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MINERAL-RICH, PRODUCTIVITY-POOR?: AN OVERVIEW OF INDIA'S MINING SECTOR

By: Shri Arun Kumar Former Secretary, Ministry of Mines, Government of India

India occupies a significant position in the production of many minerals across the globe, while for some, there is acute shortage. There continues to be a huge demand for minerals in view of rapid urbanisation and the growth in the country's manufacturing sector. Against this background, this article will consider the impact of the 2015 amendment to the Mines and Minerals (Development and Regulation) Act 1957, and the 2020 Mineral Laws (Amendment) Ordinance.

There are several reasons why an assessment of the policy and regulatory landscape governing the sector are germane.

One, out of a total of 32.87 lakh sq km land area, the Geological Survey of India (GSI) has identified 5.71 lakh as of Obvious Geological Potential (OGP) for minerals. However, mining is carried out only in 1.5 per cent of the OGP area (not including building material like sand aggregates, etc).

Two, is the sector's potential to strengthen the economy. The mining and quarrying (including petroleum and natural gas) sector's contribution to India's gross value added (GVA) accounted for about 2.38 per cent in 2018-19. The sector's (including coal but excluding petroleum and natural gas) GDP contribution was 1.63 per cent in the same year. Contrary to this, the sector's contributions to GDP in other mineral-rich countries like Australia and South Africa are to the tune of 7-8 per cent.

Three, India's mining sector is a labour-intensive industry that creates employment opportunities in the hinterlands, which have limited potential for other economic activities. In 2012, the sector (excluding petroleum and natural gas) directly employed around 23.23 lakh workers. If indirect employment is added as a factor of 10 (as borne out by studies), the employment number comes closer to 232.30 lakh. It clearly has huge potential for employment generation, and can create (direct and indirect) employment to nearly 4 crore by 2025.

Four, India's geological potential is huge, with its land mass deriving from the same formation – the Golconda plate – as mineral-rich Australia and south east Africa. Therefore, there is a very well-founded basis to the assertion that India has a rich endowment of minerals.

2015 Amendment

The 2015 amendment was incorporated with a view to engender transparency in the mining sector. Some positive highlights of this major reform initiative:

- ◆ Auction to be the sole method of granting mineral concessions, thus removing discretion and arbitrariness
- ◆ Extended tenure of granting mining leases from 30 to 50 years
- ◆ Safeguarding the interests of host communities/affected people in the mining areas by establishing the District Mineral Foundation (DMF)
- ◆ Introducing the concept of composite license (prospecting licence-cum-mining lease, or PL-cum-MLs)
- ◆ Facilitating ease of procedure and removal of delays: For minerals in Part C of the First Schedule, the system of seeking prior approval from the central government has been done away with, and states can now auction all minerals except atomic minerals.

Following the amendment, state governments have adopted the auctioning mechanism to grant PL-cum-MLs and mining leases. As of 31 December 2019, 76 mineral blocks have been auctioned, out of which 9 are PL-cum-MLs. The remaining 76 are for the grant of mining leases.

However, the pace of these auctions is slow, and operationalisation slower still. Out of the 76 blocks auctioned, only 10 mines have been operationalised in the intervening 5-year period. Of these 10, five were iron ore mines that were already functional but had to be auctioned due to Supreme Court orders. Once the blocks are auctioned, central/state governments should ensure expediting various clearances. In this regard, it will be useful for the Ministry of Mines to develop an effective monitoring mechanism.

The extractions from these auctioned mines, presuming their full operation in due course, will show a growth of about 2.5 per cent per annum. While this may lead to mineral scarcity in the long-run, the revenues accrual will be high due to the scarcity premium. This has already been seen in the auctions.

The estimated revenue accrual over 50 years, including additional revenue from auctions, can be estimated through the auction (as of 31 December 2019) of the 76 blocks:

- ◆ Estimated value of resources: INR 2,52,515 crore
- ◆ Additional revenue from auctions: INR 1,57,562 crore
- ◆ Royalty, District Mineral Foundation (DMF), National Mineral Exploration Trust (NMET) etc: INR 44, 563 crore
- ◆ Revenue to government over 50 years: INR 202,125 crore

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The additional revenue stands at INR 1,57,562 crore. Taken as a percentage of estimated resources, this works out to 62.4 per cent. With DMF and NMET levies, it comes to 80 per cent. This means that of the total value of minerals extracted, 80 per cent of the value of minerals will go to the government. The high bids are also a measure of mineral scarcity, with some blocks being bid to over 100 per cent of the cost of minerals to be extracted again – just to ensure supply security. Due to a distorted market, growth is likely to be 2.5 per cent per annum.

2020 Ordinance

The 2020 Ordinance was promulgated in January to mitigate some of the lacunae in the MMDR Act that were proving to be a hindrance in private sector mineral exploration. It also aims to introduce continuity in the production of vital minerals from mines whose leases were due to expire in March 2020. Finally, this move will help raise the mineral sector's rate of growth.

Lease Allocations

The earlier provisions of the 1957 Act did not allow exploration licence holders the right to apply for to PL-cum-ML or ML. There have been virtually no takers for exploration licences as a result of this restrictive provision. Now, non-exclusive reconnaissance permit (NERP) holders will have the right to obtain PL-cum-MLs or MLs for deep-seated minerals, or such minerals as notified by the central government. This provision will give a boost to exploration activities by attracting large-scale participation, which, in turn, will lead to production.

It is imperative that exploration license holders are able to seamlessly transition from composite licenses to mining leases. Though only deep-seated minerals are mentioned in the ordinance, it provides a window for other minerals as well. Minerals, which may be surficial, and are not of a strategic nature, should also be brought under this regime. This will raise the rate of growth from the current 2.5 per cent per annum.

The deemed approval/clearances of rights for a period of two years with respect to mines otherwise due to expire is a welcome initiative for continuity of production. The existing non-captive leases were to expire on 31 March 2020. This would have had serious repercussions in terms of supply disruptions of vital raw materials, particularly for the steel industry, which could have affected almost one-third of the supply chain. The ordinance redresses this shortcoming. Once it is ratified, the Ministry of Mines will be empowered to lay down timelines for various clearances. There should however also have been a provision extending the same treatment to the auctioning of a working mine.

Operational Efficiency

The efficiency of mine operations is another issue. Larger mines lend themselves to more scientific mining in the shape of

mining plans, more mechanisation, and environmental controls. An emerging way of handing operations is the emergence of the mine-developer-cum-operator (MDO). Earlier used primarily in the coal industry, PSUs and miners in non-coal areas have now begun adopting this mechanism as well.

While speaking of the benefits, however, it is also important to acknowledge that the system is sometimes prone to misuse by MDOs. MDOs have on occasion illegally squeezed out the lessee to become de-facto owners. Smaller mine owners find it difficult to take on MDOs and ultimately succumb to their takeover. On the other hand, MDOs bring a certain efficiency to operations. This dilemma must be addressed by the government.

MDOs undertake a spectrum of activities; these may include obtaining statutory clearance, land acquisition, planning, mine operations, machinery deployment, mineral extraction, and transportation to dispatch points. Under this framework, the requirements for safety, adherence to labour standards, and environment compliances rest with the principal lessee. However, when MDOs obtain statutory clearances and help with land acquisition, they are prone to misusing their positions.

Why are MDOs engaged if there is such a high possibility of abuse of the system? This may be because lessees prefer MDOs to develop and manage their mines, given that they themselves could be lacking funds, technology, management skills, and domain expertise. Through this model, the lessees are able to hedge their financial and project risks. Given this set of issues, MDOs should only be employed in larger mines where there is a balance of power between the lessee and the MDO.

Conclusion

With a conducive policy environment, the mining sector's GDP contribution could be raised from the current 1.63 per cent (excluding hydrocarbons) to 2.5 per cent. Similarly, direct/indirect employment could be raised from INR 2.3 crore to INR 4 crore. It thus has significant potential to contribute to the vision of India as a US\$ 5 trillion economy.

Source : Dispatch.in

INDIAN CHAMBER OF COMMERCE SEEKS SOPS FOR MINING INDUSTRY

Indian Chamber of Commerce has urged the government to allow deferring payment of mining levies for the next 3 months – up to June 30, 2020, in view of the lockdown to prevent spread of COVID-19.

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In a statement issued on Friday, ICC requested the Finance minister to “allow deferring of payments of mining levies, namely Royalty and the contributions towards District Mineral Foundation (DMF) and National Mineral Exploration Trust (NMET) for the period upto 30th June 2020 – for the next 3 months.”

On behalf of the mining industry, ICC also requested the FM “to provide extension of the validity of current approved plans by 3 months.”

Many mines have their mining plans expiring on 31st March 2020. However, due to lockdown and closure of regional offices of Indian Bureau of Mines, the mining plans have not been approved in many cases, it said. The chamber has also

sought waiver of the GST compensation cess on coal.

Coal is a key raw material for steel making and combined with iron ore, it accounts for nearly 64% in the cost of production of steel. In India, the Steel and Sponge Iron industry is totally dependent on imported thermal coal from South Africa. The Indian Sponge Iron producers and steelmakers have no other option to import at the high prices.

“In this situation, we request that the GST compensation is waived off to give some relief to the producers and also request the government to grant some financial help,” the statement added. It has also requested for a

50% reduction in tariffs of facilities such as water, electricity etc., besides reasonable interest subsidy on working capital.

WHAT IS THE MINERAL LAWS (AMENDMENT) BILL, 2020?

The MMDR Act regulates the overall mining sector in India. The CMSP Act provides for the auction and allocation of mines whose allocation was cancelled by the Supreme Court in 2014.

The Mineral Laws (Amendment) Bill, 2020 was introduced in Lok Sabha on March 2, 2020. The Bill amends the Mines and Minerals (Development and Regulation) Act, 1957 (MMDR Act) and the Coal Mines (Special Provisions) Act, 2015 (CMSP Act). An Ordinance with similar provisions was promulgated on January 10, 2020.

The MMDR Act regulates the overall mining sector in India. The CMSP Act provides for the auction and allocation of mines whose allocation was cancelled by the Supreme Court in 2014. Schedule I of the Act provides a list of all such mines; Schedule II and III are sub-classes of the mines listed in the Schedule I. Schedule II mines are those where production had already started then, and Schedule III mines are ones that had been earmarked for a specified end-use.

Removal of restriction on end-use of coal:

Currently, companies acquiring Schedule II and Schedule III coal mines through auctions can use the coal produced only for specified end-uses such as power generation and steel production. The Bill removes this restriction on the use of coal mined by such companies. Companies will be allowed to carry on coal mining operation for own consumption, sale or for any other purposes, as may be specified by the central government.

Eligibility for auction of coal and lignite blocks:

The Bill clarifies that the companies need not possess any prior coal mining experience in India in order to participate in the auction of coal and lignite blocks. Further, the competitive bidding process for auction of coal and lignite blocks will not apply to mines considered for allotment to: (i) a government company or its joint venture for own consumption, sale or any other specified purpose; and (ii) a company that has been awarded a power project on the basis of a competitive bid for tariff

Composite license for prospecting and mining:

Currently, separate licenses are provided for prospecting and mining of coal and lignite, called prospecting license, and mining lease, respectively. Prospecting includes exploring, locating, or finding mineral deposit. The Bill adds a new type of license, called prospecting license-cum-mining lease. This will be a composite license providing for both prospecting and mining activities.

Non-exclusive reconnaissance permit holders to get other licenses:

Currently, the holders of non-exclusive reconnaissance permit for exploration of certain specified minerals are not entitled to obtain a prospecting license or mining lease. Reconnaissance means preliminary prospecting of a mineral through certain surveys. The Bill provides that the holders of such permits may apply for a prospecting license-cum-mining lease or mining lease. This will apply to certain licensees as prescribed in the Bill.

Transfer of statutory clearances to new bidders:

Currently, upon expiry, mining leases for specified minerals (minerals other than coal, lignite, and atomic minerals) can be transferred to new persons through auction. This new lessee is required to obtain statutory clearances before starting mining operations. The Bill provides that the various approvals, licenses, and clearances given to the previous lessee will be extended to the successful bidder for a period of two years. During this period, the new lessee will be allowed to continue mining operations. However, the new lessee must obtain all the required clearances within this two-year period.

Reallocation after termination of the allocations:

The CMSP Act provides for the termination of allotment orders of coal mines in certain cases. The Bill adds that

such mines may be reallocated through auction or allotment as may be determined by the central government. The central government will appoint a designated custodian to manage these mines until they are reallocated.

Prior approval from the central government:

Under the MMDR Act, state governments require prior approval of the central government for granting reconnaissance permit, prospecting license, or mining lease for coal and lignite. The Bill provides that prior approval of the central government will not be required in granting these licenses for coal and lig-

nite, in certain cases. These include cases where: (i) the allocation has been done by the central government, and (ii) the mining block has been reserved to conserve a mineral.

Advance action for auction:

Under the MMDR Act, mining leases for specified minerals (minerals other than coal, lignite, and atomic minerals) are auctioned on the expiry of the lease period. The Bill provides that state governments can take advance action for auction of a mining lease before its expiry.

