

The Tragedy of Kudremukh

One of the Largest Accumulations of Iron Ore in the World

Kudremukh, a peak in the *Sahyadri* range overlooking the Arabian Sea and one of the loftiest peaks in Karnataka, being 6214 ft above sea level, is also one of the most inaccessible and least known parts of the State. This region was first surveyed by Palayanur Sampat Iyengar in 1912, one of the earliest geologists recruited for serving in the newly started Mysore Geological Department. He executed some of the toughest jobs on hand, mapping the most remote and impenetrable parts of the State and to him goes the credit of discovering the extensive magnetite iron ore deposits of Kudremukh, Gangrikal and Kodachadri in the Chikmagalur and Shimoga districts of Karnataka. Few people then realised that one of the largest accumulations of iron ore in the world had been discovered.

Iron Ore as Earner of Foreign Exchange

The Government of India, in the early fifties of the last century, was very short of foreign exchange necessary to buy food grains, fertilizers, spare parts for machinery etc., and was in search of sources for earning foreign exchange quickly and without expending too much on capital investment. Iron ore offered them the best commodity for earning the badly needed foreign currency and the best iron ore was available in the Bellary-Hospet sector in Karnataka and in the Bailadila ranges of Orissa. Small mine owners in these regions had built up a flourishing export trade with Japan by supplying the easily available ore and the covetous eyes of the Government of India fell on this trade and it was decided to channelize this activity through its own agency. Accordingly a corporation was specially formed for this purpose which soon grew in size and became a big enterprise, earning substantial amounts of foreign exchange. The fact that by so doing the country was becoming impoverished by the export of its rich iron ore for a small return was not realised. In addition, the little profit that was formerly being earned by local people was siphoned off and the land which produced so much rich iron ore was left in a devastated condition – wages continued to be low and the industry did not bring them any prosperity.

Early History of the Kudremukh Project

At about this time was published a short pamphlet on the iron ore resources of Mysore and the advisability of

routing their export through Mangalore which could be developed as a major port on the west coast. This note obviously attracted the attention of those interested in the development of the iron ore trade and representatives of the National Mineral Development Corporation (NMDC) and US Aid agencies desired to view Kudremukh deposit, hardly 50 km away from the west coast. A visit was therefore, arranged some time in 1965 but the nearest point that we could reach by road was Kalasa. From there we had to trek on foot a distance of over 20 km before reaching the deposit and by the time we reached Malleswara, where good outcrops of magnetite-quartzite were exposed, we were so exhausted that nothing further by way of reconnaissance could be done and we had to return to Kalasa. Two young assistants, T.B. Sundara and R.H. Sawkar, officers of the Mysore Geological Department whose services had been lent to NMDC, remained behind, scaled all the hills in the neighbourhood, located outcrops of magnetite ore and they also collected samples for laboratory study. The crude map they had prepared clearly showed that here was one of the largest accumulations of iron ore, not less than 1000 million tonnes. Later, a team of Japanese geologists and mining engineers visited the area and were convinced of the existence of vast quantities of iron ore situated quite close to the coast. Drilling exploration was undertaken and the maximum amount of information collected. K.L. Saigal, G.L. Tandon and S.C. Mohanti (officers of NMDC and mining engineers) were in charge of exploration and mine development at that period.

Iran, presumably on the advice of the Anglo-American Group came forward to finance the project on the understanding that Kudremukh would supply 150 million tonnes of iron ore spread over a period of 21 years, to meet the material requirements of a major steel plant under construction. Kudremukh Iron Ore Co. (KIOCL), a 100% export oriented company was formed in 1976. Political upheaval in Iran, however, resulted in cancellation of the agreement and the Government of India had to take full responsibility for financing the project. Total investment in the project exceeded Rs.1000 crores and there is no other project of the same size in Karnataka. The unique character of the project has not been realised by many.

This is the early history of the Kudremukh investigations which confirmed the existence of nearly

1000 million tonnes of low-grade magnetite ore analyzing 30% Fe and capable of yielding concentrates with 67% Fe through magnetic separation. Preparation of a detailed project report and carrying out pilot plant studies was entrusted to Marcona Corporation of the United States and a group of three trading corporations known as the MON Group of Japan. A unique feature of the project was the incorporation of a system to transport no less than 7.5 million tonnes of magnetite concentrates per year in the form of a slurry through a pipeline to the coast. Erection of the concentrator and pipeline was entrusted to the same Marcona Corporation in 1976 and the entire work was completed in record time, the first shipment being made in the year 1980. The plant has been in continuous operation since then.

