by Andreas M. Raczynski

Mineral resources and Third World development

After two decades of growing state intervention in the mining industry, we are seeing a change in government attitudes toward the private sector. Many governments are beginning to encourage investment by the private sector in mineral resources, particularly in the resources of developing countries. In the Third World, mining is a critical element in development, an important source of foreign exchange, and a major source of government revenue.

Developing countries will have to supply a major part of the world's minerals, which become more difficult to find as we use our resources. However, intensive exploration and new technology can increase our reserves significantly. In the author's opinion, the adequacy of mineral resources will depend upon investment in exploration, mine development, technology, and human resources. The growing encouragement of private sector investment provides unique opportunities for the mining industry and benefits both the mining industry and governments. (Ed.)

In considering the issue of the adequacy of natural resources for the next century, I believe that the availability of mineral resources is essentially a function of investment in exploration, mine development, technology, and human resources. During the last decade, base metal exploration and mine development have decreased to dangerous levels. The price increase for most metals in 1988 has made us aware of the volatility of the markets, and the increase shows how quickly a perceived oversupply can turn into an acute shortage. Investment in the development of additional mineral resources is essential, and developing countries will have to supply a major part of the world's minerals. We are seeing, finally, encouraging trends in mining investments in developing countries. After two decades of growing state ownership of the productive sector and frequent government hostility to the private sector, important changes are taking place.

The developing countries account for about 77 percent of the world population but account for only 16 percent of the GNP (gross national product). The total GNP of Latin America is close to that of the Federal Republic of Germany. India, having 800 million people, has a GNP similar to that of the State of Illinois in the USA. A tremendous effort will be required to close this gap, and investment by the private sector is recognized now as a critical component of development. Many countries are introducing reforms to encourage private sector investment on both local and foreign levels. Institutions involved in multinational development, often the sole source for fresh capital, are increasingly making their loans conditional upon such reforms. The Inter-American Development Bank and the Asian De-

velopment Bank, following the example of the International Finance Corporation, are setting up independent corporations to finance private sector investments. Many countries are trying to provide a fair and open environment for foreign investment. We see this in Latin America, in Africa, and even in traditional, centrally planned economies such as Hungary and Poland.

Private investment is being encouraged in the sensitive areas of exploitation of natural resources and public services. By using the politically more acceptable BOT (Build-Operate-Transfer) concept, countries are allowing the private sector to handle even essential public services such as power supply, communications, and highways. This change in government attitude needs a positive response from private investors, but these investors are concerned with both the stability of this change and their confidence in it. The earlier nationalizations in the mining industry were preceded by tense relations between governments and foreign investors. As a result, many multinational mining companies were mutilated and lost some of their most profitable assets. A certain amount of distrust is, therefore, logical.

Let us look at the reasons for state intervention during the past two decades. The wave of nationalizations happened in the 1960s and 1970s, even in some Western European countries, when state intervention was popular, and financial institutions did their share to encourage it. For example, in the early 1960s, only 2.5 percent of the nonsocialist supply of copper was government controlled. In 1980, it had increased to 30 percent. In developing countries, this increase in government control was largely a reaction to the breakup of colonial or pseudocolonial bonds, reinforced by the perception that minerals are an exhaustible, national asset of strategic importance for future development. However, the structure of the mining industry also played a critical role. Nationalizations generally occurred where mining contributed a high percentage of the GNP and a dominant part of the exports but was controlled by a few foreign groups. Some fundamental changes are now taking place:

- Third World countries have become more confident in controlling the real and perceived excesses of private investors. These countries have gained experience in commodity marketing and in negotiating a fair distribution of benefits, and they are operating now from a position of strength.
- Mineral exploration and development are being done by companies that range from large mining houses to junior enterprises and represent many nationalities. Australian, Canadian, and European companies, which have been fundamentally restructured, predominate over the traditional mining companies of the United States. Local investors are playing a growing role. Third World countries are developing their own capital markets and are starting to gain access to capital markets in developed countries. As a result, the ownership and control of the mining industry will be much more diversified and the structure will be more stable.
- Corporate law, administrative procedures, taxation, and mining codes are being revised to establish acceptable conditions for investment.

Many will argue that this change in attitude has been forced by circumstances and not by convictions—that it has been caused by a shortage of financial resources that leaves no alternative other than private capital. There is, of course, some truth in this. However, I firmly believe that the groundwork is being laid for a more stable situation, unless the world goes into a long recession or a debt crisis

cuts the dialogue between developed and developing countries. Ultimately, real stability will be achieved only through prosperity, a better distribution of wealth, and a true conviction that personal income and the quality of life are related closely to the health of the private sector.