DURING A LOCKDOWN, WHY IS THE MINING INDUSTRY CONSIDERED 'ESSENTIAL'?

The exemption granted to sectors such as mining and steel may have more to do with sustaining large companies which are already facing losses.

India is under an emergency lockdown. One big question that will be asked for some time to come is if this extreme measure could have been prevented. What we do know is that its implementation has resulted in chaos and has threatened the lives of a large number of poor workers. While the total lack of safety and survival measures for urban daily wage workers at this time has been on full display, news about how this lockdown affects rural workers is trickling in.

The national lockdown was announced on March 24. It invoked Section 10 (2) (i) of The Disaster Management Act, 2005 which gives powers to the National Executive Committee to “evaluate the preparedness at all governmental levels for the purpose of responding to any threatening disaster situation or disaster and give directions, where necessary, for enhancing such preparedness...”.

Under this law, the central government issued “Guidelines on the measures to be taken by Ministries/ Departments of Government of India, State/Union Territory Governments and State/ Union Territory Authorities for containment of COVID-19 Epidemic in the Country.” This document stated that industrial establishments will remain closed, except for manufacturing of essential commodities and specific production units with prior permissions. On the next day, an addendum was issued to exclude certain industries and “coal and mineral production, transportation, supply of explosives and activities incidental to mining operations.”

Mining and steel as essential services

The central Indian mining states have deployed a slew of legislations to continue mining operations. The Odisha government has invoked the Epidemic Diseases Act of 1897 and issued Orissa COVID-19 Regulations, 2020 under it. These regulations allow the government to exclude “essential services” from any lockdown restrictions. An order (9015/H&FW) issued by the Health and Family Welfare Department on March 24 has excluded the following from any restrictions, subject to preventive measures like social distancing and containment:

“v. Operation of mines of iron ore, coking coal, thermal coal, limestone, dolomite, manganese, chromite etc. as well as operations of ferroalloys, iron ore pellet plants etc. which are supply critical raw material for steel The Essential Services Maintenance Act (ESMA), 1981 which also has corresponding state ESMAs lists “(xii) any service in any establishment or undertaking dealing with the production, supply or distribution of coal, power, steel or fertilizers” as an essential service. The steel ministry and companies like CIL, JSW have relied on this law to keep their operations going at this time. This law is basically meant to prohibit worker strikes and lockouts in industries.

Why have Central and state governments exempted coking coal, iron ore mining or production of steel and ferroalloys from being shut during the COVID 19 pandemic? There is only a very broad justification provided by these sectors and ministries about why these activities have been allowed to generate huge inventories when the demand is low due to the economic slowdown.

As noted by Jan Adhikar Manch, a network of trade unions and civil society organisations, these sectors are kept going by “thousands of workers and daily labourers, largely adivasi and dalit, who are compelled to report to work at grave risk to their own health and well being and that of their families and village communities”. Masks and sanitizers meant to protect workers from COVID-19 are far from enough to tackle occupational risks related to these industrial and mining operations. Workers are having to bear the wrath of the police stationed to restrict public movement and village nakabandi barricades to come to work. Although the prohibition Order No.F-4 133/HOME-c/2018 on “refusal to work” for essential services, such as in Chhattisgarh, does not include mining work, contractors and employers have reportedly threatened to cut wages or fire workers who stay at home. Truck drivers carrying coal and other materials in port areas and mining villages are stranded at various places without food as the roadside dhabas are shut.

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Lifeline to companies?

The exemption to major sectors such as mining and steel industry may have more to do with sustaining these companies, which are already facing losses, than them being essential during an emergency lockdown. Why has this consideration not been extended to sectors like agriculture, poultry, fisheries and forest produce collection, given how important these sectors are to the rural economy and to food security? Wheat harvested in Gujarat is stacked up in homes. In several coastal areas, fishing activities have been partially or completely stopped and fishing families will have to bear financial losses. In Chhattisgarh, tribal villagers in districts like Sarguja are unable to collect forest produce due to restrictions placed on movement. According to the Ministry of Tribal Affairs, “around Rs 2,00,000 crores worth of NTFP” is collected annually by tribal communities and transported to local, state and international markets.

Following the government guidelines, food production and supply has taken a huge hit. The lockdown has temporarily broken the supply chain across the country for food grains, vegetables, groceries, milk, fish, LPG and various other everyday commodities. Now state governments and sectoral ministries are trying to tie them back together through series of notifications, updating earlier orders and the provision of passes for transport and sale. This is likely to have a long-term impact on the rural economy.

Regulating environmental impacts of projects?

The industrial sectors which have been excluded from the shutdown may also see another huge advantage during this time. Under ‘normal’ circumstances, all industrial, infrastructure and mining operations are supposed to be monitored by regulatory bodies. The environmental management protocols of projects such as include pollution control, water extraction, tree felling, extraction of raw material or forest produce, transport and construction, are to be overseen by institutions responsible for mitigating and controlling environmental impacts. Project emissions and discharges are to be tightly regulated according to specific environment laws to protect rural ecologies and livelihoods.

Presently, while Indian cities are enjoying blue skies, rural communities, already severely affected by mining and industrial operations in central and eastern India, are reporting higher levels of effluent discharge and localized dust pollution since the lockdown. The official mechanism to verify these claims or act on these complaints is yet to be prioritized by environmental institutions at this time. It is also likely that environment enforcement will be minimal, at least for as long as the lockdown is in place. For projects engaged in mining, the lack of regulatory monitoring means projects can mine and pollute as they please with no one to watch over.

There is no clarity on the protocols to be followed by environmental monitoring agencies during this period. There are no clear instructions on how to go about routine functions and

emergency situations. In some parts of the country, these offices are open for “two hours a day” or not at all. Officials may be willing to take complaints and perform “kagaz wala kaam” (paperwork), as one of our colleagues was told, but they are unable to assure action. If mining and industrial units are operational, then regulatory procedures at least to supervise their environmental impacts and proactive community assistance in instances of accidents and other risks would be necessary.

A time for loosening regulatory control

In the midst of the news of the COVID 19 pandemic, environment institutions are loosening regulatory control over project approvals. The environment ministry has introduced several proposals and sweeping changes. One notice seeks public comments on the revamp of the Environment Impact Assessment (EIA) notification. Responses on the draft notification were to be sent within sixty days from March 12, the date of the notice. The prohibition of meetings and gatherings during the lockdown makes it impossible to respond to this crucial notification that regulates the approvals and compliance with environmental safeguards of many industrial, infrastructure and mining projects in the country. The new draft proposes several exemptions and limitations on public participation in environmental decision-making processes. This draft is still uploaded asking for responses during the lockdown.

Another notification was issued on March 28. In this, the environment ministry has stated that all mines that were auctioned under the Mines and Minerals (Development and Regulation) Act, 1957 and where ownership was to be transferred to a new bidder as on March 31, 2020, can continue with a two-year deemed environment clearance. This notification is to ensure that the new lessee can continue mining operations and seek a fresh environmental approval within two years. This decision makes all pending court cases or complaints related to violations and impacts inconsequential to the continuation of the mine. On March 30, the Punjab Pollution Control Board (PCB) issued an extension of the validity of all authorisations, consents and registration under their jurisdiction to June 30 (No.PPCB/SEE (HQ-2)/2020.) It is likely that other State PCBs will follow.

While the state of environmental monitoring is practically a no show, there is little public information on whether project approval committees are reviewing environmental approvals and forest diversions. A March 30 meeting agenda lists the diversion of 1177.21 hectares of forests for an iron ore mine in Odisha. The environment ministry has not made any public announcement on the cancellation of these meetings. There is a passing reference to some expert committee meetings for the month of March being deferred.

As we work through the COVID lockdown and evolve ways to deal with the pandemic, India’s villages, especially the

mining regions where workers and their families are already ravaged by the impacts of extraction, deserve special attention. Should these high-risk industrial operations continue unregu-

lated during this period? Let us not wait for an explosion of suffering to answer this.

ORISSA :BAULA'S TREASURE TROVE

Besides having huge deposits of iron ores, manganese and chromites, Keonjhar district has the potential of transforming the mining sector of the state as it possesses precious platinum reserves.

Although almost a decade has lapsed since the Geological Survey of India (GSI) discovered platinum reserves in Baula-Nuasahi mining belt, commercial exploration of platinum still remains a far cry.

The Baula-Nuasahi mining belt under Hatadihi block of Keonjhar district, which has deposits of platinum group of elements (PGE), is situated at around 170 km north-northeast from Bhubaneswar. According to GSI sources, PGE mineralisation, associated with chromites, is in Baula-Nuasahi ultramafic complex.

A field visit by Orissa POST revealed that the Baula mines near Facor in Bangur area from where the platinum was explored has been marked as a prohibited area. Now, the mining pit located just at the foot of the Baula hills has accumulated water resembling a lake.

According to locals, the platinum reserve was discovered during chromites exploration in the region.

Speaking on condition of anonymity, a local inhabitant said that exploration of chromites has been stopped as soon as the platinum reserves were traced. "Local unskilled and semi-skilled workers may get employment opportunities if the mining operations resume in near future," he added.

Echoing similar sentiments, another local said the resumption of mineral exploration will open up indirect employment opportunities and boost local business too. "Local youths can find gainful employment by opening spare part stores for automobiles, garages, hotels and restaurants and other shops," he added.

"The Baula-Nuasahi ultramafic complex is the only proven PGE deposit in the country with an estimated reserve of 14.2 million tonnes. This is confined to the active chromite mines," GSI sources said.

The GSI also found the presence of PGE at Sitampundi in Tamil Nadu. Efforts are also on to intensify survey of heavy metals along the Odisha coast, said sources.

The GSI entered into collaboration with the OMC in 2010. After a year-long study, scientists are elated about the prospects of mining this mineral in the region.

The Indian Bureau of Mines (IBM) Year Book 2012 states that the GSI carried out exploration in various areas in the states of Andhra Pradesh, Karnataka, Kerala, Manipur, Maharashtra, Odisha (jointly with Odisha Mining Corporation Ltd) and Tamil Nadu.

Platinum has multifarious use

The primary usage of PGE is in chemotherapy (for treatment of cancer). It has the ability to prevent division of certain living cells, a remarkable characteristic which finds profound application in treatment of cancer.

The book reveals that nearly half of the total platinum used worldwide is in the form of a catalyst in catalytic converters in automobiles. Catalysts for automobile sector use platinum and palladium. Automobiles that run on diesel predominantly use platinum for catalytic conversion. The chemical inertness and refractory properties of platinum and palladium are conducive for their applications in electrical, electronics, dental, medical fields and glass industry. These metals are also used as catalyst in various chemical processes, such as in organic synthesis in hydrogenation, dehydrogenation and isomerisation, production of nitric acid as also in the manufacture of fertilizers, explosives & polymers and fabrication of laboratory equipment.

Source: OrissaPost

ODISHA MINING AUCTION JSPL GETS GUALI IRON ORE MINES & TATA STEEL SUBSIDIARY TS ALLOYS HAS BAGGED THE SUKINDA CHROMITE BLOCK

Naveen Jindal controlled Jindal Steel & Power (JSPL) has bagged the Guali iron ore mines in Odisha after committing to pay 144% premium. The company won the mining block in the mining auction held on Wednesday. As many as 13 companies including JSW, Adani Group, KJS Ahluwalia and RP Sao were in the race, said sources.

Spread over 365 hectares in the Keonjhar district, Guali mines has an estimated reserve of 198 million tonnes.

On Tuesday, Tata Steel subsidiary TS Alloys has bagged the Sukinda chromite block after committing to pay 93.7% premium.

Odisha government had auctioned as many as 19 mineral blocks in February.

In the mining auction, JSW Group secured as many as four iron ore blocks. The company has proposed to set up a steel plant near Paradip in Jagatsinghpur district.

DE-RESERVING OF SUKINDA BLOCK TO OPEN FLOODGATES OF AGGRESSIVE BIDDING

Volatility cloud hangs over Indian ferro chrome market

Sukinda, India's chromite valley, has been hitting the headlines off and on for the last decade or so for being the epicentre of disputes and controversies over mining rights and much else besides. And the reasons are not far to seek. Odisha accounts for around 98% of India's chromite reserves, 97% of which lies in Sukinda. Around 12-14 mines operate in the area but, according to green activists, without proper environmental control.

Extensive mining of chromite in the area poses serious threats to the environment through pollution of toxic hexavalent chromium in the soil and water bodies, claims a 2007 report compiled by the US-based Blacksmith Institute.

Chromium hexavalent is mobile in the environment and is highly toxic for all forms of living systems, including microorganisms, causing oxidative stress.

It must be acknowledged, however, that all the mining majors eager to grab a slice of the Sukinda pie have adopted corrective steps to promote sustainable mining in the valley and mitigate the ecological hazards that accrue from primitive mining practices that have, over the years, taken a toll on the life and livelihoods of the people inhabiting the region. Whether that has been sufficient to address pressing health and environmental concerns, however, is impossible to answer definitively.

The mining plan for Sukinda mine was first submitted in 1960 by TATA Steel and was approved by the controller of mines, Nagpur. The company had first prospected the area in 1952 and subsequently, got a mining license from the then Raja of Sukinda for a period of 20 years with effect from October 22, 1952. Later on the mining lease was rectified by the Odisha government for a period of 20 years.

