

✓ NOT FOR SALE

MAY 2021



Geonesis

(A GEMCO KATI INITIATIVE)

Indian Mining & Exploration Updates



166th Birth Anniversary of Pramatha Nath Bose

Born: 12 May 1855

Died: 27 April 1934

India's Iron Man: The Unsung Pioneer Who Made JN Tata's Industrial Dream A Reality!

-Page 14

VOLUME 8 ISSUE 6

What lies beneath: Mineral mining in India

The gap between ownership and control over minerals has been at the core of many discussions on resource federalism in India

India produces 95 metallic, non-metallic, fuel, atomic and minor minerals. The share of mining in India's GDP is 2.6 per cent but its contribution to the economy is greater as it provides the material foundation for other sectors. India has a detailed set of mining-related laws and rules for minerals exploration, extraction and incidental activities. As per the Constitution, the development of minerals is within the legislative jurisdiction of states as well as the Union. But the shared competence over minerals has often been a subject of contention rather than cooperation.

The Mines and Minerals (Development and Regulation) Act is the main legislation governing the minerals sector in India. Notable amendments were made to the Act in 2015 which changed the minerals concession system from a 'first-come-first-serve' basis to competitive auction and included the District Mineral Foundation.

In March 2021, the MMDR bill, 2021 was passed in Parliament through a voice vote despite demands for the bill to be referred to a Select Committee. The bill aimed at increasing and expediting exploration and auction of minerals and coal. It enables the Centre to intervene in matters such as mineral auctions, end use, utilization of funds and so on. As per the existing Act, state governments have the power to notify an area for the granting of mining lease. This lease is granted through competitive bidding. The 2021 amendment curtails the power of the states by adding a *proviso* that where a state government has not notified the area within a stipulated time the Centre can notify the area for the granting of mining lease. The stipulated time is going to be fixed by the Centre as well. The overall scheme of mining regulation, whereby states are the owners and, therefore, the granters of a lease, stands changed with the Centre empowered to auction mines in states.

Another domain where the Central government has expanded its reach is the DMF. When the DMF was included in the MMDR Act, it was hailed as a historic move to ensure decentralization and address social sustainability in the mining sector. The DMF is a non-profit trust to "work for the interest and benefit of persons, and areas affected by mining-related operations" in any affected district. Under the Act, any DMF is to be constituted, established, and assigned functions only by the state government. The 2021 amendment provides that "the Central Government may give directions regarding composition and utilisation of fund by the District Mineral Foundation." The whole premise of the DMF was decentralized decision-making: the new provision attempts to reverse that.

The gap between ownership and control over minerals has been at the core of many discussions on resource federalism in India. Irrespective of the concession regime in place, states have always demanded greater autonomy in decision-making related to minerals. Since minerals comprise a major share in the revenue of resource-rich states, they want to defend their fiscal powers with respect to minerals. Granting of lease and licence for mining and prospecting is a prerogative of states, albeit as per the rules laid down by the Centre. The MMDR 2021 amendment has stretched the Centre's powers by allowing it to auction mines when the states have not notified and auctioned a mine within the period specified by the Centre.

Taxation on mineral rights is a subject within state jurisdiction. However, the scope of the Central law (MMDR Act) is so expansive that it leaves little room for states to levy any additional charge on minerals. Even the royalty rates — the primary mineral revenue accruing to states — are determined and notified by the Centre.

The DMF's large corpus of Rs 41,650 crore has attracted interest from every level of the government. The DMF was introduced for specific local purposes and beneficiaries but its fund has also faced centralization partly due to instances of inaction and misuse in states.

The issues of under-utilization and misuse must be addressed by correcting procedural lapses, not by transferring the power to the Centre.

The 2021 amendment facilitates the Centre's hold on the important and strategic mining industry but also the mineral resources and wealth of states. There are pros and cons of centralized and decentralized governance in mining. Central oversight or guidance can be instrumental in addressing some of the problems associated with decentralization, such as vested interests, corruption, inadequate capacity, information flows and so on. A decentralized governance of natural resources, including minerals, ensures that those affected by mining and those dependent on mining for employment or revenue are involved in the decision-making and revenue stream around minerals. It also gives the local governments an opportunity to voice concerns that are local or regional in nature. However, the potential of either strategy has seldom been utilized optimally.

This is not the first time that Centre-state issues are emerging in mineral regulation. This shall not be the last time either. There have been several such amendments, ordinances and rules in the past and the sector has often been a fertile ground for contention for resource federalism. Since the issue is unlikely to be settled or buried in the near future, it is imperative that the amendments do not exacerbate the conflict between the Centre and the states but help resolve the limitations in the jurisdiction of each and give effect to cooperative federalism.

Source : The Telegraph



Understanding the Mines and Minerals (Development and Regulation) Amendment Act, 2021

The Mines and Minerals (Development and Regulation) Amendment Act, 2021 (the Amendment Act, 2021), became a reality in less than 15 days of its first introduction as a Bill in the Lok Sabha.

The Mines and Minerals (Development and Regulation) Amendment Act, 2021 (the Amendment Act, 2021), an Act further to amend the Mines and Minerals (Development and Regulation) Act, 1957 (the Act 1957) became a reality in less than 15 days of its first introduction as a Bill in the Lok Sabha. Both the Lok Sabha and the Rajya Sabha passed the said Bill on 19th March and 22nd March, 2021, respectively. The Amendment Act, 2021 received the assent of the President on the 28th March, 2021 and was published in the Gazette of India on the same day. As claimed by the concerned coal and mines minister, this new law is a step towards attaining mineral security of the nation.

Undoubtedly, the Amendment Act, 2021 appears to be an earnest attempt by the Government in the right direction to facilitate the existing shackled and underexploited mining scenario. Moreso when the mineral sector contributes less than 2% of the India's gross domestic product, leaving it to import minerals whoppingly worth INR 2.5 trillion per annum. As per available statistics, barely 10% of obvious geological potential stands explored by India of which merely 5% has been for mining purposes.

The Act, 1957 was broadly amended earlier in 2015 to bring about several reforms in the mineral sector, particularly requiring auction of mineral concessions to recuperate transparency and introducing stringent penalty for illegal mining. Subsequently, the Act, 1957 was further amended in 2016 and 2020 to permit transfer of leases for non-auctioned captive mines and to deal with the emergent issue of expiry of leases on 31st March 2020.

The recent Amendment Act, 2021 amplifies an objective to abundantly utilise the potential and capacity of the mineral sector so as to intensify employment opportunities and investment in the mining sector including coal.

The consequential intention also includes increasing the revenue to the States along with the flow in production as well as time bound operationalisation of mines including sustaining endurance in mining operations

after change of lessee, increasing the pace of exploration and auction of mineral resources.

