Ground reality: the Sherpas and stars of science

A caste system operates where the technical assistants do a lot of the boring dirty work essential for the progress of the project.

Professor Khadj Singh Valdiya is a well-known geoscientist working at the Jawaharlal Nehru Centre in Bangalore. His recent article in the 25 February 2012 of Current Science is a lament on how the on-the-field geologists are not recognized by the “mainstream” academic geological community.

In the pecking order that is manifest here, they are in the lower rungs of the ladder. Valdiya laments that these are the true discoverers of the mineral and water wealth of the country, yet they go “unseen, unhonoured and unsung”, and that is the tragedy of being an on-the-field geologist. Expectedly, his article has generated a heated response from fellow geologists and other scientists.

Indeed, what he writes is true in other disciplines of science, and perhaps in several other areas as well. Typically in a group of researchers, there is the head, his associates, students and technical assistants. It is the last group that does a lot of the boring ‘dirty work’ essential for the progress of the project.

Yet they are paid less, generally not given authorship in research papers, nor honoured with awards. Fellowships in scholarly academies and such. An unsaid but practised caste system operates here.

Examples

Valdiya quotes many instances of the remarkable contributions of such field worker scientists. Even as experts dismissed many potential areas in the country as barren, it was these on-site earth scientists (specialising in structural geology, sedimentology, palaeontology and other related areas) who made as many as 339 discoveries in offshore and 217 onshore areas rich in oil and natural gas of magnitude over 650 billion metric tons.

More recently, just in the region of Palakkol-Pasarlapudi in the Krishna-Godavari basin, a similar field analysis has revealed the potential of 3.4 billion tons of oil and gas. Not just there but in the Jaisalmer basin in Rajasthan as well. The same is true in the case of uranium deposits, which were discovered most recently by the Atomic Minerals Directorate of India.

Yet these scientists/engineers of the Geological Survey of India, Oil and Natural Gas Commission or Atomic Mineral Directorate have not been recognized, honoured, awarded and rewarded as those working in laboratories and institutes, and publishing papers.

To quote Valdiya: “They work for months on end, away from the comforts of homes and laboratories, in harsh or even perilous terrains...but their finds are treated in the same vein as if unskilled labourers picked up valuables, which were already there”.

He further points to a further “manifest ignorance” where the Geological Survey of India is sternly guided by not an area-expert but an IAS officer.

So is the Chairman of the Institute of Geomorphology and Development. He asks “I wonder how mainstream scientists would react if IAS officers are made chiefs of CSIR, ICMR, ICAR or DBT”.

Valdiya’s article is yet another wakeup call for not only the scientific community but to policy planners as well. Due recognition should be given to the on-field discovered by the community. They cannot be treated simply as ‘Sherpas’ while the bosses take all the glory.

Dr Rick O’Donnell, who analysed the education policy of the University of Texas, classifies academic researchers into five categories: Diggers, Coasters, Sherpas, Pioneers and Stars. He says: “Sherpas are the ones who do much of the teaching on a gruelling time table, and are the ones who have helped to build the reputation of many climbers, famed for their conquest in the Himalayas.” (For an excellent analysis of the Sherpas and Stars of Academia, read Prof. Balaram’s editorial in the 25/8/2011 issue of Current Science, as also Valdiya’s article in its 25/2/2012 issue, both downloadable free on the net).

To add to this irony is the tragedy of the result of recent policy shifts by the government, thanks to which private parties are given access to mining, oil exploratory and water resources.

Valdiya points out that prior to this, autonomous government undertakings such as National Mineral Development Corporation, National Coal Development Corporation and Indian Copper Corporation played important role in providing resources, strictly adhering to national (and rational) mineral policy, following rules of scientifically appropriate mining and protecting the environment.

With this policy shift, what we see is “the unchecked plunder of the earth’s precious resources, shameless loot of the nation’s wealth, and denial of benefits for the people displaced and adversely affected.”