Chequered History

The mining plan for the Sukinda chromite mine over an area of 406 hectares was first submitted in 1960 by Tata Steel and was approved by the Controller of Mines, Nagpur. The company had first prospected the area in 1952 and, subsequently, got a mining licence from the then Raja of Sukinda for a period of 20 years with effect from October 22, 1952. With the enactment of the Orissa Estate Abolition Act, the area got vested with the state government and the same mining lease was ratified by the state government for a period of 20 years with effect from January 12, 1953.

Due to the remoteness and inaccessibility of the place, non-availability of skilled manpower in the area and lack of a market for the friable variety of chrome ore, the mining originally started on a small scale to supply refractory grade lumpy ore to Tata's refractory plant at Jamshedpur and Belpahar in

December 1960. After the establishment of a number of charge chrome plants in India the demand for friable chrome ore shot up in the early 1980s. Accordingly, the mine first went for semi-mechanisation and subsequently was developed as a fully mechanised one in 1984.

The approved scheme of mining for the Sukinda block was valid till January 11, 2013 – that is till the validity of the lease period. As per the recommendation of the Central government, Tata Steel completed a study for undertaking underground mining in the area. The mining scheme was for a brownfield project wherein the mine was proposed to be operated both by opencast and underground means with the objective of converting it to an underground mine in the long term.

Considering the dwindling mineable reserves for opencast exploitation, lack of space for overburden disposal and the long gestation period for development of the underground mine, the company was keen to commence the underground mining operations at the earliest to sustain chrome ore production and meet the requirements of its plants and also comply with the conditions for renewal of the lease. The company also undertook necessary geological, geo-physical and feasibility studies for underground mining. This was essential to start underground mining in order to sustain chrome ore production to meet the demand for beneficiation and cater to the increased chrome ore requirement for the proposed expansion of existing ferro chrome plants and new ferro alloy units.

TATA Steel completed a study for undertaking underground mining in the area. The mining scheme was a brownfield project wherein the mine was proposed to be operated both by opencast and underground means.

Operations at the mine were suspended in January 2013 after Sukinda's mining lease expired and a fresh environmental clearance was rejected due to Tata Steel's inability in handling the huge overburden at the site. The MoEF, meanwhile, had amended its notification for obtaining environmental clearance for mines other than Sukinda awaiting renewal to give a two-year grace period that ended April 2013. This sop was for developers who were mandated to get environmental clearances for renewal of mines with leases expiring on November 4, 2011 or after.

-However, an environment panel recommended in May 2013 that Tata Steel should be allowed to expand its chromite production from the mine that had come to a screeching halt since January that year. This decision made it possible for Tata Steel to resume mining.

Meanwhile, mining majors such as the Indian Metals & Ferro Alloys Limited (IMFA) among others moved court challenging Tata Steel's right to mine a share of the total deposits that

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was much higher than was required by the company. Shortage of raw materials also hit Tata Steel hard and the steel behemoth had to suspend operations at its Bamnival plant. Finally, the watershed moment in Odisha's mining history arrived with the Centre amending the MMDR Act in 2015 granting extension of leases to non-captive mines for a period of five years till March 2020.

New Chapter Unfolds

As India transitions to an auctions-only regime, the Odisha government's latest decision to "de-reserve" the Sukinda mine and put it up for auctions has opened the floodgates of aggressive bidding for the mine in the days to come. This decision actually reverses an earlier decision by the state government to "reserve" the mine for Odisha Mining Exploration Corporation Limited (OMECL) – initially a subsidiary of the Odisha Mining Corporation (OMC) but an independent agency today that can undertake mining activities on its own. However, it was reported soon after that OMECL had invited two private operators to undertake mining in the region.

The opencast mine, operated both as a captive and merchant lease, is now almost 120 metres deep. Converting it into an underground mine could cost at least INR 7,000 crore, according to industry sources. Of the 5,300 ha of chrome ore leased out, OMC holds 3,899 ha or 74% of the area. With environmental clearances of 41 lakh tonnes, it produces 9.8 lakh tonnes, or 29% of the total chrome ore produced in the state. Tata Steel, holding 9% of the total area, accounts for 35% of total production, says a senior executive of a mining company on condition of anonymity.

Therefore, it stands to reason that industry insiders are sceptical of the ability of public sector undertakings (PSUs) to increase mining output in the short term given their desultory past record. Also, had the Sukinda mine been allocated to a state PSU, it would have had to cough up the astronomical initial investment to convert the opencast mine into an underground one.

bidding, by all reckoning, will likely be super-aggressive going by Tata Steel's recent record, plus the fact that Tata Steel has a sentimental attachment to India's chrome valley and could, therefore, go all out to retain it.

It may also be mentioned that other mining majors such as Vedanta – eyeing to acquire Ferro Alloys Corporation (FACOR) – is also keen to grab the block. Vedanta's aggressive bidding at the Odisha iron ore auctions recently might well be a precursor of things to come.

Approximately 2.3 Mnt of chrome ore will go out of the market until the auction process is streamlined and the production comes back to normal. The Sukinda block has the capacity of 1.79 Mnt. Many smelters that were dependant on TATA steel for conversion will, for the time being, have to depend on the OMC auctions. Due to the auctions, Suppl will likely be affected for at least three-four months.

Sources in the mining industry told Steel360 that the ferro chrome market will likely face scarcity of ore in the coming months. Approximately 2.3 Mnt of chrome ore will go out of the market until the auctions process is streamlined and production comes back to normal. The Sukinda block has a capacity of 1.79 Mnt. Many smelters that were dependant on Tata Steel for conversion will, for the time being, have to depend on the OMC auctions.

Due to the auctions, supply will likely be affected for at least three-four months, although the severity of the disruption will be mitigated somewhat by the Centre's Ordinance amending the MMDR Act that will allow for seamless transition of leases and the permission to keep the working mines operational while the process for obtaining environmental and forest clearances is still on.

Only a handful of Indian ferro chrome producers have captive mines. Major producers like Tata Steel, Balasore Alloys, FACOR Ltd, IMFA Ltd and Jindal Stainless have in-house chrome ore supplies. The rest of the major smelters like Nav Bharat Ventures, Rohit FerroTech, Visa Steel and others are dependent on merchant miners for their ore supplies. For smelters that are compelled to purchase ore and power, chrome ore prices play a big role in estimating costs.

Ore prices constitute 40-45% of the total cost of ferro chrome. With supply disruption looming large, these companies will be forced to buy expensive raw materials due to aggressive bidding at the OMC auctions, compounding the situation even further. Many ferro chrome producers have already cut down production and have shifted partially to manganese alloys, waiting for the chrome market to regain lost momentum.

Conclusion:

Tough times ahead for ferro chrome manufacturers. Ore Shortage to Trigger Imports?

Industry insiders believe that in the short term, at least, there is hardly any substitute to imports. Indian chrome ore imports are around 3-4% of ore supplies. With supply disruptions and resultant rise in ore prices, the share of imports is set to go up. Meanwhile, with ferro chrome prices sliding in the global market, many producers are also pessimistic about importing chrome ore. Importing ferro chrome seems to be a better option compared to importing chrome ore and then smelting it. Supply disruptions will trigger price rise in the domestic market. So, India wouldn't be able to produce ferro chrome at competitive prices in the international market by importing chrome ore.

Potential disruption could certainly trigger the cost of production manifold. High domestic prices could also make imports more viable. Moreover, aggressive bidding at the auctions could also indirectly increase the cost of the finished product as producers would want to transfer the additional load on to consumers. Most producers have reduced ferro chrome production

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which is creating temporary supply shortage in the market. The threat of ore supply disruption usually leads to a piling up of inventory for producers.

However, end-user demand from the stainless steel industry, although steady, is unlikely to grow at an astonishingly fast pace. Therefore, there is the distinct possibility of prices

remaining volatile in the coming days – shooting up and then sliding all too unexpectedly. At the present juncture, producers are not confident about their pricing strategy as the dark cloud of volatility hangs over the Indian ferro chrome market.

Source :Steel360.com

COMMITTEE MEETS TO REASSESS COMPLETE MINING BAN IN JHARKHAND DISTRICT

Saranda, Chaibasa in Jharkhand had large reserves of iron ore, wrote Jharkhand's chief secretary

A committee set up by the Ministry of Environment, Forest and Climate Change (MoEFCC) to reassess mining regulations contained in the 'Management Plan for Sustainable Mining (MPSM) in Saranda and Chaibasa in Singhbhum district, Jharkhand', met for the first time on January 16, 2020.

Down To Earth has access to the minutes of the meeting.

Saranda and Chaibasa — in Jharkhand's West Singhbhum district — had large iron ore reserves, DK Tiwari, the state's Chief Secretary, wrote in a letter to the MoEFCC on March 2019.

The letter contained a request to 'revisit' the Management Plan for Sustainable Mining (MPSM), which regulates mining in Chaibasa and the Saranda Sal forest area.

The Saranda forest — the biggest Sal forest in Asia — was once a hotbed of leftwing extremism. After evidence of illegal mining in the area was found by the Shah Commission in 2014, the need to draw up a plan for sustainable mining was felt.

This led to the formulation of the MPSM.

"The conservation zone is a repository to huge iron ore resources and so the stipulation in the MSPM report for complete ban on mining in conservation zone should be revisited," Tiwari wrote in a letter to CK Mishra, secretary at MoEFCC.

The union ministry accepted the state's request on July 11, 2019 and asked the Indian Council of Forestry Research and Education (ICFRE) to conduct a study to reassess or modify MPSM.

The committee to reassess the ban was formed soon after the chief secretary wrote to the ministry to open up the conservation zone for mining.

The committee's focus was on forest patches in the conservation zone that could be utilised for mining operations.

It also recommended a re-digitisation exercise of the forest

areas — especially in mineralised zones — and a verification of boundaries by the Jharkhand government.

"The mining, if suggested to be permitted in miscellaneous forest patches falling under MPSM designated conservation zone, shall be subject to stringent terms and conditions," the minutes said.

ICFRE recommended conducting the study over a period of three seasons. The Jharkhand Mines and Geology Department, however, sought an early completion of the study, according to the minutes.

The committee also proposed for the following to be included in the MPSM:

establishment of iron ore beneficiation plant

a legal proposal for declaration of MPSM-designated Conservation Zones as Conservation Areas

guidelines for use of District Mineral Fund (DMF) and Corporate Social Responsibility (CSR) funds for the benefits of affected people

institutional mechanism for monitoring and evaluation of mining and rehabilitation activities at central and state government level

carrying out comprehensive zonation of mineral bearing areas and preparation of master plan for mineralised zone for systematic mining as amendment /modification in MPSM

The committee also finalised its terms of reference and sent it to MoEFCC for final approval.

The terms of reference include an evaluation of iron ore and its economic value in Saranda forest, a study of International cases of mining in biodiversity-rich areas and a mapping of elephant corridors.

Mining as a source of employment for the local population and revenue to the state, were also added to the committee's terms.

POST AUCTION STRATEGIES IN MINERAL SECTOR

By: Sabyasachi Nayak Founder – MineMagma

Mining is the one of the primary industries and considered as a backbone of the economy. In fact, India is the 2nd largest producer of barites, 3rd largest producer in coal & lignite, 4th largest producer in iron ore, 5th largest producer in bauxite, 7th largest producer in manganese and 8th largest producer of aluminium in

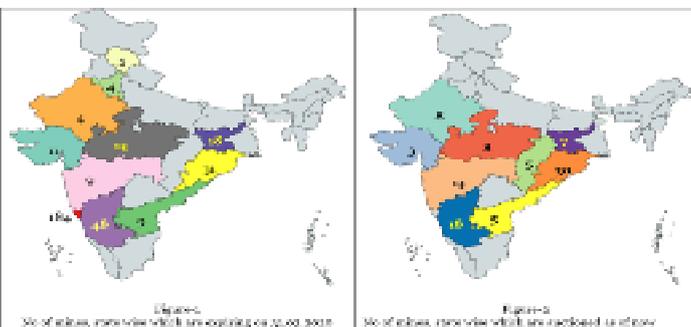
world. India solely accounts for 12% of the economically available thorium deposit in the world. In this country there has been a lot of debate and negative opinion about mining from

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the inception. Everyday there is a new law and regulation passed to monitor, administer and regulate the industry. So basically, there has been lot of focus towards the betterment of mining industry, but a very small cluster of mining professionals have the exposure to the updates on Indian mining policy framework and regulations.