The most significant amendment under the new legal regime of the Act, 1957 being the elimination of differential treatment between the captive and merchant mines, as the amendment now enables – auction of mines in future without restriction of captive use of minerals as well as sale by the existing captive mines including captive coal mines of up to fifty per cent of the minerals produced after meeting the requirement of the linked end use plants. In other words, no mine will be reserved for particular end-use. This yielding concession will ensure optimal mining of mineral resources. Although, the lessee will have to pay additional charges for the minerals sold in the open market. This noteworthy amendment has been carried out on the premise that the sale of minerals by captive plants shall aid and expedite growth in production and supply of minerals leading to commercial viabilities in mineral production and consequently generating added revenue to the States. In fact, the recent amendment introduces payment of additional amount to the State Government on extension and grant of mining lease of Government companies so as to conceive a level playing field between the auctioned mines and the mines of Government companies.

Further, the new Amendment Act, 2021 quite valiantly provides that all the valid rights, approvals, clearances, licences, and the like granted to a lessee regarding a mine shall



remain valid even post expiry or termination of lease and that such authorisations shall be transferred and conferred to the successful bidder of the mining lease. Undeniably, despite change of lessee, this particular amendment will guarantee uninterrupted mining operations, preservation of mineral and avoidance of repetitive, overlapping, and superfluous process of obtaining clearances yet again for the same mine. The amendment also addresses the bane of pointless pending cases of non-auctioned concession holders which have been termed by the framers of law as “anachronistic and antagonistic to the auction regime.” Rightly so, the amendment ends the pending cases of non-auctioned concession holders which did not lead to grant of mining leases. It is expected that the conclusion of the pending cases would ease and enable the

Government to put to auction a large number of mineral blocks in the best interest of nation leading to a timely and prompt operationalisation of such blocks and unquestionably additional revenue to the State Governments. To draw fresh investment and new technology in the mining sector, the new Amendment Act, 2021 eliminates the restrictions on transfer of mineral concessions for the non-auctioned mines. A new disciplinary system has also been inserted in the Act, 1957, which though has an efficacious agenda, could still be branded by some as meddling with State

Continued on Page 3

affairs. The Act, 1957 empowers the States to manage and oversee the auction of mineral concessions except the coal, lignite, and atomic minerals. The new amendment now empowers the Central Government to notify the area and conduct auction in cases where the State Governments face difficulty or fail in

notifying the areas and conducting auction. This measure is to ensure auction of as many mineral blocks on regular basis for continuous supply of minerals in the country. Under the newly amended regime, the Central Government shall stipulate a timeline for completion of the auction process

The new legal regime in the mining and mineral sectors does nullify several restrictive and covert provisions as they existed in the erstwhile Act, 1957. However, any public policy and legislation, no matter how worthwhile and timely they are projected to be, have to stand the test of time and judicial review.

Centre usurping powers of mineral-rich states by amending Mines and Minerals Act

Several provisions of Mines and Minerals (Development and Regulation) Amendment Act 2021 give Centre right to interfere in matters so far in the domain of states, being ruled by opposition parties.

Amidst the din over farm bills, the BJP government (it should no longer be called NDA since there are no ministers from any coalition parties) in power at the Centre has deftly manoeuvred the Mines and Minerals (Development and Regulation) Amendment Bill 2021 through both Houses of Parliament. It's the BJP's trademark now to introduce bills at short notice and then have them sail through without much discussion about their import.

As is perhaps expected of the times we live in, the focus is on exploitation than conservation and sustenance. Sample these:

Mining accounts for 7% of the GDP of South Africa and Australia, whereas India does poorly at 1.75%. So the basic argument is that we need to mine more.

* Of the 2,904 large mining leases for major minerals like iron ore and coal, 1,900 have been lying unused for years. States have been able to auction off only seven mining leases so far. So the line of reasoning is that the potential is underutilised and the Central government needs to come into the picture.

*Then there is the minor matter of exploration and mining licenses. The method so far had been that a company or individual first applies for licenses and clearances to get the environmental nod and if it comes good, the same process of clearances is required to start mining. The present government has decided to unify the license for exploration and mining.

So anyone who finds anything while exploring—gas, ore, oil—can start mining immediately.

It's always easy to roll out half-baked facts and figures to support any argument. We can't compete with South Africa and Australia just yet. This is because our heavy machinery was not in place and now environment concerns and sustainability have to be kept in mind.

Just stating that we have enough coal for 100 years is not enough to start opening mines randomly.

We still import coal as it is of better quality and cheaper than if we mined our own reserves.

Mining leases have been held back by public sector companies because it is directly proportional to the expansion rate. If *sarkari* experts are to be heeded, then all mines held by state governments and public sector units — which keep the cost of end-products like electricity and steel down — should be thrown open to the private sector.

The Constitution guarantees that land and everything over and beneath it is owned by states.

Federal mining licences apply to select companies and in the socialist era, they were given mostly to public sector companies like the National Mineral Development Corporation and Steel Authority of India. For these, the states stand to collect a premium or royalty per tonne of mineral extracted. Most mineral-rich states such as Chhattisgarh, MP, Odisha, Jharkhand, Maharashtra, Goa and Rajasthan draw a huge amount of their revenue from mining.

The first and foremost change that the new Mines and Minerals Development and Regulation (MMDR) will bring in is direct interference in the state subject.

Almost all the mineral-rich states are non-BJP ruled, so the Union government has to interfere if it wants to parcel off mines to its favourites.

Section 14 (iii) of the Bill says that if a state is unable to auction off listed mines, then the Centre will decide. It has thus created a complex scenario where either the states will auction off mines much below par to maintain their sovereignty or will have to make way for the Centre.

Mining companies may form cartels and decide not to bid if the state government is too demanding and will then turn to the Centre to solve the issue for them. The state will then be left with the responsibility to clear all hurdles on the ground for the mining company.

This assumes significance in the face of other changes that have been made in the Wildlife Act and environment policies at the central level. The powers of the gram sabha to stop mining in its area have been diluted.

The second direct interference in the working of the state is more significant, even though it looks innocuous, to begin with. The District Mining Fund (DMF) lies in the exclusive control of the district collector and through him, the state government. It is collected from mining operations in the district and often used as an emergency fund, besides its statutory use as a development fund. State governments

Continued on Page 4

usually broaden this development to include everything from health and sanitation to drinking water projects.

Odisha, for instance, utilised DMF in several districts to build fully equipped Covid-19 hospitals. Through Section 10 (1), the Centre now will control the DMF directly as it reasons that 45% of the entire fund in the country remains unused because collectors don't know where to use it and are in severe need of guidance. How the states will react to these developments will only be seen once the Act is challenged in the Supreme Court.

