Value Addition: The concept of value addition has been misconstrued in India. Every activity in mining has or creates value. The expertise of a resource company (miner) is to explore geologically with the latest state-of-the-art technology, find the mineral resource beneath the earth, create value by extracting it (as below the earth, it is a waste and has no value) and make it a marketable product to meet the requirements of different consumers. It is the job of next discipline (metallurgist) to add value to value created by the resource company, e.g. iron ore, by making steel. To further add value to steel is the expertise of another industry which converts steel into white goods like refrigerators, utensils, automobiles, etc. The chain of value addition thus goes on.

Captive Mines: Despite rich mineral potential, the country has not been able to exploit its full potential. This is mainly because the concessions of most of the abundant minerals like limestone, bauxite and iron ore have been given to cement, aluminium and steel plants. The areas granted to them are far in excess of their requirements and are thus an indirect state subsidy to these industries from which domestic consumers do not get any benefit. Moreover, the first casualty of this policy is total lack of exploration activity and scientific development of mineral resources. Tata Steel and Steel Authority of India are sitting on vast resources but have not reported any increase in resources. On the other hand, National Mineral Development Corporation has reported additional resources of 611 million tonnes at its mines in Chhattisgarh.

It seems to have escaped the notice of the authorities that iron ore is only one of the factors of production. Today, coke constitutes a higher percentage of cost of production than iron ore per tonne of steel. Besides, the water requirement per tonne of steel is 4 to 5 tonnes. 5.5 tonnes of material (both inward and outward) will have to be moved for producing a tonne of steel but there is no simultaneous plan to augment the infrastructure. Coke has to be imported entirely but are our ports and connected rail network geared for this need? Further, there is no specific provision in the MMDR Act for the grant of captive leases.

Infrastructure: This is another thoroughly neglected area. A particular cause of worry is the Lokayukta recommending that the production of minerals should be controlled to suit the present abysmal infrastructure. India is planning to achieve a 9% growth in GDP for 2011-2012 and take it up further to double digits. This cannot be achieved without a quantum growth in mineral output. To cater to this requirement, roads and railways have to be developed but we do not see any meaningful activity from the Karnataka Government in this decision.

Conclusions

If we have to progress, the Government has to stop apportioning blame and forge a true partnership with the industry. The Federation of Indian Mineral Industries is more than willing to play its part.

Recent Research in Ediacaran Fauna

In contrast to the apparent explosiveness seen in the Cambrian fossil record, studies of molecular biology hint that the diversification observed in Cambrian strata was rooted in ancestry extending back into the Ediacaran (635-542 Ma). Fossil evidence for this most cryptic phase of evolution is derived from the soft-bodied fossils of the Ediacaran biota found throughout the world and bilateral embryos found in the Doushantuo lagerstatte in South China contains exceptionally well-preserved fossils of multi-cellular eukaryotes including early animals, and it is one of the most intensively investigated Ediacaran units in the world. A plethora of multi-cellular fossils including early animals, exemplified by a few representative biotas described from the Doushantuo Formation provide a rare window for understanding the evolutionary pattern of organisms at the dawn of animal life.

Recently, Jiang et al. (Gondwana Res., v.19, 2011, pp.831-849) have reviewed and summarized some of the representative sections of the Doushantuo Formation and provided a sedimentological interpretation and palaeogeographic reconstruction from this unit across the Ediacaran Yangtze platform. They opined that Ediacaran Yangtze platform deposited on a rimmed carbonated shelf with a shelf margin barrier separating the self lagoon from the open ocean.

The first appearance of Ediacara fauna is thought to have followed the last of the 750-635 Ma Neoproterozoic glacial episodes by 20-30 million years. Meert et al. (Gondwana Res., v.19, 2011, pp.867-880) have presented an evidence for the oldest discovery of the 'Ediacara' discoidal fossils Nimia occlusa and Aspidella terranovica (?) that predate the early cryogenian glaciations by more than fifty million years. However, there is considerable disagreement over the significance of discoidal Ediacaran fossils, but their findings may support earlier suggestions that metazoan life has roots extending deeper into the Proterozoic eon. The authors also confirm the presence of Late Cryogenian (e.g. Marinoan) glaciation on the lesser Karatau microcontinent including dropstones and striated clasts within the glaciation strata.

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