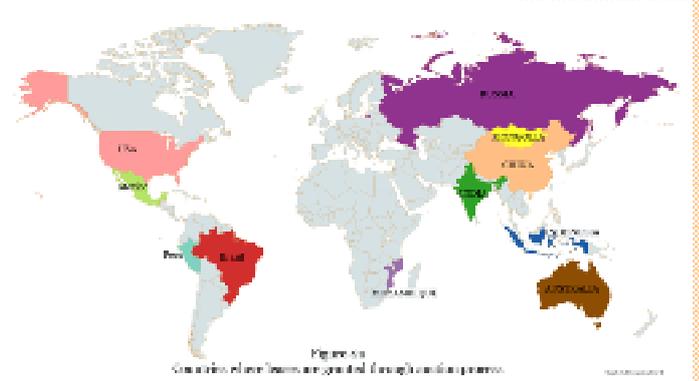
A new leaf of the calendar year, 2015 was just turned and a major legislative reform enthralled the mining sector. It was the Amendment brought in the Mines and Minerals (Development and Regulation) Act, 1957. It didn't stop there. A series of amendments, repealing, court orders, ministry guidelines, in fact few additional rules were introduced time to time by the Central Government. The miners were now overloaded with additional regulatory burden. Consequent to amendment in the MM(D&R) Act, total 333 non-captive mines are expiring on 31.03.2020 as per the provisions of Section 8A (6) of the Act (Figure-1). Out of these 333 mines, 285 are non-working mines and 48 are working mines. It has been estimated that of 60 Million Metric Ton (MMT) out of total iron ore production of 206 MMT are from the mines expiring in 31.03.2020 that will create a gap of approximately 29%. The other two important minerals viz. manganese and chromite will also be impacted by 9% and 45% respectively. The majority of lapsing mines are in the State of Odisha.

End of the current fiscal is on the sill and mining industry is now in the verge of a transition, time for auction. However, various independent mining lobbies throughout the country was first opposing the auction process of lease grant, anticipating that the auction route is not the best alternative to the first-come-first-served approach. It was also forecasted that auction may not deliver the results the government has in mind as nowhere in the world mineral resources are developed through an auction-based system. But as of now, 97 potential mineral blocks have successfully auctioned for 11 different minerals in 9 states that has created an additional sudden inflow to the state exchequer. In Karnataka 6 mines have become operationalised and approximately 900 crores of revenue have been generated in terms of premium, Royalty, DMF, NMET and others in span of 3 years. The details of state wise auctioned MLs & CLs are shown in figure 2.



It was also demanded to focus on having an efficient regulatory mechanism in place as even a system based on auction can fall a prey to corruption. It was even stated that while allocating auction route for allocation of mineral resources. Also, India is claimed to be the first country to allocate the mining licences

through a transparent bidding process or auction in the entire world. But Brazil, Mexico, Mongolia, Peru, USA, Australia, China, Indonesia, Mozambique and Russia have already implemented the auction process for lease grant by and large (Figure-2a).



What is driving high premium in recent Auction regime?

Statistics shows, the premium has reached exceptionally high when the Successful bidder is an end user with a substantial raw material requirement. Majority of them are either steel plants or cement plants. But the recent auction happened in the state of Odisha has proved this wrong. Few of the non-captive players have followed the high premium trend as well on the speculation that the captive players will develop some breakthrough strategy to counterbalance the high premium in the future that will make them beneficiary. It is observed that these successful bidders that are integrated with adequate raw material consumption units were running inefficiently from past few years because of erratic raw material supply to the plant feed. To run the plant at optimum efficiency and maintain the smooth supply chain management, the companies were also ready to pay the higher premium. But how the high premium will retain the non-captive players in the market is a big question.

The blocks auctioned with high premium and the end use plant site of their respective Successful bidders are closely located in maximum cases which ensures the regular supply from the respective blocks. The initial capex is always a decisive factor in opencast mining and maximum of the said high premium blocks are opened up and are ready to mine or the deposit are stratified and available at a shallow depth, that may reduce the investment on initial capital expenditure at the opening phase. In such cases, the bidders are entering into an alternate pricing mechanism that would offset initial Capex with high premium.

One of the primary reasons for high premium is that the sale value of mineral which was being paid to the merchant miner directly in past, would now be paid to the Government directly in the terms of premium. But this hold true only for the captive miners. Speculation is that production cost would be reduced considerably as all these auctioned mines are well developed. Thereby, the Successful Bidder will not incur loss while doing captive mining along with a raw

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material guarantee and pass on the burden of the high premium while pricing the finished product. The finished product always has a better market than the raw material and therefore the loss, i.e. virtual, incurred while paying the high premium to the Government can be adjusted from the profit spread of the finished product.

It can also be observed that Karnataka's mineral auction trend has played a substantial role in the high premium trend in mineral block auction. In Karnataka, hon'ble Supreme Court has issued order to buyers to bear the cost of Royalty and other applicable charges as applied on the material value. Accordingly, the cost of royalty and others are not included in the sale value, that they used to add prior to non-auction regime. In this scenario, the major buyers of Karnataka used to pay material value along with royalty and other applicable taxes from their account. This phenomenon, somewhat, made the buyers of Karnataka to open their pockets to bag mines as they had become comfortable to the payment ediffices.

As per the extant provision, a mine granted through auction may be transferred by executing a transfer deed with a prior approval of the Centre. This is also a reason, why few blocks are experiencing high auction premium, though it is not prolific.

When will it end?

All the early anticipation and calculated risk taken by the successful bidders will experience the reality once the mines will become operational. The high auction premium may continue for few more auctions but there will be an end to it for sure. On one side quite a large number of minerals are getting auctioned with high premium, and on the other side auctioned blocks are not getting clearances in time, hence, to bring them into operation is now a big task. If this scenario continues, then mineral auction with a high premium will come to an end soon.

The recent trend of mineral block auctions has raised some genuine questions such as, how to define a threshold for high premium in Auction scenario and what is driving high premium to recent mine auction; Will it continue? Whether the current mineral policy needs to be re-looked? How about the waste management in mines? How to administer the mineral sector hereafter? How to address the gap between demand and supply in coming future? Whether to retain present skilled personnel in mining? How the commodity market is going to be driven henceforth? and so on. Only few of these questions are addressed, even after four years of the promulgation of the Amended MM(D&R) Act, 2015 and subsequent amendments.

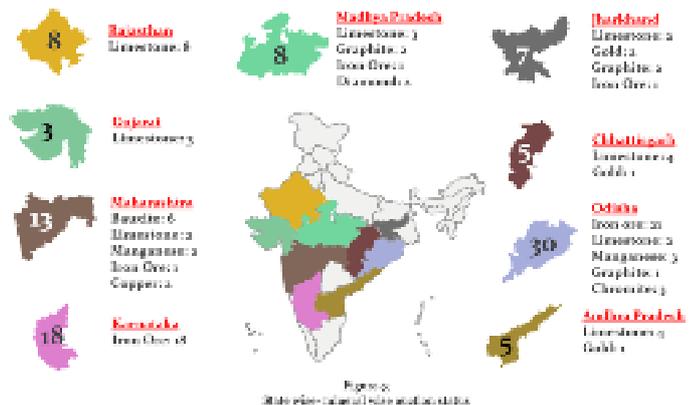
The auction policy is not new for such mineral sector, as India has already experienced the roller-coaster ride in case of coal block auctions. The mineral sector ought to have learnt a lot from it now. In recent past a draft holistic policy was in place for furtherance of the mineral administration. Now at this juncture, the strategy of the mining and mineral industry needs to be drafted with minimum possible ambiguities. Few of such scenarios are discussed herein.

1. High auction premium, its repercussions & reparations;

97 Nos. of mineral blocks have been auctioned in terms of Mining Leases and Composite Licenses for 11 Nos. of

minerals in 9 States as on March 2020 (Figure-3). It can be seen from the statistics and bid window that leases have been auctioned with higher premium that varies from 2.1% to 275% and state wise average auction premium are observed quite high.

Now at this juncture, as we are discussing about premium, its necessary to understand the definition of premium. Ideally, "premium", in extant regulatory provision, is nowhere defined in any of the mineral laws. But it can be casually referred as "an additional amount paid over and above the base price" or "a sum added to an ordinary price or charge", which is almost similar to the concept of Final Price Offer (referred as FPO hereafter) as per the rule 9(9)(i) read with rule 8(3) of the Mineral (Auction) Rule, 2015. Hence, it won't be wrong to say that premium is nothing but the FPO as per the provisions discussed above. So, as per the provisions, the bidder who offered the highest FPO shall be awarded as Successful Bidder and shall pay to the State Government, a percentage quoted as FPO on the value of mineral despatched (VMD) for that particular month. Price of raw material after auction and prevailing fiscal regime plays an important role in such scenario. As per the extant provisions, the premium is to be paid on the basis of IBM declared average sale price, wherein the IBM price is a weighted average of the price declared by the individual miners for indigenous sale. The computation of average sale price is nowhere linked to the international price index. It is tendency. And the premium quoted by the bidder has to be paid on the average sale price of IBM for any mine which always reflects a lesser price compared to the international price. So, payment of high premium is not a loss for the captive plants up to a certain limit.



It is seen that only end users were taking mines at a higher premium initially. But subsequently, merchant miners and others also started offering high premium and became Preferred Bidders. 6 out of 9 minerals auctioned so far have offered highest premium near to or more than 100% which is also found surprising, if compared with the mining cost (Figure-3a).



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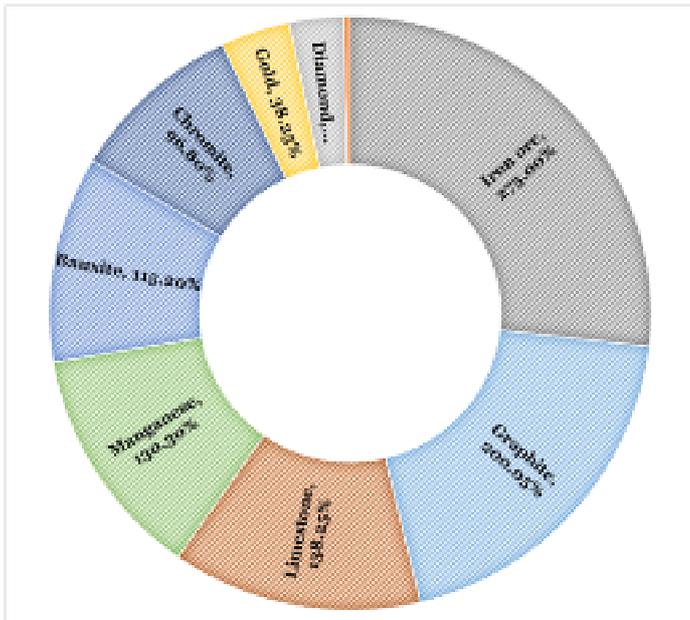


Figure 3a Mineral wise highest premium offered

Statistics say, 100% of mineral resources pertaining to Bauxite, Copper, Diamond, Gold, Graphite and Manganese ore has been taken by merchant miners, wherein, all the Limestone and Chromite resources auctioned as of now by various State Government, are taken by only end-use captive plants. But in case of iron ore, 75% of resources are allocated to captive miners and remaining 25% are with merchant miners (Figure-4) with an average premium of 92.42% and 127.89% respectively. The trend had now taken a flip.

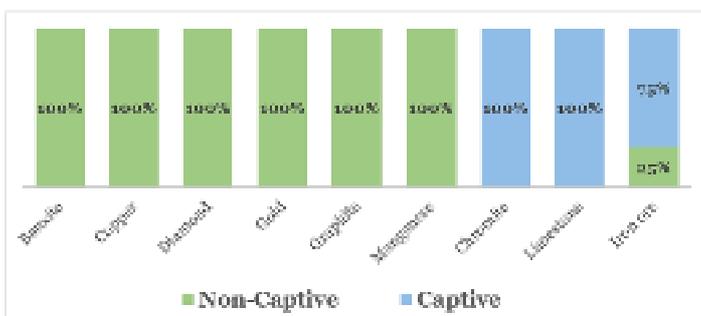


Figure 4 Mineral block allocation to captive and Non-captive miners

Captive miners are able to dominate in the auction process as resource distribution is based on net worth and hence merchant miners are gradually losing their existence in the mining industry. Because of uneven distribution of mineral wealth between merchant and captive miners, the price of ore in the market will diminish gradually and will also reduce the IBM average price. Though the new lessees are duty-bound to pay the prefixed premium at the higher percentage, once the base price goes down the corresponding value of fixed premium will also reduce commensurately.

Once the auctioned mines will come into operation, the average sale price may drastically fall as the demand from end users will come down. Since the end users are getting the required mineral blocks through auction which ensures procurement of raw

material supply for own consumption and as well as allows them to sale a portion of the raw material in the market creates an opportunity for them to drive down the price of the ore. There will neither be any sale price for captive consumers nor will the phrase called “arm’s length basis” be in vogue. There may be a very few merchant mines who are going to run for a substantial period wherein landing cost of material will include a minimum profit margin of say 20%. Under these circumstances, for a same grade of ore, on one side captive miners will declare the sale value/cost of the material at lower side, as there is no profit component included for self-consumption, on the other side merchant miners and miners under reserved category will declare their value of mineral at higher side including their profit margin. Accordingly, the sale price will be influenced by the sale value and so the average sale price. A weighted average of the sale price will be derived from the same and which is the base price on which premium would be paid. Merchant mining will have less scope in price determination henceforth.