Meanwhile, the Union government is pushing ahead with changes in the MMDR. These are:

*The original Act empowers the Central government to reserve any mine (other than coal, lignite and atomic minerals) to be leased through an auction for a particular end-use (such as iron ore mine for a steel plant). The MMDR has removed all such end-use restrictions on all captive mines. This will immensely benefit those already in possession of captive mines and are looking to change course.

*The second logical step to benefit the pri-

ivate sector would be to allow it to sell minerals from its captive mines in the open market. The MMDR provides that captive mines (other than atomic minerals) may sell up to 50% of their annual mineral production in the open market after meeting their own needs. Moreover, the Central government may increase this threshold through a notification. The lessee will only have to pay additional royalty. This actually means that all heavy industries will also become mining companies.

*Under the original Act, states conduct the auction of mineral concessions (other than coal, lignite and atomic minerals). Mineral concessions include mining lease and prospecting license-cum-mining lease. The Bill empowers the Central government to specify a time period for completion of the auction process in consultation with the state government. If the state government is unable to complete the auction process within this period, it may be conducted by the Central government, thus usurping the powers of the state.

*Any new lessee of an existing mine transferred from the original owner will not be required to wait for a statutory period of two

years to begin mining. It effectively means that the old party goes out and the new one comes in with all the old licenses and clearances. This is very useful when a private party like Adani takes over a public sector mine.

*The MMDR Act provides that the period of mining leases granted to government companies will be prescribed by the Central government. This can be extended on payment of additional amount prescribed in the Bill. This is where the clash of interest with the states will intensify.

Apart from these, the MMDR provides that a mining lease can lapse if a company does not mine for two years and the states will be able to extend concession only once, after which the mine will pass into the control of the Union government.

This, of course, is only a preliminary analysis of the changes and their long-term impact for states and the entire mining sector. The states will have to approach the Supreme Court with caution and all preparations because their mining wealth is at stake.

By : Neeraj Mishra

Source : National Herald

Iron Ore Pricing - A Juggernaut - By Mantu Biswas

Abstract:

Iron ore and limestone are crucial raw materials to infrastructure. Unlike iron ore, which is heavily traded, limestone is not a tradable commodity as most of the end users are linked to this natural resource. As iron ore is delinked to end user industry, it is traded across globe and the trade is 2nd highest, next to crude. Yet, its pricing mechanism is rudimentary, ambiguous & even its traders are in the dark, with not much control about it. If a national government is to have an efficient economy, it should keep track of its price to improve upon its trade, instead of its sole objective of revenue generation.

We explore the inadequacies of the current pricing mechanism. Based on findings, we propose a mathematically sound method that benefits the traders and trade of iron ore to achieve government objective as well. It also

accomplishes to predict & adjust production to low demands maintain minimal losses.

Write up:

Globally iron ore is the most traded commodity next to crude oil. Like crude, although global platform is common, iron ore is priced differently in different countries. The methodology depends on technological, economical and other factors prevailing in respective country. But when we talk about pricing on the global platform, it is necessitated to be very transparent and instant, in the sense that the price updates must be available with least delay on a daily basis, for export/import as well as trading of its derivatives. It is also worth noting that the global price however, does not depend on the socio-economic or technological factors of the iron ore producing countries. It instead depends on the factors prevailing in the countries having the major

contributions to global export/import and also depends on the stakes of steel mill owners and iron ore merchants. For instance, China is the major importer on the global scale, whereas Australia and Brazil are the biggest exporters. So, these countries' fluctuations in their socio-economic and technological factors dictates the pricing mechanism at the global level as well as the trade negotiation amongst them.

Besides, Iron ore, Coal is the next major raw material required as input in steel production. Now, Iron ore has its mixture of harmful minerals; Alumina & Silica, that are detrimental to the efficacy of iron ore melting process. The ratio & quantities of these impurities primarily determine the price of iron ore linked with coal input for melting iron ore. The cost of coal also transfers to the cost of steel production, by a significant margin. The price of coal

Continued on Page 5

as well as the impurities in iron ore are the key components of iron ore pricing. Furthermore, the highest steel producing country dictates the global price, in virtue of the local availability of the raw materials at the time similar to the crude oil market.

In a nutshell, on the global platform the iron ore price needs to be transparent to provide opportunities for risk management for trades. With this background information, one can very well understand that iron ore pricing mechanism requires input of multiple factors having bearing on the cost & price of steel and a comprehensive suite of price indicators and its differentials throughout the chain from iron ore mining to steel production as well as the source /quality of fuel, coal. This complicated process can only be interposed through a complex mathematical model and statistical analysis by a suitable computing system having huge ore quality database working 24 x 7 in the background. This incomprehensible process gives way for an alternate solution, as a "mutual negotiation" when steelmakers and major iron ore miners play brinkmanship over who would first give way over setting /fixing the iron ore price.

It is fact, ores with higher iron content and lower impurities being pure, are traded at higher prices. This pure ore helps increase the "hot metal yields" in the blast furnace and also lowers cost by reducing the amount of coal required to charge per ton of iron ore. In the perspective of international trade, price of this pure ore becomes the benchmark price linked to a particular grade specifications of iron ore. For example, 63% Fe with a particular proportion of impurities sets the standard template for deriving price for lower Fe content ore. On the contrary, when iron content is high and impurities are also high, the ore is classified as impure despite higher iron concentration in the ore. It is to note that the impurities cannot be filtered out but only be burned away in the furnace alongside melting the iron ore. The higher levels of impurities generates more slag due to higher coal input to burn the impurities thus increasing power consumption for the whole process as well. These qualities of ore are traded at comparatively lesser price than pure ore. The moderation process for more impure ore i.e. low grade ore, is done through statistical normali-

zation of the benchmark price, depending on the contents of its respective impurities. For these reasons, the rule of thumb is "low impurity + higher Fe = high price."

In practice, we know that Iron ore is a non-fungible commodity, and its quality varies widely. To help facilitate price adjustment for the difference between expected and delivered product specifications, an indicator named "value-in-use (VIU)" is also used based on the composition of iron, silica, alumina and phosphorus in the iron ore. The VIU is the derivative of the ratio of these elements in the iron ore of which price is to be determined. In cases where actual iron ore grades do not match the benchmark or standard specifications exactly, premiums or discounts are applied using the VIU. The price adjustments are based on the iron, silica, alumina and phosphorus content of the actual delivered product. Iron ores also differ in physical form. Fines require sintering (agglomeration or clumping into crude pellets) prior to use in the blast furnace. Lump ores can bypass this process and be charged directly into the furnace, as pellets, and both command and demand associated premium in price. Most steel plants use a blend of ore grades as well as a mix of physical forms in sinter, lumps and fines. But the quality requirements depend on the circumstances, availability and finally on the price.