I believe Dr Valdia used the phrase “unseen, unhonoured and unsung” somewhat differently than Sir Walter Scott who did it in his poem “‘Lay of the Last Minstrel”’. Scott wrote: “Breathes there a man with soul so dead, who never to himself hath said, this is my own, my native land...the wretch, consequently all in self, living, shall forfeit fair renown, and, doubly dying, shall go down to the vile dust, from whence he sprung, unwept, unhonoured, unsung.” This applies more to the exploiter than the explorer.

D. BALASUBRAMANIAN ddbala@kpem.org
## PRICE CARD

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<th>Commodity</th>
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<th>%Change</th>
<th>Domestic Price</th>
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**ENERGY**

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**AGRI COMMODITIES ($/tonne)**

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<td>Cotton</td>
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**NOTES**

1. International price will vary depending on local market conditions.
2. International prices exclude transportation costs.
3. Domestic prices exclude transportation costs.
4. International prices are for delivery to the nearest port or inland delivery points.
5. Domestic prices are for delivery to the nearest market or inland delivery points.
6. The prices are subject to change without notice.

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## BALTIC EXCHANGE INDICES

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<th>Baltic Capesize</th>
<th>Baltic Handysize</th>
<th>Baltic C2/C3</th>
<th>Baltic Dirty Tanker</th>
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<td>699</td>
<td>929</td>
<td>1482</td>
<td>403</td>
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## ELECTRICITY TRADING AT EX

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*Note: Market prices are subject to change.*
ROW OVER IRON ORE MINES

SC rules in favour of Bhushan Steel

BS REPORTER
New Delhi 14 March

The Supreme Court today allowed the appeal of Bhushan Power & Steel Ltd and directed the Orissa government to act according to the memorandum of understanding (MoU) between the two, signed on May 15, 2002. Overruling the Orissa high court order, a bench headed by Justice Altamas Kabir also asked the state government to make recommendations to the Centre for granting iron ore mines, as per the MoU.

The Bhushan group had sought allocation of iron ore mines to it to set up an integrated steel plant in the state. However, after the signing of the MoU, there were disputes among the family members of the industrial family. The state government then stated that the MoU had become naught and asked the company to sign a new one. Later, when the family claimed that the disputes had been settled, the state government still insisted on a new MoU.

According to the group, the government was not complying with its obligation of making recommendations for grant of iron ore mines. The industrial house said that in the MoU the state government had committed to provide land, iron ore mines, coal blocks and other facilities to it.

The company claims it has set up an integrated steel plant, which has been operating since 2008. It also claims that it has invested Rs 8,000 crore and is providing employment to at least 10,000 people. Putting forward these claims, it argued before the Supreme Court that the state was obliged to make recommendation to the Centre for grant of iron ore mines.

According to the company, it has been incurring losses since it has no captive mines and is forced to purchase iron ore from the market at five times the normal rate.
Banking on freight earnings

Indian Railways is looking at more than 30 per cent rise in its earnings from freight in the next fiscal, reports DHNS from New Delhi.

Railways Minister Dinesh Trivedi projected an earning of Rs 89,339 crore, mainly from higher loading of goods and commodities. The Railways has, however, scaled down its freight loading target for the current fiscal to 970 MT from earlier estimated target of 933 MT due to ban on iron ore exports by Karnataka and Odisha state governments.
CEC for ban on mining in Karnataka for 10 years

Committee submits to apex court reclamation and rehabilitation plans

NEW DELHI: The Supreme Court-appointed Central Empowered Committee (CEC) on Wednesday recommended a 10-year prohibition in mining operations in Bellary, Chitradurga and Tumkur districts, areas under the illegal extraction of natural resources in Karnataka.

In its supplementary report before the apex court, the committee also submitted the reclamation and rehabilitation plans for mining leases in three districts following a "broad consensus" reached between its members, state government, experts from Indian Council for Forestry Research and Education and others.

"The proposed guidelines provide that in the areas found to be under illegal mining (except the areas falling in the sanctioned lease areas of the adjoining lessees), mining operations will be prohibited for next 10 years to ensure that such areas are properly rehabilitated," the report said.

The committee also submitted that a ceiling of 25 million metric tonnes for total production of iron ore from all the mining leases in Bellary and a ceiling of 5 million metric tonnes for all mining leases in Chitradurga and Tumkur districts may be prescribed.