Along with this, reparations are also anticipated in terms of tax brackets. To make it case specific, once the captive mining concept create dominance in market, the revenue in terms of GST will be faded down. In case of merchant mining scenario, the GST is applicable as 5% on the material value will not be applicable in case of captive consumption. Though premium will substantiate even more than the applicable GST for the State, the Central Government will lose its share in terms of CGST. The higher premium will affect directly to the value of saleable ore and also the value of finished product. Now it’s an alarming situation for common man and “Robbing Peter to pay Paul” is halfway through.

Hence, it is proposed that the Central Government should introduce a condition in the relevant mineral laws to auction the mineral blocks with a pre-defined consumption cap say 60% of the material may be consumed from own captive mines and remaining 40% shall be taken from the merchant mining to retain the market pricing forces alive. Few of the Mineral block-sauctions should be reserved for merchant miners and Government owned PSUs to create level playing field to retain the merchant miners alive in market and to avoid red-tapism.

Also, in case of auctions of captive mineral blocks, a bidder may be considered eligible for bidding only if its 50 years requirement of mineral for Specified End Use Plant(s) is equal to or 50% more than the resource of the mineral block plus resource already held by him. This requirement is proposed in line with coal auction and could be based on its operational Specified End Use Plant(s) and the expansion project(s) having already made an expenditure of 60% of total project cost. For calculation of bidders’ requirement for its Specified End Use Plant(s), a normative consumption norm should be prescribed by Government.



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2. Policy analysis-a negative outlook:

Mining industry deals either directly or indirectly with various policies made by the Federal Government such as mineral policy, exploration policy, EXIM policy, Steel Policy, Scrap policy and many more. Any amendments in any of these policies have are percussion on other laws. Recently in 2019, National Mineral policy was amended by the Government of India after intervention of the Hon'ble Supreme Court in Writ Petition (civil) No. 114 of 2014. The National Mineral Policy, 2019 was framed with a vision of betterment of mining industry obviously. But, if as per the legislative hierarchy, the Constitution of India provides power to the Central Govt to draft policies. The policy gives birth to Act, then rules and regulation followed by circulars. But in case of mining industry reverse engineering has happened. The policy came later wherein the Act was amended prior to the Policy document. Hence the intention of the legislature in terms of the Act was reflected in the policy as it is. The policy also deals with few other interesting subjects but some of them are hardly possible to implement.

Reduction of import dependency is one of the key features of the National Mineral Policy, 2019. To reduce import dependency, the Federal Government should allow the exploration agencies to explore the expected mineral bearing areas that initiates from reconnaissance operation to Prospecting licence to Mining lease. Though the concept of Non-Exclusive Reconnaissance Permit is there in the extant provision, it is not made lucrative to entertain any exploration agencies to participate in the proposed methodology. As per the government document, only 1.5% of the obvious Geological potential areas are under mining operation and lease grant stage and we have not even explored 10% of it.

The policy also talks about environmentally sustainable mining on one side and declare "environmentally fragile zones" and "no go areas" on the other side. Today mining technology has updated to the tune of its utmost technicalities but few of the scientifically proven potential reserves remain unlocked. In the West Singhbhum district covering four forest division viz. Saranda (Major iron area), Kolhan, Porhat & Chaibasa endowed about 4.6 Billion tons iron ore resources (16% of country) and occurrence restricted. Gandhamardhan belt of Odisha, Western Ghats of Karnataka are remained unexplored. Areas such as Dantewada, Bijapur and Narayanpur Dist. of Chattishgarh are severely affected by extremist activities. These areas can be considered under Economic Mining Zones (EMZ) under responsible mining methods and prior approvals may be taken by the respective state governments prior to the auction for merchant mining and indigenous consumption.

The policy talks about an efficient regulatory mechanism for e-governance to prevent illegal mining and value packages, use of drone and satellite imageries, which are welcome moves. But simultaneously, the state governments should upgrade themselves to adopt these technologies by themselves, instead of depending on any private agencies.

It also talks about co-ordination of various departments to fulfill the policy in-toto but till now there are huge gaps to make it a mining friendly visionary document. As an example, the MoEF issued notifications on 19.08.2010, 09.05.2018 and 24.12.2018 with directions to the exploration agencies to take forest clearances for exploration for which Successful Bidders will anyway obtain the same after the auction concludes.

A proposal on long term of judicious mineral security is being discussed and on the other hand value added minerals are exported for earning foreign reserves which is contradicting.

To address these issues and to make India a lucrative business destination, the policies shall be re-looked by the Niti Ayog in such a way that no policy is centric to any specific product or service. No contradiction shall be there between the policies when its discussed about an end to end solution. When the National Steel Policy, 2017, talks about enhancing steel production, the National Mineral Policy, 2019 should also have corresponding policies to enhance supply minerals as they are a complimentary goods to steel industry. Simultaneously, the Federal Government should see that the country is ready to feed atleast 30% of the global steel demand. India is rich in various mineral deposit so exploration obligation should be nullified. Government should look forward in amending the National Mineral Policy, 2019 in such a way that not only steel but all the other finished products such as Cement, Ferro Chrome, Metal Alloys etc can also be manufactured in India with a wide range of mineral availability.

3. Zero-waste Management- beginning of an end:

Recycling of ore, waste management, scrap handling etc have evolved with scientific parameters as per the current market dynamics. But sustainability with respect to its wide range of usage still needs efficient development. Once the leases are granted through auction and captive mining concept is will dominate the market, mining will become an ancillary service and end use industry will remain mainstream. In such scenario, the revenue generated to the government in terms of premium, royalty and others will be lower due to less usage of ore at wider grade range as beneficiation of the subgrade or low-grade ore will trigger additional cost burden. If merchant miners are in place of captive miner, the value addition would have helped him to make the subgrade ore marketable and earn good profit which in turn would result in additional royalty, DMF, NMET to the state exchequer. In real sense 'mineral conservation' and 'zero waste management' is touched upon, if merchant miners' interest is also catered to in the mineral industry and then sub-grade, BHQ, BHI etc could be made marketable. Strategy shall be made such a way that the lumpy ore, fine ore, sub-grade ore can be beneficiated and blended as per requirement to the tune of market demand. The raw material should be separated grade wise and then sold so that there will be less waste and optimum utilization of resources can be achieved. Hence, miners should be encouraged

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to install crusher, screener, blending arrangement and beneficiation techniques inside the mine for both wet and dry method as per requirement. The input and output grade of material should be well maintained and digitally reported to respective mineral administrations departments. Royalty, DMF, NMET, CESS, GST, premium and other levies shall be linked to the plant feed and not the value-added form of minerals. The merchant miners shall be encouraged to utilise all possible grades of ore for better marketability.

Government reports and records says, out of 33.28 billion tonne iron ore resources hematite (22.49 billion tonne and Magnetite: 10.79 billion tonne), reserve is only 5.47 billion tonnes (16.4%) consisting of 5.42 billion tonne hematite and 0.05 billion tonne magnetite. In case of magnetite, majority of ore have not been exploited due to its occurrence in eco-fragile / sensitive area in Southern India. 99.5% of the magnetite resources yet to be converted into reserves. Hematite ore will continue to be a primary source to iron & steel industry. Out of 5.42 billion tonne hematite, only 16% high grade (+65% Fe)- directly usable as per world standards, 28% of medium grade (62 to 65% Fe), rest 56% of below 62% Fe. Indian iron ore is mostly friable in nature and fines contribute over 70% in the total iron ore production.

151 million tonne iron ore lying at different mines (lumps: 22.32 million tonnes, fines: 129 million tonnes, Odisha alone: 85 million tonne iron ore). Out of that, 87.64 mt (58%) has grade below 58% Fe which cannot be directly fed into blast furnace and necessitates beneficiation. The said stock (58% Fe) increased by 31% from 66.62 million tonne in a span of four years from FY15 to 87.66 in FY18 (4 yrs), creating serious environmental issues and land degradation besides affecting mine development adversely. Fines stock, <58% Fe has increased by 36% from 57 mt to 78 mt. In present production scenario (FY14 to FY18), 20% of production is below 60% Fe which requires beneficiation. Post 31.03.2020, valuation & sale of old stock of low grade by prior allottee within 6 months will be a big challenge. Karnataka is now experiencing the same.

Total installed capacity of beneficiation plants is 120 MTPA out of which about 50% of beneficiation plants are linked to plants who do not have captive mines. These plants have low yield and high cost of beneficiation as most of domestic hematite ore is not amenable to beneficiation through conventional methods. Special technologies like roasting process are very costly. Small price gaps in low grades of below 55% to 58-60% Fe w.r.t. 60-62% Fe, operation of beneficiation plants is not viable. Avg. cost of beneficiation for 3% grade appreciation through conventional methods is around Rs.450/tonne and for special method of roasting the cost of beneficiation is around Rs.1900/tonne. Royalty rate is charged on the same rate of 15% for low grade as well as high grade material. Prior to notification dated 10.12.2009 on charging royalty on ad valorem basis, there was incentive for beneficiation plants with lower royalty rates for low grades.

Expert says, Royalty rates needs to be rationalized with respect

to grade slabs such as 15% be applicable on ad-valorem basis for ore having more than 58% Fe grade and similarly 10% for 55 to 58% Fe slab, 7% for 45 to 55%, 5% for 35 to 45% and 3% for 0 to 35 % Fe grade to promote beneficiation industry which is need of the hour. Also, in few States 2nd time royalty is asked to be paid on upgraded value of ore and same is irrational, hence be stopped. The operational efficiency of beneficiation plants needs to be upgraded with clear understanding of mineralogy of the ore. The Union Government may come forward and hand holding in terms of sanction of projects with provision of incentive for procurement of low-grade fines and relaxation in taxes as envisaged in National Mineral Policy 2019. Also, land for disposal of tailings may be provided at subsidized rates.

Inadequate domestic production led to import of roughly four times domestic mineral production in terms of value of mineral. Indian end use technology with respect to usage of various mineral is yet to be upgraded. Value added mineral were making the commodity market business friendly and the Government revenue friendly.

The mineral grade to the input feeder should be regulated as per rule 18(3) of MCDR, 2017 with respect to the interest of the better mineral administration. The policy should also focus on utilisation of tailing and concentrates in an efficient manner. In mining and mineral industry various research principles are successfully developed, the Ph.D. and M.Phil. papers should now be used practically. The alternate usage of mineral should be thought of through further R&D.

4. Hybrid mining or Responsible mining- general kinematics:

Nothing can be created without the minerals. Once mineral/ore is extracted & put it into other form, its economic value becomes zero. Mineral/ore can't be created and once lost is lost forever. Mining is nothing but the economical extraction of mineral. To simplify further, mining involves three basic principles in its definition viz. economy, extraction and ore that involved financial implications, mining technologies and geological interpretations. Mining was always been concentrated on these three parameters since decade. The socio-economic parameters such as environmental restoration, social responsibilities, employment generation etc are being highlighted in recent years.

If the mineral policy and extant provisions are compared hand to hand, many opportunities are in place for big miners with a pre-established setup. Now the capital-intensive players are going set new trend in mining. The renewal mechanism, which was earlier in provision, was allowing mine owners under declare their mineral resources as mining was a kind of family business and minimum of three generation used to run it. It was leading the miners to invest in phases and extract the profit to the maximum in phases. But after the amendment, when the big

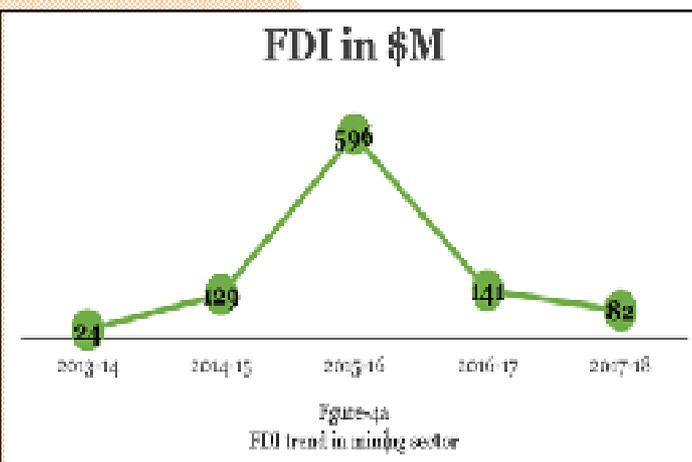
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players are entering into the mining business for a span of 50 years at a single stretch, wherein, a substantial deposit is explored by the government itself, then a major breakthrough can be expected. Application of digital mining, utilisation of computer aided techniques, IOT based concepts, artificial intelligence, deployment of heavy earth moving machineries, transportation by conveyor belts, blasting through air-decking etc can be expected to be the part of the futuristic mining practices. It is a known theory that the labour and fuel cost is always at higher side of the operational expenditure, hence, mining companies, who have taken mines with higher premium, will now be concentrating upon cost cutting methodologies. The very approach to that will minimise human intervention and emphasise more of upgraded machine approach. This may be called as hybrid mining, which is a welcome step. But on the other hand, it is going to reduce the employment rate substantially in coming decade and socio-economic parameters will be in the back seat. Mining should not be encapsulated within the periphery of economic extraction of mineral, but it should come with responsibilities of generating employment for the locals of the vicinity, mitigation of environmental degradation, restoration and development of local flora and fauna etc.