The preference for different ore type depends on the market conditions and the impurity contents. Perhaps the biggest driver of all, is the profit margin that steelmakers make, determined by the price at which they sell their steel minus the total cost of their raw materials inputs. When margins are high and mills are profiting from each tonne they produce, they prefer to use higher-purity ores to maximize their blast furnace yield. As margins fall away, plants look for cheaper and low-grade ores to reduce costs and minimize their production rates. Moreover, there is also a paramount technical necessity that, drives this behaviour. Unbeknownst to common knowledge, the blast furnaces cannot easily be switched on and off. So a shrewd survival strategy is adopted; to purchase iron ore of different quality for different business cycles, to optimize their internal operating rates for different market conditions.

Indian iron ore finds its market in domestic

use as well as for exports. The pricing in export trade is fixed as per global standards described above. These prices are set on day to day basis depending on demand, international trade; and inventory and resource at each consumer point, specifically in China. For domestic consumption the price fixation is governed by the rule book, linked with the primary objective of revenue generation for government through royalty, taxes etc. On the contrary, in a fair market the price is ought to be driven by market forces or commerce of the trade. In India, the price is called average sale price (ASP) and it is the weighted average of examine-price (EMP) or pit-head-price of despatched quantity, for a particular grade of iron ore. The EMPs are submitted to the government by the mining leaseholders on monthly basis. It is "the" that price which is most important and crucial to tax the leaseholder for royalty, etc for government revenue. If the ASP is less the govt revenue goes down.

As per rule, the royalty and taxes are charged ad-valorem of the ASP. To maximize govt revenue the ASP is skewed accordingly. For example, if the derived ASP of higher grade ore (say 60% Fe) is less than the derived ASP of lower grade ore (say 58% Fe), which is typically a fact when export of low grade iron ore is in demand, the low ASP for higher grade ore is substituted with the high ASP of lower grade ore. Or when a new product grade or new commodity is traded (say 48% Fe grade ore), the govt would tax the leaseholder at ASP of higher grade ore, say ASP of 55% Fe Ore. Though there are several mechanisms to discover the actual price of such new commodity, the leaseholder would be charged at available next higher rate. These arguments tempt one to presume that the iron ore pricing in India or the ASP is driven by Govt revenue, rather than the demand supply forces.

Furthermore, the price benchmark currently relies only on the content of iron in the ores. The impurities are not taken into account as negative factors for price determination. The impurities are ineptly accounted only for averaging the price over a spectrum of 13 different quality of iron ore, having the least or no significance on the price. Further for the purpose of royalty and taxes, the price is applied

Continued on Page 6

differently for different mines. It depends on whether the mine was leased out through auction or otherwise. But, iron ore products of both type of mines are traded in the same market. As the auctioned mines are taxed heavily, skewed against its economics, these mines bear the brunt of government revenue generation.

The adopted mechanism is simply rule based and opaque; error prone, discretionary, incomparable to the global transparent system. Application of statistical and mathematical tools and modern methods is starkly absent in the price fixation of such complex commod-

ity with its widely varying composition and grades of quality which is traded second highest, globally. Even the use of electronic power is merely in the form of addition, subtraction, multiplication and division. As a simple proposition, the hypothetical model and process would need to compare an actual quality matrix with a standard benchmark matrix to calculate or derive the price of the actually supplied ore. This type of simple application of matrices / linear equations, that is highly demanded virtue of the pricing process, is possibly understood, but not practiced. Although on the global platform the price

fixation to some extent, is an automated statistical process, in India it is abysmally at Zero level. Point to note here is, the iron ore trade up to steel production in India contributes significantly to the country's GDP. Hence this raw material deserves kind and proper attention in terms of its pricing and trade, more than the finished products. If raw material price is market driven, the finished product would fall in line. On the opposite, if its trade is exploited so unintelligently, it's clearly evident, the government will kill the iron ore market & thus may perish from its own faults.



About Author

Mr Mantu Biswas

The author of article served in Indian Bureau of Mines (IBM) for 24 years and Retd as Chief Controller of Mines. He has also worked for 12 years in underground metal mines

A SIGNIFICANT SOURCE OF STEEL GRADE LIMESTONE IN LOWER TERTIARY SEQUENCE, JAISALMER DISTRICT, RAJASTHAN

Discovery, investigations, resources and mineability - By V.P. LAUL

Introduction

Brief History of Discovery and investigations:

Limestone of industrial importance was discovered in seventies, V.P.Laul, Indian Minerals, Vol. 33, No.4. 1979. Cement to high/ steel grade limestone of Khuiala Formation (Lower Tertiary) is well exposed in 100 km long belt from Sam to Khinya- Mandha area through Te-Tekkar and Sanu. A subordinate belt is also exposed in Khuiala area. Limestone is of cement to high/ steel grade. Initially GSI carried out regional assessment by surface methods and indicated more than 3000 million tonnes of cement to high grade, Virendra Kumar & N.K.Sahiwal, Indian Minerals, Vol.44 No.1990, Laul & Sahiwala (GSI unpub, Report 1978-79), followed by exploration by DMG which added significantly to resources. In recent years GSI has explored the subsurface limestone deposits of Khuiala Formation, Subhash Yadav, GSI Special Pub. No. 101, 2015 and Manideepa

Roy Choudhury & Nikhil Agarwal in Indian Jour. of Geosciences, Vol 73, No.1, 2019. and has added more resources. As per media information dated 2nd April 2021 GSI has handed over report of 690 million tonnes (SMS to cement grade) of 3 blocks to State Government Rajasthan.

Khuiala Formation of Lower Tertiary : Lithologically Khuiala Formation is mainly made up of bentonitic clays, fuller's earth with shale and foraminiferal bands, limestone to nodular limestone. The beds are horizontal to subhorizontal in disposition and form Questa outcrops with well exposed scarp sections. Sections in Sam area represented by about 10-



12 m thick fuller's earth/shale/marl zone resting over bentonitic clays are followed by around 13-15 m thick chalky limestone and nodular limestone sequence. Sedimentation of Khuiala Formation commenced with deposition of bentonitic clays and fuller's earth/

Continued on Page 7

shale with intercalated marls and foraminiferal limestone in marine environment followed by deposition of biogenic to biochemogenic calcium carbonate mud rich in foraminifers forming foraminiferal limestone, chalky limestone and foraminiferal nodular limestone. The upper beds are occurring as hard compact dense fragmental to nodular limestone. Warm climate during early Tertiary perhaps favoured increase in population of foraminifers in marine environment. Richness of foraminifers has perhaps bearing on grade of this limestone also known as micrite/biomicrite. In field the high to steel grade limestone apparently looks like comparatively more hard and compact than cement to high grade limestone. Formation of dense, hard and compact limestone may be attributed to cementation and compaction.