The proposed plan is to carry out time-bound reclamation and rehabilitation of the areas found to be under illegal mining and to ensure scientific and environmentally sustainable extraction, among other things.

Recommendations

As far as the mining leases falling in category C are concerned, the CEC recommended that the allotment of those leases could be undertaken only after the reclamation and rehabilitation plans for each lease was prepared and the mining operation was found to be environmentally feasible.

DH News Service
Hindustan Zinc Fall 5% on Plant Suspension News

MUMBAI Hindustan Zinc shares declined 6% to ₹127.90 on news that the company has suspended production at its Visakhapatnam zinc smelter. The plant with a production capacity of 56,000 tonne a year, has found it difficult to source the raw material from Rajasthan due to increasing input and freight costs.
Goa facing 30% ore export slump

Panaji, March 14

Goa’s iron ore industry is staring at a 30 per cent decline in exports for the current fiscal, being attributed to enforcement of stringent regulations and curbing uncontrolled tapping of minerals. The royalty collection by the State Government will also slump this time, even as policymakers have geared up to mobilise additional resource, to make up for the revenue loss suffered from the mining industry. Goa Mineral Ore Exporters’ Association, an umbrella organisation of the ore exporters, has said projected total exports to be around 40 million tonnes this year. - PTI
Copper drops as China home sales fall

Bloomberg
March 14

Copper fell in New York on concern about the outlook for demand after China, the world’s biggest consumer of the metal, indicated limits on its housing market will remain in place.

Copper for May delivery dropped 0.9 per cent to $3.8655 a pound by 7:48 a.m. on the COMEX in New York, retreating for a second day in three. The three-month contract fell 0.7 per cent to $8,494 a tonne on the London Metal Exchange.

Immediate-delivery copper on the LME traded at a $4 premium to metal for three-month delivery, a fifth session of so-called backwardation that may signal concern about supply.

Copper inventories monitored by the LME, down 27 per cent this year to the lowest level since July 2009, declined for a 15th session to 2,70,625 tonnes. Orders to withdraw the metal from LME warehouses rose 1.9 per cent to 88,550 tonnes.

Nickel for three month delivery on the LME rose 0.3 per cent to $19,900 a tonne, paring a gain of as much as 0.6 per cent.

Orders to draw the metal from LME stocks jumped 17 per cent to 5,388 tonnes, the highest level since March 7. Aluminium for three-month delivery on the LME slid 0.4 per cent to $2,249 a tonne and zinc fell 1 per cent to $2,089 a tonne. Lead dropped 0.4 per cent to $2,145 a tonne, nickel slipped 0.1 per cent to $19,489 a tonne and tin lost 1.1 per cent to $23,973 a tonne.
Bills on the anvil

Government proposes a slew of legislations in the budget session of Parliament

Sujay Mehndiada

With the budget session of Parliament having already commenced on March 12, the Government has drawn up plans to introduce a number of far reaching legislations including the Debt Management Office Bill, a Bill to regulate the real estate sector in the country, and the Mines and Minerals (Development and Regulation) Bill.

The Debt Management Office is proposed to be set up through legislation in the Finance Ministry for better management of public debt. The government has proposed to set up an independent DMO, aimed at separating the RBI's roles as the decider of interest rate in the market and being the banker to the government. At present, both the government's debt and fresh borrowings are managed by the central bank. In his 2011-12 Budget speech, Finance Minister Pranab Mukherjee had mooted the proposal to introduce the Public Debt Management Agency of India Bill. The Reserve Bank of India has opined against setting up a separate entity, DMO, to manage the sovereign debt of the government, saying only the central bank has the requisite expertise to manage market volatility. RBI had further said that in order to achieve monetary and financial stability, separation of debt management from central bank seems to be a "sub-optimal choice".

On the other hand, the government is going ahead with its move to introduce legislation in Parliament during the budget session to regulate the real estate industry. The Bill would protect the interest of consumers without hurting the growth of the realty sector. Real estate developers led by CREDAI and NAREDCO have opposed the legislation in its present form and have claimed that it would become a breeding ground for corruption when implemented. The effort of the government is to enforce disclosure, fair practice and accountability in real estate sector and to check fly-by-night operators. India is currently faced with a shortage of 26 million of houses.