Government should thereby need to promote orientation, training and retaining of skilled manpower through the mining industry.

5. Mineral Administration and Legislative ambiguities

From past few years it has been observed that government is keen about auctioning the mineral blocks but a holistic approach for better mineral administration, the subsequent development and connected legislative approach are yet to be concentrated upon. Government of India has taken a bold step to open the mining industry to Foreign Direct Investment, but the basic eligibility to acquire a lease in India is reserved for only Indians. As per section 5 of the MM(D&R) Act, 1957, mineral blocks can be auctioned to the person of Indian national or the member(s) of the company shall be Indians. The said section of the Act contradicts the provisions of the Companies Act, 2013. In such case section 5 of the Act should be amended to adopt special provision(s) for FDI. As per the annual report of 2017-18 of RBI, FDI trend in mining sector can be drawn as figure-4a.



Provisions are given in section 5 of the Coal Mine (Special Provision) Act, 2015 that no company other than a Government company or corporation shall hold more than 26% of the paid up share capital in the Government company or corporation or in a joint venture between Government company or corporation either directly or subsidiary or associate companies. May be this is the reason, FDI inflow in mining declined from 2.1% in 2014-15 to 0.5% in 2018-19. The Government should increase 26% stake to 49% to make the industry more lucrative, if FDI is to be promoted in mining sector.

Section 10A(2)(c) of MM(D&R) Act was introduced to save such mining leases for which letter of intent has been issued or prior approval of Government of India was accorded before promulgation of the MM(D&R) Amendment Act, 2015 but the same has not implemented in true spirit of the clause. Amendment in the MM(D&R) Act, 1957 and Rules framed there under are with an objective to save the licenses for which previous approval or grant orders were given before 12.01.2015. The Rules should not be detrimental in obtaining the clearances for early start of mining. Penalizing holder of a license for any delay in compliance with conditions for reasons beyond his control does not harbour a good investment regime. Therefore, the execution of ML saved under 10A (2) (c) should be considered on basis of merit. The Ministry of Mines, Government of India may come forward with an ordinance to take up cases where reason for delay was beyond the control of the application and allow grant of mining leases on those cases.

Sec 12A of the Act read with rule 23 of the M(OAHCEM)CR, 2016 provides an option for transfer of mineral concession with respect to auctioned leases may be extended to the non-auctioned merchant leases with a fixed premium as decided by the State Government after approval of the Central Government. The explanation provided in section 12A (6) for the expression “use for captive purpose” shall be relaxed as per the amendment made in rule 6(4) (ii) of the Mineral (Auction) Rules, 2015 wherein 25 % of the mineral excavated in the previous financial year is allowed to be sold in the open market.

Sec 17A (1A) & (2B) of the MM(D&R) Act, 1957 should be encouraged by the State Government with respect to reservation of potential mineral blocks for Government companies to have a control over the mineral pricing mechanism. It may be suggested that minimum 40% of the proved mineral reserves should be with the respective State Governments.

Section 23C of the MM(D&R) Act, 1957 gives power to State Government to make rules for preventing illegal mining, transportation and storage of minerals and respective state governments have framed the same. The guidelines/rules framed by State Governments shall be aligned with the provisions of the policy or Act of the Federal Government. But in some states, due to demand of the market, orders of the judiciary or reasons best known to the policy makers, the concept of

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illegal mining, transportation and storage are creating conflicts with the principle of the parent Act. Hence, it is suggested that the power to make such rule should be kept with the Federal Government.

In the rule 2(c) of the M(OAHCEM)CR, 2016, definition of "illegal mining" has a very narrow interpretations and hence any violation of rules made under section 23C committed by the lessee may not come under the clause of illegal mining. The definition shall be amended as per the Hon'ble Supreme Court order dated 02.08.2017 in WP (C) No. 114/2014.

Section 11 of the Act read with rule 9 of M(OAHCEM)CR, 2016 and rule 16 of the Mineral (Auction) Rule, 2015, provisions are in place to auction Composite Licence i.e. PL-cum-ML for notified minerals and other than notified minerals after the Central Government approval. Also, section 10C of the Act mentions that the Non-exclusive Reconnaissance Permit shall be granted without any entitlement of claim of grant of Composite Licence. This provision needs revision in two aspects. One of the aspects is the NERP holders shall have either right of first refusal if the grant of mineral block is to be auctioned. The other aspect is the concession "PL-cum-ML" shall be re-structured as "RP-cum-PL" and ML separately. It will help exploration agencies to explore the area more scientifically and make the Geological report as per the rule 7 of the Mineral (Evidence of Mineral Content) Rule, 2015 and based on which ML can be granted by the State Government. The agencies shall be advised to make reports based on CRIRSCO and JORC standards. The cost incurred by the exploration agency will be reimbursed once the amount is received from the Preferred Bidder for the said block. The exploration agency would be responsible to obtain all the required clearance from concerned departments.

Rule 15(1) of the M(OAHCEM)CR, 2016, mentions about the Qualified Person to prepare the Mining Plan. The same is not clear whether AMIE holders are coming under the qualified category as per the M(OAHCEM)CR, 2016 or not. This needs to be incorporated in the category.

Rule 19 of the M(OAHCEM)CR, 2016, should be amended with a provision for "first right of refusal" for merchant mines. Similarly, rule 21 on surrender clause needs to be relaxed in terms of surrender of entire lease area due to non-availability of clearances, non-recognition of legal heir, exhaustion of mineral resources etc. Rule 37 of the M(OAHCEM)CR, 2016, read with Section 6(1) of the Act read with respect to associated minerals, mentions about the list of associated minerals wherein iron ore and limestone are not mentioned as a family of associated minerals. Similarly, there are few more set of associated minerals which might have left during the draft. Hence, it is suggested not to restrict the group of associated minerals but to keep it open.

Various provisions of mineral valuations mentioned in rule 38 to rule 47 of the M(OAHCEM)CR, 2016 needs to be revisited keeping the recent auction trend into consideration, such as price of ROM, lumps and fines ratio, ASP declared by IBM etc.

These three dynamic factors are the basis that decide the value of estimated resource and eligibility criteria of a mine, but there is no defined formula in place to calculate the same. It is proposed that the Ministry of mine should fix the ore price considering the international prices of the commodity, plat index and dollar parity instead of taking weighted average of the sale price declared by the mine lessee holders to the IBM.

It is also observed that the same mineral experiences differential pricing in the different places at a same time because of market dynamics. But the royalty is a fixed amount irrespective of the sale price. The royalty should be ad-valorem basis. The Schedule II of the Act should be revised accordingly.

As the auction process is fetching a good revenue to the State exchequer, which is over and above the royalty, the provision of royalty revision should be removed which is currently mentioned under Section 9(3) of the Act. This method may be applied for the auctioned leases and not others.

Furthermore, MM(D&R) Act does not differentiate between crushed fine, natural fines or generated fines. But some States have distinguished crushed fines & natural fines and that too arbitrarily without any scientific study. As the fine size is not defined in any of the extant provisions in mineral laws, some States charge royalty on the fines at rates provided for lumps in violation of Section 9 of MM(D&R) Act & Rule 39 of M(OAHCEM)CR 2016. These are leading to unnecessary litigations and costing the industry heavily that leading it to be uncompetitive in global market. It is imperative to have uniformity in the implementation of statute in different States and ensure charging of royalty in the manner & at the rates as provided in Section 9 of MM(D&R) Act, 1957 and Rule 39 of M(OAHCEM)CR, 2016. This will avoid unnecessary litigations in different Courts.

Rule 56 of the M(OAHCEM)CR, 2016 on amalgamation of leases with different premium is silent, the same needs to be brought into the law.

It is also seen that during the finalisation of mineral block which are for auction are in terms of CL or ML, no scientific study is done so that the mining can be carried out as per the section 2(1) (j) of the Mines Act, 1952, hence it is proposed that rule 57 of the M(OAHCEM)CR, 2016 may be amended with a provision that the mine area shall be finalised considering places for dumping, stacking of ore and all the other as defined in the provision of the Mine Act, 1952.

Rule 5 (a) of MEMC Rules, 2015 necessitating exploration up to at least G-2 level for auction of block for ML is a major detriment in auction of more blocks in a given time frame. Resource estimation by geophysical methods is not considered for auction of mineral blocks. Relaxation of exploration norms under Rule 8 of MEMC Rules, 2015 may be granted. After new ML, obligation to explore up to G1 level within 5 years as per Rule 12 of MCDR 2017 is there in the provision.

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Section 10A(2)(b) protects rights of applications having valid RP or PL for obtaining PL or ML, as the case may be. Till date, said applications are pending at different State and Union Government levels and no application has been disposed of granting PL or ML as the case may be. These applications may be cleared in a given time frame of maximum 90 days where the licensee has completed the reconnaissance or exploration work, submitted its application for PL or ML, as the case may be and no short coming has been pointed out within 90 days of submission of the application.

The Mineral (Evidence of Mineral Contents) Rules, 2015 needs a relook on fundamental grounds as the rules are inclined towards only geological potential and feasibility of mineral excavation, but there is no mention of economics of mining and its technicalities.

After amendment in MM(D&R) Act in 2015 and Coal Mines Special Provisions Act 2015, allocation of coal and non-coal mineral blocks are only through auction. However, the methodologies adopted for auction of non-coal and coal blocks reserved for captive use are different. Section 11A of the MM (D&R) Act 1957 was inserted with the enactment of Coal Mines Special Provisions Act 2015. Thus, the only Act governing mineral concessions including coal is MM(D&R) Act, 1957 but there is huge disparity in the eligibility criteria for auction of non-coal blocks and coal blocks. Under The Coal Mines Special Provisions Act 2015 sub-rule 5(e) of Rule 5 of the Coal blocks Allocation Rules, 2017, the capacity of the specified end use project shall be in proportion to the capacity of the schedule II coal mines for which the company is bidding. As per Model tender document for coal auctions for Power as well as Iron & steel plants, a bidder shall be considered eligible for bidding for the Coal Mine only if its requirement of coal for specified end use (SEUP) matches the reserves of the Coal Mine. Extractable reserves of the coal mine should not exceed 150% of the annual coal requirement of the EUP, taken over a period of 30 years, less the requirement of coal of such SEUP. There is no such provision in Mineral Auction Rules 2015. Mineral blocks are getting auctioned without any capacity linkage with SEUP causing inequitable distribution of mineral wealth.

Apart from the above, no provision talks about the disbursal of movable and immovable properties of the erstwhile lease holders once the mine is auctioned to a Successful bidder. The Government has to bring provision where in this problem is addressed. The Government shall provide options to the Successful bidder to either purchase the same or enter into an agreement with the erstwhile lessee to utilise the property till its requirement. If in any case, purchase of property arises, the payment shall be made by the successful bidder to the erstwhile lessee through a Government agency, specially made for this purpose.

The existing provision talks about eligibility for Specified End Use wherein the Government has to notify the type of Specified End Use time to time in official gazette. Ideally, the

mineral is considered to be end-used, once the chemical property of the base product is changed from its original/natural form viz. the clinker, Sponge iron, Pig iron, fly ash etc. Hence, neither the Specified End Use concept is required to be kept in picture nor any gazette notification is required to be published by the Government of India time to time, if the definition of end use is defined in the Principal Act itself.

Government of India has recently amended the MM(D&R) Act, 1957 in terms of various insertion as section 4B and Section 8B to the principal Act to ensure the efficiency of production and seamless transfer of statutory clearances. Subsequently, the M(OAHCEM) CR, 2016 has also amended to the tune of the amended Act. The provision of production efficiency and the seamless transfer of the clearances are limited to the leases expiring as per section 8A(5) and (6) but the impression is that the leases expiring because of termination, judicial orders etc are not covered under that. Hence Government shall extend the application of the amended provisions to such leases which are expired or about to expire under various illegalities under the Acts and rules.

Section 8(B) of the principal Act says about automatic extension of the statutory clearances up to 2 years for the auctioned leases and within the said 2 years successful bidders shall take the clearances afresh. These arrangements are done so that there shall not be any discontinuity in production because of non-operationalisation of the leases because of unavailability of the clearances, which is a welcome move. But, post auction, if the erstwhile lessee becomes the successful bidder, the clearances shall be continued till the expiry of the leases subject to additional statutory payments and shall not be limited to only 2 years.

While considering hi-tech applications in new technologies critical to India's national security, metals like tin, cobalt, lithium, germanium, gallium, indium, niobium, beryllium, tantalum tungsten, bismuth, selenium may be termed as strategic, as India is dependent on imports to a large extent and is vulnerable to supply / price fluctuations. As many of these minerals / metals can only be produced as a by-product of base metals extraction, the potential for enhancing production / supply on a stand-alone basis is limited. Accordingly, a proper strategy for the development of these metals or ensuring supplies is required.

The mining activity involves many ancillary services as a part of mining operation such as land acquisition, power grid setup, installation of beneficiation unit, waste management etc. If any of such activities has been initiated by the leases which are auctioned/to be auctioned, then the Government shall come up with prior provision wherein the existing proceedings of the erstwhile lessee shall be carry forward further by the successful bidder subject to any payment, if required instead of initiating the whole process from the beginning.