Limestone of Duqm area, Oman: Time equivalent high grade Chalky limestone and low silica high grade limestone/ fossiliferous limestone deposits of Duqm Oman, studied by Dr Vivek Laul, Vivek Geoservices Jaipur (Seminar MEAI, Jaipur, October 2019) are similar to Lower Tertiary limestone deposits of Jaisalmer basin.

Geomorphic, Geologic disposition and mineability: The limestone deposits invariably form Questa outcrops with well exposed scarp sections and occur as top beds practically without overburden excepting in Khinya-Mandha area with some overburden



High to steel grade limestone bed invariably overlies cement grade limestone bed. Beds are horizontal to subhorizontal in disposition and easily mineable economically.

Mining of Limestone deposits

As per information, State Agency RSMM is mining and processing the limestone near village Sanu to meet the requirements of steel plants located in different parts of the country. Village Sanu is located on Jaisalmer- Ramgarh Road which facilitated the transportation from the area of mining and processing operations to Jaisalmer- rail head for further transportation by Railways. High grade low silica limestone is also suitable as a sweetener in cement manufacture.

Significance and impact of Limestone deposits

Discovered in 1976-77 during mapping and Regional assessment by GSI in 1977-82 was followed by exploration by DMG Rajasthan in order to collect more information for grades and resources. Tests conducted on limestone suggested that low silica high grade limestone of area is suitable for steel plants in which India is deficient. This was followed by mining by RSMM in the late eighties. As per media news at present RSMM is producing 30 lac tonnes of limestone and dispatching to steel plants. There is huge demand for this limestone. The limestone produced was transported by road to Jaisalmer then by railway to steel plants. Large scale mining of limestone

deposits may be adding significantly to income of state Agency RSMM and to income of Railway by long distance transportation of limestone and State DMG by Royalty. Sanu has also been linked with the rail line thus making it more convenient and cost effective for transportation of limestone. Railway facilities at Sanu may help in faster mineral based development of the area by mining minerals available- Bajri/ Silica sand and Abur decorative stone. Few limestone blocks have been auctioned to cement companies in adjoining areas. Newly linked rail line to Sanu may facilitate faster movement of the Army to this border district and may increase tourism to this desert area.

Acknowledgment : Author is thankful to Dr Vivek Laul Vivek Geoservices for all time help in finalizing MS and maps for publications, to Geonesis for providing platform for publication. Author is thankful to Shri Subhash Yadav for duly referring the previous work of GSI in his publication,

About Author: Author is retired Director GSI and has significantly contributed to mineral discoveries during mapping in Jaisalmer (1974-82). His Geological maps have invariably served as base maps for mineral investigations. In case of Khuiala limestone his contributions include mapping of Khuiala Formation in Sam area and mapping with AK Sen (1978-79), random limestone sampling with Virendra Kumar in Khuiala area (1977-78) and limestone investigation with N.K.Sahiwal (1978-79). He has published first paper exclusively on prospects of industrial grade Limestone in Khuiala Formation in Indian Minerals.

About Author

V.P. Laul has carried out Geological mapping and studies of mineral deposits in Jaisalmer basin over a period of 8 years and has contributed in mineral discoveries like Lower Khuiala limestone leading to more than 3000 million tonnes of cement to steel grade resource by investigation, Mashuriyan Glauconite leading to 21.5 million tonnes of 4.5 % K₂O grade by investigation. Some occurrences of phosphorite as phosphatic nodules were also located in Jurassic sequence. Author has studied potash deposits of Nagaur- Ganganagar over a period of 5 years.

MMDR, Amendment Act 2021, Mining Industries Perspective

On March 28, the Mines and Minerals (Development and Regulation), or MMDR, Amendment Act 2021 was published in official Gazette of Government of India. Act. Minister of mines & Coal Mr. Pralhad Joshi said the amendments would create 5.5 million jobs and open the mining sector to private players who would bring in state-of-the-art technology. The amendment also proposes to fix additional royalty payments to states for the extension of mining leases for central public sector enterprises. We should know what these amendments are and why is the industry is confused about them? What are the amendments to the MMDR Act 2015. The Principle MMDR Act was enacted in 1957 to regulate mineral mining in the country. It has since been amended from time to time the last major Amendment was made in January 2015. Why it was desired to amend this Act in such a small period of time. The MMDR Amendment Act, 2015, substituted the first-come-first-served/discretionary process for grant of mineral resources by a transparent and competitive auction process with an idea that the States Governments shall find a greater share of the value of mineral resources. The above amendment also focused on easy transferability of mineral concession. Section wise amendments and their impact on industries is discussed below;

Section 3 (i) (a) “Composite Licence” means the prospecting Licence-cum-mining lease which is two stage concession granted for the purpose of undertaking prospecting followed by mining operations in the seamless manner

The basic idea behind this act is to expedite and re-start exploration of OGP area already marked by Geological Survey of India through industries, which was almost stopped after commencement of MMDR amendment Act 2015 because no one has showed any interest in investing money for NON Exclusive Reconnaissance Permit where right to get mining lease was not addressed. Now with commencement of this amendment State Governments can put on auction OGP areas where applications of PL rejected after commencement of MMDR Act, 2015. Company can acquire potential blocks through “Composite Licence” and explore the blocks to get Mining lease. in Industries can prepare the list of Prospecting Licences in all state which were rejected after commencement of MMDR Amendment Act, 2015,

Example in State of CG nearly 70 PL’s of Iron ore were rejected in January 2015. Survey and assessment of PL areas has to be carried out for due diligence by Private exploration Agencies or Company can go for self-assessment based on data available.

Section 3 (i) (aa) “dispatch” means the removal of minerals or mineral products from the leased area and includes the consumption of minerals and mineral products within such leased area;

All mineral, including reject, overburden, fines subgrade material if it is used within mining lease area is liable for payment of royalty this will give negative impact on industrial growth. This will need further clarification in Rules made thereunder.

Section 3 (v) (ii) a mine continues to be a mine till exhaustion of its mineable mineral reserve and a mine may have different owners during different times from the grant of first mining lease till exhaustion of such mineable mineral reserve;

Continuity of mine is ensured till exhaustion of mineral. This is one of the most awaited amendment's, as obtaining various clearance, permissions and licences is time consuming. With this change seamless transfer of lease is ensured, this will increase the confidence of investors.

In section 4 of the principal Act, in sub-section (1), in the second proviso, for the words “such entity that may be notified for this purpose by the Central Government”, the words “other entities including private entities that may be notified for this purpose, subject to such conditions as may be specified by the Central Government” shall be substituted.

Amendment in sub-section (1) of section 4 will attract private exploration agencies to participate in exploration programme of Government of India and State Government after getting registration. Exploration expenses shall be reimbursed from NMET. Many of the exploration agencies will once again get jobs. This will further increase confidence to private players to go for G-4 level Exploration of potential area and further to acquire self explored blocks under “Composite Licence” through auction. Self explored block can be acquired with confidence.

