploration is the first casualty. Mining is selective and in most cases, best grades are extracted leaving low grades either in the ground or stored separately.

(ii) In other cases, the ownership of mineral concessions is mostly with individuals, partnership firms or private limited companies. The units engaged in these minerals have less exposure to new mining and exploration techniques. They have limited production mainly to cater to the domestic industries. Mining is mostly manual or semi-mechanized. These are small and scattered deposits. Hence leases are for small areas where scientific mining is not possible. The minerals are mostly extracted are traditional, low value and widely available in India and abroad. The sector is by and large fragmented and not exposed to stock exchange.

(iii) The minerals/metals with which India is vitally concerned now and will be in future such as gold, lead/zinc, copper, nickel PGMs, diamond have not yet been fully developed or their potential realized because of lack of state-of-the-art exploration technologies, high risk and size of the capital required not available in India so far. A large number of the deposits discovered so far are chance discoveries.

NEED FOR FRESH THRUST

2. There is therefore urgent need to explore minerals/metals in which this country is deficient e.g. gold, copper, nickel, platinum group of minerals as well as diamond and depend entirely on imports. In the other minerals/metals such has lead/zinc etc. although we may be self-sufficient now but, looking to our growing requirements, will have to import in future. These are the minerals for whose exploration, least attention seems to have been given. GSI has on doubt has done regional exploration but to exploit a deposit and to analyse its economic viability, one has to go for detailed exploration and analysis of the ore to choose appropriate technology.

3. In India, except MECL, there is no agency which can undertake this work. Even MECL is not adequately equipped to undertake this work. Out of various detailed explorations done by it and more than 75 reports brought out, not a single report has found acceptability of any entrepreneur. This only indicates confidence level in MECL. The Working Group set up by the Ministry of Mines has come out with some solutions to encourage an entrepreneur to pay initially only 5 to 10% of the cost of detailed survey and pay balance over a period of time if the project sees the light of the day.

4. Detailed exploration is a specialized job done by exploration companies, popularly known as *junior exploration companies*. Their exploration expertise is in most cases linked to a particular mineral or group of minerals. For exploration job, they bank on venture capital or hedge funds. Mineral rich countries such as US, Canada, Australia, Brazil, South Africa, Chile, Mexico etc. do not want `to spend' tax payers money on the risky venture like exploration.* These countries therefore encourage these private companies to undertake detailed exploration job by providing various incentives and security of tenure besides priority in grant of concessions as well as freedom to sell.

5. An idea of the exploration expenditure incurred by various companies world-wide in the last three years can be had from the following table :

Year	Companies involved	Amount spent (US$ billion)	%age increase / decrease over last year
2006	1624	7.1	45.5
2007	1821	9.9	40.0
2008	1912	12.6	26.0

Source: Metals Economic Group, Canada

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* The exploration work is extremely risky : if during aerial survey, 1000 anomalies are observed, it may be that only 100 anomalies are worth ground prospecting and it may again be that only one out of these 100 turns out to be worth economic exploitation. The Government do not therefore prefer to spend the tax payers' money on exploration because it does not want the tax payers' money to be invested in risky and hazardous ventures like exploration.

6. Where this money was spent and on which mineral/metal can be observed from following :

(US$ billion)

Commodity	2006	2007	2008
Gold	3.21 (45%)	4.10 (41%)	4.914 (39%)
Base Metals (copper, lead/zinc, nickel)	2.28 (32%)	3.60 (36%)	5.04 (40%)
Diamond	0.86 (12%)	1.00 (10%)	1.008 (8%)
PGM (platinum group of metals)	0.21 (3%)	0.30 (3%)	0.378 (3%)
Other Minerals	0.57 (8%)	1.00 (10%)	1.26 (10%)
Total	7.13 (100%)	9.99 (100%)	12.6 (100%)

Source: Metals Economic Group, Canada

The amount spent on exploration of each mineral/metal depends on the demand and price movement of that particular mineral/metal. However, the trend over the past decade indicates that gold attracts maximum exploration expenditure, followed by base metals and diamonds.