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6. Refining of Ore to Defining the Ore:

The mining cycle consists of four stages of operation such as prospecting, exploration, development and exploitation. But from past few years marketability of ore has played a major role that is considered to be the fifth and important stage of the mining. Beneficiation, blending, value addition in terms of various methods have actually played a significant role to make the industry profit oriented. Miners are trying all possible scientific and metallurgical methods to make the subgrade and siliceous ore viable for end use. It was fetching a good market is past few years and was helping to raise a good revenue to the government. The profit margin was good, so revenue earning was substantial, but because of high premium, under invoicing may be anticipated. In fact, the definition of ore, cut-off grade and threshold value may change its breakeven. Threshold value and cut-off grade are always linked to the market dynamics.

Captive miner will do pick and choose mining for their requirement of plant usage. The remaining low grade or unused ore may be left over as a waste material and scenario of prior 2008, when only high-grade lumps were saleable, will reiterate. Hence there are chances that the definition of ore may get change with respect to the usage of end-use plant.

7. Demand and Supply – a deep dive:

In mining sector, the microeconomics functions of supply and demand are an economic model of price determination in a market. It postulates that, holding a commodity, in a competitive market, the unit price for the same, will vary until it settles at a point where the quantity demanded, at the current price, will equal the quantity supplied, at the current price, resulting in an economic equilibrium for price and quantity transacted. In the long run, the companies have a chance to adjust their production capital, enabling them to better adjust the quantity they supply at any given price. Furthermore, in the long run competitors can enter or exit the industry in response to market conditions.

If we discuss about the core mining sector, the demand and supply will experience a different market condition in near future. As of now mining was a standalone/separate industry and end-use was another in case of steel making cycle, ferro manganese unit or say ferro chrome industry, wherein aluminium, cement/clinker industry etc were captive from the very beginning. In non-captive sector, the concept of “arm’s length basis” was by and large in vogue, wherein minerals like limestone, bauxite was never been traded in open market ever before. The mineral block auction process based on end-use clause will allow more captive units to grow in mining industry and hence profit oriented market will be driven towards economic market. The correct or nearly exact market value of mineral can never be to arrive transparently.

Marketability of BHQ & BHJ may be a new demand in coming years to avoid usage of additional quartz in steel making process. Penalty on impurities are somehow not considered up to a greater extent in indigenous market scenario as compared to

international trade. But the captive miners may bring this concept in place to regulate the mineral value and its market trend.

The mining industry will become either an ancillary department of a captive industry or can become a powerful stand-alone industry in the next phase. Any one of its existence will have significant impact on the Demand and Supply relationship. There was a time when demand used to decide the market price of mineral but once the mineral blocks are allocated to end use industry to its satisfaction, the demand of ore at wide range will diminish to an extent and restricted to a range that is not available to the end use players. The merchant miners can regulate a limited market cap and die down gradually.

If this demand and supply relationship is affected, the market will be on stake in various aspects. State wise, Mineral wise, the market behavior has seen to be shifted from monopolized structure to monopsonised structure. Now as the provisions are in place to sell 25% of the production of previous year for captive users as well, and captive users are sitting on huge mineral resources, a substantial volume of ore will be sold in the market at lower price and this will bring the mineral value down. This is a unique scenario that is going to be experienced in coming days which is yet to be defined in terms of market type.

Keeping these aspects and anticipated demand and supply scenario into consideration, the Government should take the pricing mechanism into its own hand, instead of leaving it at the discretion of the mining industry. The Platt Index, international market price, raw material demand etc should be considered to derive the base price of the raw material. To restrict the unhealthy competition in the market, Government may think to impose a cap on profit on the end-use product, to reduce price burden on customers.

7. Clearances- an acknowledged surmount:

Amendment in the Act as insertion of section 4B and 8B talks about continuity of mineral production and seamless transfer of clearances from existing project proponent to Successful Bidder to assure that the raw material availability. The respective rules need to be amended or guidelines are to be issued by the Federal Government with a detailed clarification, if needed.

When we talk about clearance, we should also talk about the density of grey areas referred therein. It is mostly observed in various provisions of the Acts and rules framed thereunder with respect to Ministry of Environment and Forest & Climate Change. Some of the major questions need a better clarity such as during the renewal of Forest Clearances (FC), whether the NPV is applicable with respect to additional area or otherwise, What will be the validity of EC for the mines allotted through auction, what shall be the stamp duty in a Federal Structure and many more.

It is seen that the Stamp Duty collection is kept under state purview and hence different states are charging stamp duty differently for the similar grade and size of the deposit. This is the

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major investment for the Successful Bidders that is sometimes more than the Upfront Payment and a major part of the Capex.

In the National Mineral Policy, 2019, it is mentioned that the mineral blocks with pre-embedded clearances shall be put up for auction. The Successful Bidder can fulfill the conditions mentioned in the clearances once the lease is granted to them with respect to financial and implementable liabilities such as payment towards CA land, creation of dedicated Bio-diversity zone etc. CA land & CA charges were already collected from the earlier lessee. Demanding the same again for the same leases from Successful Bidder, as it was not mutated earlier, is not appropriate.

As per the MoEF & CC guidelines F. No. 11-423/2011-FC dated 22.04.2019, the user agency is responsible for declaring the non-forest [C&D] land mutated and transferred in favour of state forest department for the purpose of Compensatory Afforestation, in lieu of forest land to be diverted, as Protected Forest/Reserve Forest prior to stage II approval. The notification of these lands by government will have many procedures which abnormally delays the project. And no role of Project Proposer is involved in this stage.

Existing approach roads are being utilized by different User Agency for transportation by taking NOC from the FC holder. If the original FC holder's Mining lease expires, what is fate of the User Agencies with regard to Transportation. Sometimes it is seen that the Forest Department demands to take FC for the roads already diverted for not forest purpose by the way of public road. The department shall give clear guidelines to maintain these roads for the multi-purpose usage without any procedural formalities to avoid delay.

The land bank shall be created, maintained and updated time to time by the Government so that the hurdle faced by the User Agencies can be reduced with respect to identification of alternate land. The FRA process needs to be initiated by the respective District Collectors and approval/rejection shall be accorded prior to the auction of mineral block that belongs to forest area as in this process, presence of User Agency is not required. The process of tree enumeration, DGPS survey of the area, existing land use, demographic study, if necessary, shall be done prior to the auction of the mineral block.

An integrated single window approach for all clearances like EC & FC may be evolved and the clearances should be accorded in a maximum of 3-4 months for the date of submission of application. The statutory agencies may be restrained from asking clarifications & pointing out short comings repeatedly. All clarifications & rectifications must be electronically clarified may be in one go. Validity of EC may be co-terminus with ML period instead of the mine life as per available reserve data at a given point of time. Leases with small reserves will continue to hold mining area for 50 years.

Jharkhand is a typical example. Certain studies conducted by MoEF & CC, GOI before 11.01.2015 kept all ECs & FCs already granted and fresh proposals as well on hold. This

restricted issue of formal grant order/ lease execution by 11.01.2017 resulting in avoidable litigations.

8. Skilled Personnel- retainment or retrenchment:

Mining in India is carried out in 30 states, out of these predominant mining sectors are in 12 states. The approximated average daily employment as per provisional data up to 2014 is depicted in figure-4b.

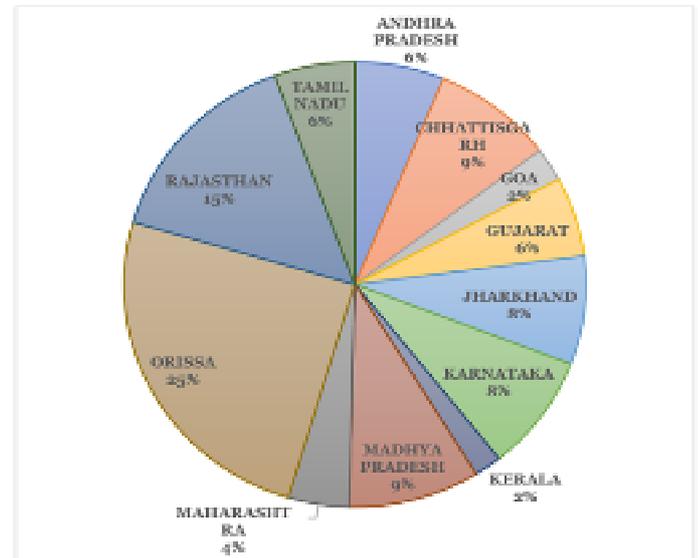
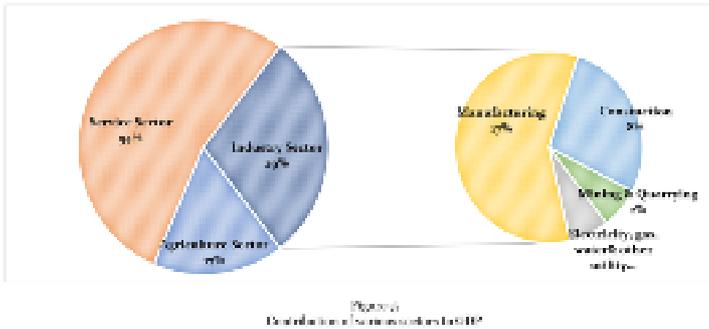


Figure-4b
Approximated average daily employment as per up to 2014 (p)

As per the report of Deloitte on Human resource and Skill requirement study for Indian mining sector, 2016, approximately 23.2 lakhs of direct employment are given by the mining sector and allied industries. Expired mineral blocks, once allotted through auction, will be allocated to its Successful Bidder. The manpower requirement may remain same for the same block to continue the operation at the similar efficiency. Mines are now getting switched between the companies after auction process. Accordingly, skilled workers of the erstwhile companies shall be retained by the new allottees of the mineral blocks. Facilities for basic and specialised training shall be constantly reviewed and upgraded from time to time, to ensure that adequately trained manpower at all levels are available for the development of mines and minerals as per the new company norm, wherever necessary instead of retrenchment of the old mine workers and replacing them with new ones.

9. Market speculations- a walk-forward analysis:

Today mining industry is contributing about 2% to the GDP. If analysed in detail, the total contribution of Ancillary industry sector to the GDP may go up to 29%. The industry sector consists of manufacturing sector, construction sector, mining and quarrying sector and Electricity and utility sector with a contribution of 17%, 8%, 2% and 2% respectively.



The Construction sector needs basic raw material that is produced by the mining activities and similarly, the industries pertinent to gas, oil, water and other utilities are connected to mining activities. But the mining share to the GDP is limited to only 2% because of the direct foreign reserve earned in terms of raw material export. If the export is banned all over the country the contribution may be considered as nil.

At this entire backdrop, it can be observed that the revenue earning of the Government in terms of royalty was negligible if compared to the premium offered by the Preferred Bidders for various minerals. Here onwards, Government is going to get hefty revenue post auction. It can be summarised as under;

Mineral	Total resources	Allocation to Captive	Allocation to Non-Captive	Earlier levy in terms of only Royalty	Avg. premium to be paid in addition to Royalty
Bauxite	14.92	0	14.92	0.6% or 25%	67.25%
Copper	9.36	0	9.36	4.62%	2.85%
Diamond	34.80	0	34.80	11.5%	26.18%
Gold	15.21	0	15.21	3.3% or 4%	23.98%
Graphite	14.67	0	14.67	225/Ton	117.07%
Manganese	37.41	0	37.41	5%	86.54%
Chromite	104.96	104.96	0	15%	93.02%
Limestone	2646.44	2646.44	0	90/Ton	38.74%
Iron ore	2564.70	1932.80	631.90	15%	103.40%

Government is going to get revenue based on the type and grade of material transported out of the mining lease. The government allows the mineral to be transported after processing into economic form such as for lumps, fines, c-ore etc on which the charges can be levied. To avoid the payment of extra levies on the economic form of processed mineral, the captive consumers would prefer to pay the levies on the value of ROM which is already incorporated in the provision in rule 39 and 46 of the M (OAHCEM)CR, 2016.

Applicability of overhead Tax rate on Royalty, DMF, NMET in terms of GST or/and service Tax needs to be seen to avoid double jeopardy. Reduction of ex-mine price is going to be witnessed shortly that will reduce the revenue inflow to the State exchequer commensurately.

A proven checks and balance system will be shortly established by respective states to avoid the revenue leakages that may be generated due to under declaration of mineral grade and quantity by the captive consumers. Periodic reconciliation needs to be

done at least quarterly basis to avoid such leakages.

The Metals and Mining sector in India is expected to witness a major reform in the next few years, owing to reforms such as Make in India Campaign, Smart Cities, Rural Electrification and a focus on building renewable energy projects under the National Electricity Policy as well as the rise in infrastructure development.

Banking sector's downfall may create utmost pressure on investment in mining sector. The exploration business shall be made attractive to prepare bankable document with the usage of new exploration standards such as CRIRSCO and JORC as practised globally. There is a need for detailing of the national mineral inventory so as to allow the investor to get adequate information for taking up investment decisions. Fund raising mechanism need to be in place through the amendments in regulation to allow Stock Exchange Board of India for listing of exploration companies, particularly junior exploration companies on Indian stock exchanges. Also, the private sector companies may be permitted to issue flow-through shares for funding risky exploration activities.