Main Achievements of the Project

It is worth recording some of the achievements of KIOCL in the initial years:

1. It was the first mine to undertake commercial exploitation of low grade iron ore (30% Fe) in India
2. It was the first fully integrated operation, comprising the entire operations from production of ore at the mine to the shipment of concentrates at the port.
3. Most important of all is its achievement in bringing into operation a novel system of transport by moving annually 7.5 million tonnes of magnetite concentrates in the form of a slurry over a distance of 67 km and down the slope of the Ghats, a difference in elevation of over 900 m.
4. It is one of the largest and most modern mechanized mines in India – a fact realized by too few in the country.
5. The company has also set up a pelletisation plant at the foot of the Ghats capable of producing 3 million tonnes of iron oxide pellets of high quality per year. Production of pellets commenced in April, 1987, and promises to be the single largest source of pellets for the steel plants coming up in south India.
6. The company also has plans for setting up a bigger plant at Mangalore and a new company, in collaboration with Metallurgical, Engineering Consultants (MECON) and Metal Scrap Trading Corporation (MSTC) has been formed for the manufacture of 50,000 tonnes per year of ductile iron spun pipes.

All these are no mean achievements and deserve the highest commendation. However, the application of the company for other neighbouring properties like Gangrikal, Site Bhumi and Gangamula, before exhausting the ore in the property leased to them cannot be supported. These areas form the source region of the major rivers Tunga, Bhadra

and Netravati and constitute a very sensitive area in the Sahyadri hills which cannot be disturbed without extremely serious environmental, and possibly ecological consequences.

Iron Ore Trade

We have been consistently critical of the policies of the Government of India which has promoted large-scale export of iron ore in the raw state without any processing whatsoever. Exporting the highest grades of iron ore at competition-controlled low prices and at the same time importing steel and ferro-alloys at great cost is not a sensible proposition and it has made the country progressively poorer. Full benefit from the iron ore trade can only come through utilization of the ore within the country in the production of steel and other related ferro-alloys. The utilization of ore is as important as finding it and a tower of income will grow progressively when raw ore is converted into a finished product. Although India boasts of containing the richest iron ore deposits in the world, areas which have produced such ore of high quality, like Bellary and Hospet in Karnataka and many parts of Bihar and Orissa continue to remain in a most backward state. Kudremukh, claiming that it is a 100% export oriented project and taking pride in it, thus betrays a lack of a sense of values. The difficult position in which Kudremukh finds itself today is in no small measure the result of wrong policies. Prosperity can come only through wise utilization of resources.

Criminal Neglect of Hard Ore Exploitation

The project, as originally contemplated, envisaged utilisation of both the soft weathered cap of ore on top as well as the hard ore beneath. The management however, chose to change this original concept and preferred the path of mining only the weathered soft ore which was easy to mine and the hard ore made up mainly of magnetite, has been totally neglected. This is an unpardonable deviation and against all canons of mineral conservation. It is surprising that in spite of several committees recommending the mining of the hard ore the management has paid no attention to this aspect even to this day.

Instead of working the property leased to the Company to the fullest extent the management has now cast its covetous eyes on the neighbouring properties of Nellibedu and Gangrikal. This is wrong in principle and would be extremely detrimental to preservation of the environment.

Denial of Extension of Lease Unjustified

The main argument for not extending the mining

lease by a further period of 30 years after expiry of the existing lease seems to be based purely on environmental factors. A description of the environment of the Kudremukh and Gangamula region as it existed before the taking up of the project reads:

"It is in truth a wild country and has a desolate grandeur about it, seeming to be the end of the world. On every side tower magnificent mountains, spreading for leagues in every direction and covered with immense forests, which nowhere can one detect the faintest trace of human life, either in the shape of houses or cultivation."

Surely, in the present day, of industrial expansion it is neither possible nor desirable to preserve such a wild environment and roads have been laid out, making the area accessible from the coast as well as from the plateau side.

Natural resources like air, water, forests and minerals are the property of the community and neither the State government nor the Central government can lay claim to such resources, ignoring the local community. It is not clear to us when State governments assumed property rights over minerals and forests and even water. Destruction of extensive evergreen forests on the plea of raising plantations has been undertaken by the forest departments themselves causing great damage to the environment. The remarkably straight *balagi* trees of the Bhagavathi forest in the Kudremukh and Gangamula region have been felled and used for such trivial purposes as poles to carry the electric power lines. Devastation of the environment has been going on in the name of government without any protests against such action by any responsible agency. It is common knowledge, even the sacred Ganga has been reduced to the status of a common sewer. Pollution that is commonplace in almost all our townships and the desecration of beautiful tanks constructed by philanthropists for the benefit of the people is going on without any check. The Kudremukh mining operation, confined to a few acres in desolate mountainous regions, should therefore by comparison, not be a matter of such great concern as to necessitate cancellation of a lease granted, on the basis of which crores worth of capital has been invested, nor the refusal to renew it for a further period of 30 years to which the company is entitled.