In section 4 of the principal Act, in sub-section (4),—(i) for the words “mining

operations” wherever they occur, the words “production and dispatch” shall be substituted; Provided further that such lease shall lapse on failure to undertake production and dispatch or having commenced the production and dispatch fails to continue the same before the end of such extended period.”.

With commencement of amended Act lessee has to ensure production & dispatch of mineral within stipulated period of time as mentioned in MDPA, merely acquisition of land, forest clearance and other pre-mining activities will not safeguard the mining lease as it was protected in earlier Act. It will reduce the confidence of financier in the mining field because production and dispatch in green field mines will be subject to all permissions, approvals and clearances, for which time limit is uncertain.

Section 8 of Principle Act (5) inserted after sub-section (3), (5) Any lessee may, where coal or lignite is used for captive purpose, sell such coal or lignite up to fifty per cent. of the total coal or lignite produced in a year after meeting the requirement of the end use plant linked with the mine in such manner as may be prescribed by the Central Government and on payment of such additional amount as specified in the Sixth Schedule:

This amendment shall enable mining lease holder to sell up to 50% of mineral produce after meeting his own requirement. Example, In Raigarh area of Chhattisgarh State availability of coal will increase. Government enterprises such as Gare 1 --- mtpa, Gujrat SECL, Gare-2, Maha SPGCL- 23.6 mtpa, Gare -3 CSPGCL- 5 mtpa can sell low grade coal to local byres. Private mines of Gare Sector 4 viz. JSPL- Gare 4/1- 6 mtpa To auctioned, 4/2-3- 6.25 mtpa, Gare 4/4 Hindalco- 1 mtpa, Gare 4/5 Hindalco- 1 mtpa, To be auctioned Gare 4/6-4 mtpa, Gare 4/7 Sarda Energy--1.2 & Gare 4/8 Ambuja Cement -1.2 can sell

Section 8 of Principle Act (a) after sub-section (7), the following sub-section shall be inserted, namely :—“(7A) Any lessee may, where mineral is used for captive purpose, sell mineral up to fifty per cent. of the total mineral produced in a year after meeting the requirement of the end use plant

Continued on Page 9

linked with the mine in such manner as may be prescribed by the Central Government and on payment of such additional amount as specified in the Sixth Schedule:

This amendment enable us to sell some amount of limestone from Godadih Mine to Angul plant after seeking permission from State Government. Example- Govt. Companies such as SAIL in CG can sell up to 50% of Iron Ore in the form of lumps and fines from its mine from Dalli -Rajhara after meeting its own requirement. NMDC can sell its dump of low grade material. Proper execution of this amendment can also help to reduce the logistic cost by exchange of raw material if the captive mines are located at distance and purchasing of raw material from adjacent mine located near plant, built up confidence of entrepreneurs. For section 8B of the principal Act, the following section shall be substituted.

Section 8 of Principle Act “8B. (1) Notwithstanding anything contained in this Act or any other law for the time being in force, all valid rights, approvals, clearances, licences and the like granted to a lessee in respect of a mine (other than those granted under the provisions of the Atomic Energy Act, 1962 and the rules made thereunder) shall continue to be valid even after expiry or termination of lease and such rights, approvals, clearances, licences and the like shall be transferred to, and vested; subject to the conditions provided under such laws; in the successful bidder of the mining lease selected through auction under this Act:

The Government of India through this amendment empowered to prescribe conditions for ensuring continued production by the holder of mining leases, who have acquired all valid rights, approvals, clearances, licences and the like vested with the previous lessee, for a period of two years. Before the amendment, the MMDR Act offered a two years' time span to the new lessee for commencing the mining operation. Section 8B of the MMDR Act provides for deemed acquisition of all valid rights, approvals, clearances, licences, and the like by the new lessee. It can be interpreted that this manner that all Mining rights, approvals, clearances or licence are basically given to Mine not to the lessee till the mineral is exhausted. The Rights will be transferred to successful bidder or Government companies after termination or expiry of lease of previous owner which will ensure Continuous production from mine is ensured.

In section 9C of the principal Act,—(i) in sub-section (1), for the words “non-profit body”, the words “non-profit autonomous body” shall be substituted;(ii) after sub-section (4), the following sub-section shall be inserted, namely:—“(5) The entities specified and notified under sub-section (1) of section 4 shall be eligible for funding under the National Mineral Exploration Trust.”.

The National Mineral Exploration Trust gets 2% of royalty, right now an amount of Rs 2,300 Cr has been available for exploration projects throughout India. Through this amendment Act the Government of India open window for empanelment of private mining industry players, who will be reimbursed out of this fund to explore for more minerals in India. The NMET has been made as non-profit autonomous body. Entities including private companies notified as competent agencies to take up exploration of minerals in various states can get funding under NMET.

Mineral Based industries must form exploration agency and go for its registration. This will enable the company explore the of potential blocks in State and minerals of their own interest through NMET funds.

Exploration of bulk minerals such as Coal, Iron ore, manganese, Limestone, Dolomite etc will speed up and more reserves will be available for auction.

Companies can go for auction with confidence in blocks explored by themselves.

In section 10 of the principal Act, after sub-section (3), the following sub-section shall be inserted, namely:—“(4) Notwithstanding anything contained in this section, no person shall be eligible to make an application under this section unless—(a) he has been selected in accordance with the procedure specified under sections 10B, 11, 11A or the rules made under section 11B;

With commencement of instant Act only application for mining lease u selected through auction shall be accepted, in accordance with the procedure specified under section 10B, 11, 11A or 11 B. Now onwards mineral concession will be granted through auction only. All pending applications for grant of mineral concession will become null and void under provisions of previous Acts and Rules.

In section 10A of the principal Act, in sub-section (2),—i) in clause (b), the following provisos shall be inserted, namely:—“Provided that for the cases covered under this clause including the pending cases, the

right to obtain a prospecting licence followed by a mining lease or a mining lease, as the case may be, shall lapse on the date of commencement of the Mines and Minerals (Development and Regulation) Amendment Act, 2021:

With Commencement of Amendment Act the preferential right to get Mining Lease after successful completion of prospecting under provisions of Section 10A (2) (b) and 10A (2) (C) shall be lapsed. All mining leases lapse under Section 10A 2 (b) and 10A (2) (c) shall be put on auction by State Government. More than 500 ML applications get lapsed and shall be available for auction.