7. And, finally, which country has spent how much on exploration in last two years :

(US$ billion)

	2007		2008	
Country	**Amount**	**% age**	**Amount**	**% age**
Canada	1.8981	19	2.394	19
Australia	1.1988	12	1.764	14
US	0.6993	7	0.882	7
Russia	0.5994	6	0.630	5
Mexico	0.5994	6	0.756	6
Peru	0.4995	5	0.630	5
Chile	0.3996	4	0.504	4
South Africa	0.3996	4	0.378	3
China	0.2997	3	0.378	3
Brazil	0.2997	3	0.378	3
Other countries	3.0969	31	3.906	31
Total	**9.99**	**100**	**12.6**	**100**

Source: Metals Economic Group, Canada

8. The table indicates that India, despite being clubbed among mineral-rich countries, hardly spends anything on exploration. The amount mostly commonly mentioned is around US$ 5 million annually. This makes India as one of the least explored countries in the world. Since exploration was not encouraged, there was hardly any investment in the mining sector despite the fact that since February 2000, the mining sector was opened up for 100% foreign direct investment. This therefore emphasizes the need to find out ways and means to attract private investment in exploration because government agencies have not been able to find resources which could prove economically viable for investment.

BENEFITS

9. There will be enormous benefits if exploration is opened up for private junior exploration companies. The areas where exploitation of mineral resources is taking place (e.g. iron ore, bauxite, limestone, dolomite, manganese ore, chrome ore, etc.) are widely known and have already been developed over the course of time. These mineral-bearing areas are already reaping the fruits of economic growth. The minerals/metals being talked about are high value, scarce and deficient. There are the minerals/metals where junior exploration companies are interested. These are in areas which have not been adequately explored and are in the interior. There will be a number of benefits if private investment is encouraged :

- remote/tribal areas will be opened up, creating opportunities for large scale employment.
- dormant resources will be exploited for nation's benefit.
- since the metal content in the ores is low (low tenor ores), value addition will be near the mines (one can not transport vast material excavated from the mines).
- dependence on imports will be reduced and if sufficient quantity and quality is found, imports may dry up.
- new state-of-the-art technology will be imported and applied.
- there will be large inflow of capital (FDI).
- there will be revenue generation for State and Central governments.

CONDITIONS FOR ATTRACTING PRIVATE INVESTMENT

10. Many authorities have identified various conditions in a country for attracting foreign private investment in exploration and mining . However, almost all are reconciled on following important aspects :

- Geological prospectivity
- Political stability
- Legal system
- Mineral regime

11. While everybody agrees and seems to be satisfied with the first three aspects (albeit not all are happy with the working of legal system which is extremely slow and painful), the mineral regime calls for a serious look. In order to attract private investment, the most important requirements are:

- priority to the first applicant
- seamlessness from reconnaissance permit (RP) to prospecting licence (PL) and then to mining lease (ML) provided the licensee has not breached the conditions of his licence
- security of tenure
- easy transferability (sale) of RP, PL and ML
- time-bound decisions

EFFORTS MADE BY GOVERNMENT – HODA COMMITTEE

12. Despite opening of the minerals and metals sector for 100% FDI since February 2000, no significant investment has come into this sector. Government of India therefore constituted a High Level Committee on National Mineral Policy, popularly known as Hoda Committee, in September, 2005. This Committee submitted its Report in July, 2006. This Committee addressed the issues referred to in previous section and recommended far-reaching changes in Mines and Minerals (Development and Regulation) (MMDR) Act, 1957.

13. One of the far-reaching recommendations pertains to the procedure for dispute resolution. To quote:

> *The Committee recommends that the MMDR Act and Rules be amended to enable the powers of the Central government to be exercised by an independent tribunal so that appropriate arm's length is maintained between the Ministry of Mines as a regulator and that Ministry as an involved party. The tribunals should have experts in mining administration and mining laws as members. Independence of the tribunal should be ensured by appointing members on the basis of the recommendations of a selection committee, with a high-level Chairman and outside experts serving on such a committee. Members of the tribunal should be given security of tenure by being appointed for a fixed term. Such an independent and dedicated tribunal will also ensure timely disposal of revision cases and will find better acceptability among the investors. Furthermore, the tribunal should also have jurisdiction for revising the orders of the Central government.* (para 2.29)

14. A long time has since elapsed without any decision. In order to attract investment in non-ferrous metals mining and diamond and precious stone sector, it is very necessary that a decision on Hoda Committee recommendations is taken at the earliest. Investment in the new areas of non-ferrous metals mining and diamond and precious stones will bring about economic development in hitherto neglected backward and tribal areas. Economic development in these areas will provide better opportunities to the educated and skilled workers, reduce migration to urban areas, sustain economic growth and reduce dependence on government jobs.