Total Neglect of the Welfare of the Local Community

The KIOCL must bear the blame for not devoting any attention to the improvement of the locality which has

provided all this wealth it has claimed to have produced. Where has all the wealth gone? Development of a new township for its own employees is no answer as it does not constitute any development of the region. Not a single village in the Kudremukh area has received any substantial aid and Kalasa, the principal town of the region, is as inaccessible as before, there being hardly a new building, hospital or school worth mentioning. If the management had taken the interest of the local people to heart and diverted a small part of the profits to the improvement of the locality, much of the criticism that is being levelled against it would not have arisen. The people, on the other hand, would have welcomed the expansion of the industry if they were convinced that it would bring prosperity to the region and assure for them a better lifestyle.

The argument put forward by the Company that it has not caused any environmental damage but has extended the forest cover is not going to convince any one. Merely growing a few extra trees cannot repair the already extensive damage done.

Disposal of Tailings a Serious Environmental Hazard

The most damaging part which has created the greatest environmental hazard in the region is the dumping of no less than 70,000 tonnes of mine tailings daily! A separate dam – Lakya dam – has been constructed to hold the tailings, the height of which is periodically increased to accommodate more and more of the waste material. It should be remembered that the Kudremukh area is a heavy rainfall region which receives no less than 3000 mm of rainfall confined to a brief period of just 2 to 3 months. This Lakya dam may breach any time in spite of all the precautions taken and the entire tailings be washed into Bhadra river and eventually into the Bhadra reservoir. This is the greatest environmental hazard to which sufficient attention has not been paid and the Company would do well to examine the disposal of tailings by means of a pipeline to a region less affected by rainfall and causing least damage to property. They can even think of leading it to the coast and use the enormous amount of silt for reclamation. Apart from this the dam only accommodates tailings from the concentrator and significant quantities of waste from mining operations find their way into Bhadra river in the rain water run-off. All possible steps must be taken to minimise this environmental degradation.

There is no doubt that the Kudremukh project is the only one of its kind in the whole of Asia and we should be proud of its achievements. This has not been realised by most people, specially those in authority. The casual way in

which decisions have been taken to close down such an operation is the most tragic part of the whole business. What should have been the pride of the country has been treated as an insignificant component causing damage to the environment and warranting its closure. The authorities of both the State and Central Governments do not seem to have given any thought to a fuller consideration of the subject and have taken a hasty decision in a breezily casual way. What is surprising also is that university departments, the earth science community, agencies concerned with mineral development and the media and scientific academies have remained mute spectators against this negative attitude of development, raising no voice of protest.

Kudremukh to be the Centre for a Great Mining Industry

Kudremukh can be the centre of a great mining industry and Mangalore the most important port along the west coast. It could become a great centre of production in steel, ferro-alloys and other products. It could become a centre for the export of finished steel products like sheets, iron rods, bars, rails, seamless tubes etc. Pollution is an aspect which can be brought under control through strict supervision and management. A rethinking in the matter of the closure of the Kudremukh project is therefore very vital for the industrial advancement of Karnataka State. We do trust that the whole question is re-examined and wise and correct decisions taken in this regard.

Minerals are the building blocks of modern industrial society. While State and Central Governments should take note of the side effects of mining, processing and fabricating connected with mineral resource development, a balance has to be struck between conflicting demands. The primary objective of the mining and processing of mineral resources is for the purpose of the improvement of the country and is of the utmost importance. We must develop the wisdom to use our resources more efficiently than by merely exporting them in the raw state.

The coastal belt lying between the Sahyadri and the Arabian sea is peopled by most intelligent and industrious people many of whom for want of opportunities, have migrated to other lands. Full scope for the development of this region has to be provided and the continuing

development of the Kudremukh project as a major component has to be viewed in this light.

Responsibility of Central and State Governments

In short, it is essential that governments at both State and the Centre ensure, in respect of the development and use of mineral resources:

1. Maximise utilisation and conservation (as required under existing legislation) by minimising waste and the selected mining of better grade ore.
2. Maximise returns from raw materials by promoting their conversion within the country into fabricated products to secure value added benefits.
3. That much greater attention is paid to minimising the impact of surface mining operations on environmental and ecological systems.
4. That much greater attention is paid to ensuring an adequate 'trickle down' effect on local economies and infrastructure such as schools, hospitals and amenities.

If an unprecedented tragedy were to be averted the Government of Karnataka will have to revise its earlier decisions of extending the mining lease given to KIOCL by only three years and renew the lease for a further period of 30 years as legally entitled by the Company on condition: (1) that the Company will give up its present practice of mining only the easily workable weathered ore but take mining to hard ore beneath and thereby ensure the longevity of the mine, (2) that the Company will take urgent steps to move the slurry by pipes to a location below the Ghats and use it for reclamation of land along the coast line, (3) divert a part of the profit for the improvement of the economic condition of the people living in the neighbourhood and (4) production of concentrates be limited to the extent of local demand and exports of raw ore in large quantities to be discouraged.

Long term project should include development of a newer port along the west coast specialised in the export of steel and steel products. There in lies the industrial prosperity of Karnataka with Kudremukh playing an important role in this development.

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