This amendment give major setback to the industries who had invested lot of money within particular state based on the MOU wherein State Governments promised industries to grant mineral resources and provide all related facilities for setting up new mineral based industries. The mineral concessions in a way of RP and PL were granted under provisions of Section 11(3) of Principle Act. In Amendment Act 2015 initially Section 11(3) was scrapped and Section 10A 2(b) & (c) was introduced in which the right to obtained PL or ML was as the case may be was saved. This provision keeps hope alive for industries to get mineral concession and allow them to continue with further investment for Exploration of minerals through RP & PL and investments towards expansion & setting up of industries. This was one of the major problematic clause of MMDR Amendment Act 2015 due to which serious players who had made investment for proper exploration & Prospecting of mineral reserve were kept on waiting for grant of lease, at the end the legacy cases were lapsed with commencement of instant Act which had delayed the process of auction for more than 5 years. The holders of legacy right were hoping to have right to refusal after successful completion of auction process as was given in the ML cases, is also scraped out. The vision of Central Government is clear that, firstly now onwards mineral resources a public property should not be allotted free of cost, secondly, all allocation has to done through auction route in transparent manner.

In section 10A of the principal Act, in sub-section (2),—Provided further that the holder of a reconnaissance permit or prospecting licence whose rights lapsed under the first proviso, shall be reimbursed expenditure incurred towards reconnaissance or prospecting operations in such manner

Continued on Page 10

as may be prescribed by the Central Government.”; (ii) after clause (c), the following clause shall be inserted, namely:—“(d) in cases where right to obtain licence or lease has lapsed under, clauses (b) and (c), such areas shall be put up for auction as per the provisions of this Act:

All companies must prepare documents regarding expenditure incurred during exploration. Now all such potential areas shall be put on auction immediately. Based on available data, information from exploration carried out by various PL holders will be considered for auction.

Section 10B (iii) in sub-section (4), the following provisos shall be inserted, namely:—“Provided that—(a) where the State Government has not successfully completed auction for the purpose of granting a mining lease in respect of any mineral (whether notified mineral or otherwise) in such notified area; or (b) upon completion of such auction, the mining lease or letter of intent for grant of mining lease has been terminated or lapsed for any reason whatsoever,

To expedite the auction process Government of India may notify the auction of specific mineral within the state if State Government fails to do so in stipulated time period specified by GOI. This key change in the Act to empower the central government to conduct auctions or re-auction processes for the grant of a mining lease. If State Government wishes to do so, if a state government fails to complete the auction process in a specified period, decided after consultations between the Centre and state.

This is a welcome step for industry players as it would likely lead to greater transparency in the auction process as there is a perception that state governments may in some cases prefer some bidders, and try to delay or cancel mining rights if their preferred bidders do not win mining rights.

Section 10B (iv) in sub-section (6), for the proviso, the following proviso shall be substituted, namely:—“Provided that no mine shall be reserved for captive purpose in the auction.”.

Owners of Mineral Based industries will face tough competition during auction of mines, there is no preference to the mineral based industries for grant of mineral concession. This will provide fair competition; companies can use material in any of the plant located across the country and sell the mineral. This amendment can open new avenue of mineral

exchange amongst the end user based on location of plant to the source of raw material and cut down the logistic expenses.

In section 12A of the principal Act,—(i) in sub-section (2),—(b) the following proviso shall be inserted, namely:—“Provided that the transferee of mining lease shall not be required to pay the amount or transfer charges referred to in sub-section (6), as it stood prior to the commencement of the Mines and Minerals (Development and Regulation) Amendment Act, 2021, after such commencement but no refund shall be made of the charges already paid.”; (ii) sub-section (6) shall be omitted.

Now transfer of mining lease is allowed. Transfer process shall be seamless because all the rights, approvals, clearances of mine shall be automatically transferred to new lease. Omission of sub-section (6) will allow transfer of captive mine also without transfer fee. Now companies can identify potential seller / mine owner unable to run the mine due to financial problem of market and plan to acquire mines having desired grade and nearer to our plant. Sub-section (6) regarding transfer fee is omitted. This is welcome step for industries having captive mines, now acquisition & Merger of industries along with mine become seamless.

Section 13 (b) in sub-section (2),—(ii) for clause (r), the following clauses shall be substituted, namely:—

“(r) the period of mining lease under sub-section (4) of section 8;

(s) the manner of sale of mineral by the holder of a mining lease under sub-section (5) of section 8;

(t) the manner of sale of mineral under sub-section (7A) of section 8A;

(u) the manner for reimbursement of expenditure towards reconnaissance permits or prospecting operations under the second proviso to clause (b) of sub-section (2) of section 10A;

(v) the manner of granting mining lease to the preferred bidder under the second proviso to sub-section (4) of section 10B;

(w) the manner of granting composite licence to the preferred bidder under the second proviso to sub-section (5) of section 11;

(x) the manner of granting mining lease by the State Government to the holder of the composite licence under sub-section (10) of section 11;

(s) The details of the section shall be

described in the Rule made thereafter the Act. Sale of mineral is in interest of industries. (u) the manner for reimbursement of expenditure incurred by holders reconnaissance permits or prospecting operations will be made in accordance to the Rules made under this act in seamless manner.

In section 17A of the principal Act,—(a) for sub-section (2A), the following shall be substituted, namely:—“(2A) Where in exercise of the powers conferred by sub-section (1A) or sub-section (2), the Central Government or the State Government, as the case may be, reserves any area for undertaking prospecting or mining operations or prospecting operations followed by mining operations, the State Government shall grant prospecting licence, mining lease or composite licence, as the case may be, in respect of such area to such Government company or corporation within the period specified in this section:

Time limit for prospecting of to be carried out in reserve area is fixed for 5 years + 1 year extension. If State Government fails to explore the reserve block within time limit it will de reserve. To expedite the prospecting operation state Government can seek help of notified private exploration agencies to complete the job within stipulated time frame which will be funded by NMET. The blocks explored by Government agencies or private agencies on behalf of Government bodies will not attract NPV of Forest Department

The Author of this article is a senior mining professional.

India to explore if there can be co-development of mining and ecology

- Mining is often accused of being unfair to environmental concerns but to change that an expert forest panel of the Indian government's environment ministry wants to explore if there is a possibility of co-development of mining and ecology.
- The panel in March 2021 recommended an in-principle approval to a mining project in Odisha and suggested a pilot project to explore a model using the degraded forests, within the mining lease, for raising short rotation forestry crops so that ecological services can continue.
- The panel also asked the mining company to remove the encroachment from the forest area involved in the mining area. But experts working on forest issues said this can lead to the violation of the Forest Rights Act 2006.

As an experiment to see if there is a chance for co-development of "mining and ecology", the expert forest panel of the Indian government's environment ministry has asked a mining company in Odisha to use short rotation crops in a mining lease area on the degraded forest land so that "ecological services continue to flow."