Partial or conditional moratorium has been issued in most of the mineral rich States of India from past few years, if the same

are not lifted, then the economy in terms of mineral industry will suffer to its core.

Judicial intervention is anticipated to be more than administrative interaction with respect to the leases granted through auction to non-captive mining

companies, as few of the policies are mineral specific and straight jacket formula cannot be applicable, and appears to be framed under the influence of end-users. In India, royalty rate on Iron ore is highest in the World.(Australia: 6.5-7.5%, Brazil – 2%, India- 15%, South Africa -0.5-7%, China – 0.5 to 4%). In India, cumulative effect of royalty, DMF, NMET is 19.8% of the IBM sale price which is already a case of double taxation. Demand may arise to make payment of premium in auctioned blocks has to be made over & above Royalty, DMF and NMET though both are going to the government.

Seeing the higher premium of the country, if continues further, royalty structure needs to be reviewed to be globally competitive. Average Sale price of ore published by IBM includes Royalty and therefore Royalty + DMF + NMET may be excluded to avoid matter of double taxation. To simplify the system, there may not be any Royalty, DMF & NMET at all for auctioned

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blocks. After all, both royalty and premium amounts are going to State Government exchequer. As for DMF & NMET, the amount may be transferred to these funds from the premium amount only.

However, the high premium trend as well on the speculation is that the captive players will develop some breakthrough strategy to counterbalance the high premium in the future and it will benefit them. This concept is expected to remain active in the market for a time and will fade down gradually.

Conclusion

The mineral industry has experienced a roller coaster ride-through these years. India produces 95 minerals, 4 fuel-related minerals, 10 metallic minerals, 23 non-metallic minerals, 3 atomic minerals and 55 minor minerals. Recent policy announcements in mining sector could result in a paradigm shift. After the promulgation of the Mineral (Auction) Rules, 2015 and the Mineral (Evidence of Mineral Content) Rules, 2015, exploration by private players has wiped out completely, which cannot be considered as a good development. Boosting exploration by ensuring attractive incentives to explorers is the need of the hour. Seamless transition from exploration to mining lease needs to be emphasised much at this juncture. Two stage auction process shall now be limited to only Electronic Ascending Forward auction after finalising the Technical Qualified Bidders by the State Government. Simplification of process of obtaining clearances, revision of tax levies, Single window approach in mineral administration and less judicial intervention are the topmost priorities in the mining and mineral sector at this stage.

Government of India shall take cognisance of emerging global trends in mining before ensuring the policy interventions. Changing composition of the mining workforce in another important sector of Research and Development. Import of mineral shall be restricted to promote domestic mining and boosting the employment in mining vicinity. Proper and transparent utilisation of DMF will help multi fold growth of mineral sector. The mining industry serves as the base for the power sector, a major share of India's power is being generated using coal. Further, minerals are the basic building blocks of manufactured products and many agricultural inputs. The mining sector in India is highly underdeveloped relative to its enormous potential.

Development of dedicated freight corridors linking the mining leases to the ports and rail heads to ensure evacuation from the pit heads without disrupting the public life need to be thought of. Such corridors can either be in PPP model or a consortium of miners can develop and operate the rail-line on a royalty/rent basis.

The strategic value of various minerals must be recognized, and specific efforts need to be made to conserve minerals essential for the country's future. Minerals such as bauxite, titanium, rare earths and several heavy metals (e.g. gallium germanium, platinum group of metals, molybdenum, indium and cobalt etc) which will be crucial for future development of

materials need to be addressed for long-term needs of the country. The quantity of bauxite has been depleting in various mines with respect to alumina and silica contents where in research and development shall be encouraged.

Acute shortage of bauxite is faced for sustainable operation of the refineries. Auction process shall be expedited for allocation of bauxite deposits to promote expansion of the existing alumina refineries. Report of FICCI mentioned that the open cast mining of chromite leads to a stripping ratio of 1:15. Management of waste lumps in Sukinda Valley is therefore a major environmental concern. These overburden lumps modify the land topography, affect the drainage system and prevent natural succession of plant growth resulting in dire problems of soil erosion and environmental pollution. The same need to be addressed at priority.

Copper concentrates invariably contain precious metals like gold, silver and selenium. Birla copper recovers these metals to some extent but refining of gold is not taken up. Thus, the potential of copper industry to produce gold remains underutilized.

Non-Exclusive Reconnaissance Permit shall be encouraged for exploration of ultramafic rocks of layered complex as well as those of granite-greenstone belts which are remain unexplored scientifically and hence the actual potential of PGE minerals are not yet established. The Baula-Nauschi prospect in Odisha with 14 million tonnes of PGE ores at a cut off of 1 g/t of Platinum & Palladium must be accorded priority in developing it for commercial exploitation. The basic customs duty on cut and polished diamonds have been reduced from 15% to 5% and the rough broken pieces are fully exempted from basic duty but the royalty rates of 10% of sale price on ad valorem basis have been increased to 11.5% and are 7% more than any other country in the world. This may discourage MNCs which are engaged in exploration of diamonds for indigenous production.

It can be observed that the recent mineral policy and amendments in mineral sector are facilitating the growth of captive mining of bulk minerals. But in this entire backdrop, the prolific mining scenario of other minerals like Gold, Silver, PGE, Zinc, Copper etc may fade away, which needs to be focused. All these minerals will henceforth be treated under section 11 of the MM(D&R) Act, 1957 and lease grant through auction route will be the only provision to acquire a mineral concession. Under this legal regime, it is not easy to devise post auction strategies for such minerals if new technologies are not adopted. At this juncture, it is pertinent to mention that the industries, most adaptable to the change is going to survive further and hence, Charles Darwin theory is going to be proved once again.



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ABOUT THE AUTHOR



Mr. Sabyasachi Nayak

Mr. Sabyasachi Nayak, completed his diploma in Mining Engineering from Orissa School of Mining Engineering, Keonjhar, Odisha in 2007 and a graduate in B.E. Mining from Kolar Gold Fields, Karnataka in 2011.

He was fortunate enough to work in different mining scenarios and in various mining fields such as various mining sectors of Odisha, predominantly in Barbil-Joda-Koira sector of Keonjhar district and Biramitrapur sector of Sundargarh district of Odisha during 2005-07. He has also worked in Bellary-Hospet- Sandur sector of Bellary and Chiknayakanahalli sector of Tumkur district of Karnataka during 2011-12. He has also served for an ad-hoc committee constituted by the Hon'ble Supreme Court of India during 2012-19. He has got profound knowledge in auction process of raw material like iron and manganese ore as well as in the auction process of various mineral blocks with respect to notified minerals.

This helped him to understand various mining aspects from various inclinations and got exposure to understand and interpret the intent of the legislature and the policy reforms for Indian mineral sector. Policy analysis in mineral sector is one of his core competencies.

He has founded MineMagma, a Mining based IT start-up that works on intersection between Mining and IT which is the need of the hour to bring mining growth into a track of full potency. Understanding & acknowledging the miners' requirement, his team has developed an informative mobile application called "MAGMA...the miners' anatomy" which is getting a very warm response from various sectors of mining in India as well as foreign countries. His team MAGMA has also developed web applications on Safety Management Plan, Data Collection and Review Mechanism, Miners' tool for mining industry professionals. His team is now working on various mining related applications like FILL-O, M-Track and various others which are coming to market very soon.

Case Study

POTASH FROM NON-CONVENTIONAL SOURCES

New Patented Technology for agri-business

By Shri Ravi Sinha Director (Retd) GSI

India is basically an agrarian country which is now a leading producer of food grains, post Green Revolution. It contributes in feeding a large global starved population in large parts of Asia, & Africa.

And fertilizers were the key vehicles in boosting the crop yield. However, a perusal of fertilizer consumption, types of fertilizers used in different agro-climatic regions of India, crop yields indicate that there is still immense potential in boosting the production of different types of fertilizers. To understand what needs to be done in filling the gap between requirement and production, I would present the steps that can be taken to initiate a business of manufacture of Potash fertilizer from a non conventional source through a US Patented technology. This would not only lead to bridging the gap between requirement and production and in turn bring down the drain of precious foreign exchange but for an entrepreneur, would open avenue of a very promising business that would be carry the tag of early bird.

The three principal fertilizers in India is Urea, Phosphatic and

Potassic fertilizer which provide N,P &K – the three major plant nutrients. As of now, India is fertilizer importing country. Through its 57 large and 64 medium to small fertilizer producing units within the country, India produces Urea, Phosphate & some Mixed fertilizers, but that total production does not meet the demand and hence India imports these. However, in case of Potassic fertilizer, the import is 100% as there is no commercially viable deposit of Potash beds except one in Rajasthan which does not appear to be very promising. India buys Potash fertilizer at an approx rate of US\$ 310-320.00 per ton, ex-Vancouver.

The application of various fertilizers is governed by the soil chemistry, the crops grown, and agro-climatic regions of the country. At this stage I will not dwell with the types of fertilizers that are actually needed for crop growth as per the soil types in different states and agro climatic conditions. I will only emphasize here at this stage that there is a severe gap in the

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quantum of fertilizers used and the quantum that ideally should be used.

India produced 21.6 million tons of Urea from 30 of its Urea producing units in 2013. In the same year it produced 8.3 m.t of DAP from 12 of its fertilizer units and 7.7 m.t of SSP from 85 fertilizer producing units. But entire requirement of Potassic fertilizer (mostly Muriate of Potash-MOP) was imported. The present global Potash fertilizer production, mining and marketing is controlled by a Cartel of 13 countries, dominated by Canada/Belarus/ Russia/Germany etc. These 13 countries supply to 160 countries across the globe. India's requirement is nearly 4-5 million tones per annum at present and the country is buying at an approximate price of US\$320.00 per ton. SO THERE IS A HUGE BURDEN ON THE FOREIGN EXCHANGE OF INDIA and any effort to enter into Potash fertilizer business based on raw material from alternate source may be a business bonanza.

ALTERNATE SOURCE OF POTASH

In 1980s extraction of Potash for Potassic fertilizer from an alternate source named as Green Sand (Glauconitic sediments) was first developed by India and US Patent at Lab scale was obtained. The matter ended there. No Indian Industry came forward to take the Lab scale Patent to Pilot Plant scale and Commercial scale patent. This was confirmed to me by the Scientists from AMPRI, Bhopal, who hold the Patent.

Glauconite is a phyllosilicate mineral with the composition of $(K,Na)(Fe^{+},Al,Mg)_2(Si,Al)_4O_{10}(OH)_2$. The Potash from this mineral can be extracted and processed to a level for the manufacture of Potash fertilizer. Till date this source of Potash is not being tapped any where in the world as the raw material is there but the technology for extraction was not known till 2018. But soon this will happen and an over seas Company would start the commercial production from the alternate source.

The R&D efforts in some countries continued and finally in 2018 an Australian company did develop a US patented technology at Commercial levels which could extract K_2O from Glauconitic sediments and upgrade it to the desired level for application in the manufacture of MOP (Muriate of Potash) and SOP (Sulphate of Potash). The Potassic fertilizer thus produced would be cheaper than Potassic fertilizer produced from Potash

drawn from the Potash beds in Halite /Anhydrite deep seated sequence.

Potash fertilizer from this non conventional source will induce a revolution in the global fertilizer industry & particularly the Indian and the Chinese fertilizer industry. At this stage I will not touch upon the immense significance of Potash in the agriculture production of any country.

I give below a few sentences about the company which holds the patent and is willing for a **JV investment in Australia**.

- ◆ Company X is an exploration company focused on developing K-rich glauconitic deposits in West Australia.
- ◆ Company aims to define a substantial resources base & investigate how best to recover K from a mineral which till now is not known to contribute K for fertilizer industry on a commercial scale.
- ◆ Exploration has confirmed the presence of a world class resource for Glauconitic sediments
- ◆ Company X is focused on developing the D-Trough Project as a major supplier of fertilizer in Australia and in the markets of India and China.
- ◆ It controls an extensive tenement holding of some 2900 sq.km in Western Australia.
- ◆ It was granted US Patent for the processing Glauconitic sediments in 2018. As of now the said Australian company is working on development work for application of the patented process at a commercial scale.
- ◆ Company X would be open to a JV in their Potash fertilizer development and production business. " Approx cost to earn a majority stake in their D-Project would be \$ 10M.USD." (This line underlined, is reproduced from the letter of the MD of Company X, addressed to me).
- ◆ Apart from Muriate of Potash (MOP), Sulphate of Potash (SOP) the company produces Phosphatic Fertilizer, High Mg SOP etc. It would be pertinent at this stage to stress that India imports about 90% of its raw material for the production of Phosphatic fertilizer (includes SSP, DAP, MAP, NPK etc)/



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CORONA VIRUS SAFETY



Follow these easy steps to help prevent the spread of COVID - 19



Wash your hands often with water and soap for at least 20 seconds.



Avoid touching your eyes, nose, and mouth.



Cover your cough or sneeze with a tissue, then throw the tissue in the trash



Avoid close contact with people who are sick.

BREAK THE CHAIN