A growing number of mining companies are reacting to this changed environment. Exploration investment is strong in reasonably stable mining countries. It is growing in countries that, until recently, were perceived to be high-risk areas, such as Bolivia, Ghana, Guinea, Mali, and Tanzania, just to name a few. Large companies, such as BHP, Billiton, RTZ, Placer Dome, Cominco, Phelps Dodge, and Metallgesellschaft, are moving selectively into developing countries. The large companies are supplemented by smaller mining groups. They all accept higher political risks and less familiar environments as a tradeoff for better chances to discover ore deposits. The track record of these companies will be a crucial test for the changed environment. It also will be very important to change the perception of the capital markets about mineral reserves and operation in developing countries.

Where does the mineral industry stand in the development process? How important is it? Should it be placed in the hands of private industry where the principal motivation is profit, or should it be planned by governments to maximize the development impact and to preserve exhaustible resources for future generations? Discussions about this will always exist, and as usual, there are tradeoffs involved. I believe strongly that excess planning will be detrimental to the urgent needs of Third World development and, therefore, to the world at large.

We should not overstate the global importance of mining in Third World development. Mining rarely accounts for more than 10 percent of the GNP. Only 30 out of about 155 developing countries contribute a share of world mineral production that is worth mentioning. About 60 percent of all ore in the world is still mined in six countries: USA, Canada, the People's Republic of China, USSR, South Africa, and Australia. Mining provides direct employment to relatively few people, and due to its self-sufficiency, the impact on the local economy is known to be small. Mining tends to create an elite labor force. It imports many of its supplies and is subject to wide fluctuations in metal prices. It causes environmental damage and depletes resources that cannot be renewed. As a result, success stories in development during the past few years have relied heavily on the manufacturing industry, whereas economies based on natural resources have fared rather poorly.

So, why do we emphasize mining? Not just because it is the bread and butter of many of us. The facts are that, for many countries, mining is a critical element in development and the benefits reach a much larger part of the population than is assumed generally. Mining is an important source of foreign exchange. It makes up more than 50 percent of the exports for countries like Chile, Papua New Guinea, Peru, Zaire, and Zambia, and it makes up around 20–50 percent of the exports for many other countries. If fuel exports are added, the impact is enormous. Mining is a major source of government revenue, and its impact on employment generally is underestimated, especially as more supplies and services are obtained from local sources.

While we admit that mining will not solve development problems on its own, it can make a significant contribution. If we assume that mining operations are socially and environmentally responsible and that there is a fair distribution of benefits between the host country and private investors, the impact of development is significant.

Should mining be in the hands of the state or the private sector? Overall, private industry is more efficient. Due to social objectives and motives other than profit, state enterprises tend to have higher costs under equal conditions. However, economists and politicians will continue to discuss this issue. I believe that the state and private

sectors can coexist profitably. A competitive private mining sector will force the state to become more efficient. Government ownership in itself is not inefficient, only different. The difference lies in the style and objectives of management and in the possibilities for political interference.

The argument is given often that mineral resources are exhaustible and should be exploited in a manner that assures an adequate supply for the future. Clearly, known ore reserves are being depleted, and more exploration is needed to replace ore reserves. Too little exploration has been done in the 1980s, especially for base metals. However, this does not mean that resources are being exhausted unavoidably. They just become more difficult to find. Miscalculations of forecasts of available resources abound, but the mining industry always has been able to respond. The shift in gold production away from South Africa's dominance is a clear case that shows how intensive exploration and new technology can increase reserves dramatically and even reduce production costs. New areas are being developed and old areas are being reevaluated in view of new technologies. Since its concentration in Europe in the 19th century, mineral production has seen important geographic shifts. Australia and the USSR were considered to be mineral poor in the 1930s. However, Australia's mineral exports have grown from \$100 million in 1960 to several billion dollars, and the USSR is now the largest mineral producer in the world. Brazil's export of minerals grew from \$300 million to \$5 billion in 15 years, which shows how exploration is opening new frontiers.

New technologies and materials are changing mineral consumption. Technology changes, substitution, and new discoveries pose a permanent threat to existing producers. Mineral deposits, if deliberately left for future generations, can become obsolete. As an example, Australia had an embargo on iron ore exports before 1960 to preserve its reserves. Now, despite the large expansion of mines in the 1960s and 1970s, Australia has reserves for more than 200 years. Mineral deposits should be developed when needed according to market demand and commercial criteria.

In conclusion, important changes are taking place in many developing countries and even in centrally planned economies. The growing encouragement of the private sector presents unique opportunities for the mining industry. The mining industry will be a cornerstone in the development of some countries and an important source of export revenues in many others. Governments should continue along this road, forgoing excessive planning and direct involvement wherever private capital is available on acceptable terms. Private industry should respond to this new attitude by increasing its investments. Political risks will diminish if these investments are successful and if a mining industry is established that has diversified ownership. In relation to the adequacy of mineral resources, the investment in exploration, mine development, technology, and human resources is more important than planning and preserving presently known reserves. □

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