Similarly, the new Mines and Minerals (Development and Regulation) Bill is also likely to be placed in Parliament to replace the existing Mines and Minerals (Development and Regulation) Act, 1957. The Bill seeks a complete and holistic reform in the mining sector with provisions to address issues relating to sustainable mining and local area development, especially families impacted by mining operations. It calls for sharing of 26 per cent profit by mining companies for the development of the tribal areas and their rehabilitation due to displacement of mining activity.

The Bill aims to ensure transparency, equity, elimination of discretions, effective redressal and regulatory mechanisms along with incentives encouraging good mining practices, which will also lead to technology absorption and exploitation of deep seated minerals. The Bill has already been cleared by the Group of Ministers headed by the Finance Minister and by the Union Cabinet. Industrial lobbies have already swung into action to oppose the implementation of the Bill.
Steel Ministry Bats for Underground Mining

MEERA MOHANTY
NEW DELHI

A task force appointed by the steel ministry is making a strong pitch for allowing underground mining in the ecologically sensitive Western Ghats, by citing the example of Sweden's Kiruna Mines, which boasts of the largest and the most modern underground iron ore mine in the world.

The task force, working on the raw material scenario that will provide the basis for the new steel policy, has argued that mining iron ore deposits in the ecologically sensitive Western Ghats is essential for the industry's growing needs. The reason for this contentious recommendation is the fast depletion of high-grade iron ore resources in the country.

In an attempt to pre-empt environmental concerns, the steel ministry's task force has suggested underground mining, as practised at the 1,500-m deep and 4,000-m long Kiruna Mines in Sweden. It has even suggested financial support through technology funds and tax concessions, and even reduced royalty.

"I cannot comment on the technicalities of underground mining. But the issue never was of legal provisions or rules. Sweden is a very law abiding country, unfortunately as is evident in the Lokayukta reports as well as other investigations, we have not shown similar regard for existing rules," said Prof Madhav Gadgil who chairs the Western Ghats Ecology Expert set up by the ministry of environment and forests.

In the densely forested hills of South India lies a third of the country's iron ore. The deposits are considered valuable because of its magnetic property, which is useful in steel-making, although the ore is of low ferrous grade.

Most of this magnetite deposit lies within Karnataka. Mining in the Ghats has been banned by the Supreme Court, which in 2006 ordered state-owned Kudremukh Iron Ore to shut down operations. The first suggestion in recent times for underground mining was interestingly made by the Indian Council for Forestry Research and Education, enlisted by the Supreme Court for an environmental impact assessment of Karnataka's iron ore districts. Then in December, a planning commission panel on steel made a similar demand.

The reactions came in swift to such recommendations. In a report on illegal mining in Karnataka, the apex court's Committee on forest matters wanted to ensure that mining in the recognised biodiversity hotspot of the world is never a possibility.

The owner of the resource, the state of Karnataka, is also clear this is not an option. "When we are working towards declaring the Ghats as a Unesco world heritage site for its rich biodiversity, how can we allow mining," said a senior state official. (The state's concern on heritage status was on other regions, not in regards to Shimoga and Chikmagalur where the deposits lie).

Mining experts with private firms point out that the deposits, unlike coal, lie under hard mountain rocks, which could be blasted away. Also underground mining of the deposits occurring in fragmented zones across hills and geological folds could be difficult and expensive, they say.

The task force reports will eventually form the new National Steel Policy. The estimates of the iron ore resources in the country in 2010, excluding the deposits in the Ghats, amounted to 17.8 billion tonnes, of which only 8 billion tonnes have been explored, so far.

The panel was of the view that exports that account for almost half the ore produced in the country need to be minimised. "It is implicit that the present reserves of iron ore in the country are not sufficient to meet the requirement of the domestic iron and steel industry beyond the next 20 years. The situation demanded that exports of iron ore need to be curtailed to the minimum possible. India has a 300 mt iron ore capacity, but produced 208 mt last financial year due to the ongoing clean up of illegal mining in Goa, Odisha and Karnataka."