The decision by the Forest Advisory Committee of the Ministry of Environment, Forest and Climate Change (MoEFCC) came during its meeting on March 24, 2021. The panel was hearing the request of Odisha Mining Corporation (OMC) regarding the non-forestry use of 1,243.27 hectares of forest land for Dubna-Sakradihi iron and manganese ore mines in the Keonjhar region of Odisha. Of the total forest area required for the mining project, 957 hectares are moderately dense forest while 175 hectares is open forest.

It was considered earlier by the forest panel in January 2020 when the Committee had deferred the proposal seeking certain clarifications from the Odisha government which was finally sent in February 2021.

The Committee "after thorough deliberation and discussion with the nodal officer of

Odisha" and others recommended, "the proposal for in-principle approval" for the project with several conditions.

It stipulated that the encroachment over the forest land in the proposed area shall be removed by the state government and it shall be ensured that "rehabilitation of evicted encroachers does not take place on forest land."

The expert forest panel observed that the user agency (OMC) "does not propose to subject the whole lease area to mining/ancillary use in one go in the beginning of the proposed lease period."

"Some areas may be worked 10/20 years after the commencement of leases, and such areas could be productively used for growing short rotation forestry crops in such interim period. If so, the life cycle ecological cost of the mining project would reduce considerably, besides financial benefits to the leaseholders," said the panel in the minutes of the meeting.

The FAC directed that the Odisha government shall, therefore "initiate a pilot study, at the cost of user agency, through an institute of national repute like ICFRE (Indian Council of Forestry Research and Education, IIFM (Indian Institute of Forest Management), which can explore a model of use of the degraded forests within the mining lease for more productive biological uses (raising short rotation forestry crops)."

It noted that these short rotation crops for intermittent periods during the "currency of mining lease period in a way that the ecological services continue to flow in an augmented manner and at the same time mining activities are not adversely affected."

Some of the ecological services that these rotation forestry crops could provide are biodiversity conservation, carbon storage, provision of clean drinking water and other non-timber goods.

The forest panel was of the view that such a model should enable the mining company to raise additional revenue from the lease area and, "if successful, such models could be replicated elsewhere also for co-development of mining and ecology.

Can a model of co-development of mining and ecology work?

Over the last few years, issues such as the condition of a mining area and the mining project's impact on the environment and people affected by those mining activities have gained the attention of policymakers as well as experts. The debate now is increasingly about ensuring that the transition which the environment and the affected communities undergo due to mining activities is "just" rather than taking away their rights.

Though the project is not part of an elephant corridor, according to the information given by a local forest official of Odisha and the project area does not fall within any elephant reserve of Odisha, the proposed Karo-Karampada elephant corridor is at an aerial distance of 19.48 kilometres from the mining lease area.

A wildlife conservation plan at a cost of Rs. 121.8 million has also been approved to address the impact of the mining activities in the project as well as the buffer area.

Odisha-based Tushar Dash, an independent researcher on forest rights, told Mongabay-India that "it's interesting to note that the FAC proposes removal of encroachment from the forest land in the lease areas without asking to ensure compliance of the Forest Rights Act."

"This can create confusion at the ground level and lead to eviction and violation of forest rights. What would co-development of mining and ecology mean if there is no mechanism to ensure compliance of the FRA?" he questioned.

Dash said: "What would co-development mean if leasing forest areas has been made easy through the amendments in the Mines and Minerals (Development and Regulation) Act (MMDR Act)? Which allows deemed clearance for new leases for two years without ensuring compliance with environmental laws."

Mining – whether coal or any other mineral –

Continued on Page 12

has been a focus area of the central government over the past few years to strengthen India's economy. The focus on increasing mining activities and reforming the sector only increased after the economy took a severe blow due to the coronavirus pandemic.

The government has meanwhile said that the mining sector, especially coal, is going to be an important contributor to India, nearly doubling the size of its economy and becoming a five trillion dollar economy. The government has also said that mining sector amendments are crucial to India's efforts in reviving the economy post-Covid-19.

Changes in mining laws while ignoring the cost to communities and the environment

Over the past few months, the government started the process and had even proposed a series of amendments. But it was severely criticised by civil society experts and leaders of mining-affected communities for carrying out this consultation process during the mid-

dle of the pandemic.

Some of the things that were proposed in the amendments of the MMDR Act were the removal of the restriction on end-use of minerals, easing of rules for the sale of minerals by captive mines, empowering the central government to auction mines of states in certain cases, easing the process for the transfer of statutory clearances, providing a way for the extension of leases to government companies, conditions for lapse of mining lease, and non-exclusive reconnaissance permit.

On 15 March 2021, the Mines and Minerals (Development and Regulation) Amendment Bill, 2021 was introduced in the parliament and then within the next week, both the houses of the Indian parliament passed the amendments even as there were objections to its provisions.

According to a note by the PRS legislative research, the amendment passed provides that a mining lease will lapse if the lessee is not able to start mining operations within two years of the grant of a lease, or has discontin-

ued mining operations for a period of two years.

"However, the lease will not lapse at the end of this period if a concession is provided by the state government upon an application by the lessee," it noted.

One of the main complaints of the mining-affected communities has been that the bill was passed without proper consultation with them.

The Mineral Inheritors Rights Association (MIRA), a network of civil society groups, had sent a letter to the union ministry of mines in February 2021 against the amendment stating that "these proposals are fundamentally flawed from a perspective of mineral conservation."

"In economic terms, it is even not conducive for the best value capture and thus would be an injustice to our future generations" the letter had said.

By :Mayank Aggarwal

Source: Mongabay

Government Likely To Frame Policy On Project Financing In Coal Mining: Official

The government in March offered 67 coal mines for sale, launching the second tranche of commercial coal mining auction and termed it a step towards 'Aatmanirbhar Bharat'.

A government policy on project financing in coal mining is on the anvil to support development of private commercial mining in the country amid increasing opposition to back such projects over environmental concerns globally, an official said on Monday.

The government also indicated that, in all possibility, the second tranche of commercial coal mining auction will not be postponed due to the COVID-19 pandemic, but the Ministry of Coal will monitor the situation and make a decision accordingly, the official said after a virtual meeting the authorities had with prospective bidders.

'At the virtual pre-bid meeting for the second tranche of coal mining auction, the government said that it will come out with a

policy on project financing in coal mining,' the official told PTI.

A policy on this issue is being discussed in the government as financing coal mining projects is gradually becoming a challenge in wake of growing opposition globally.

Protestors claim that such dirty projects cause damage to the environment.

A nationalised bank has reportedly been unable to make a final decision on financing a major coal mining project in Australia due to such opposition.

Owing to mounting pressure, global mining majors have not shown any interest in the commercial coal block auctions by India. Mining of the dry fuel has been a monopoly to state-owned Coal India Limited.

Meanwhile, the government indicated to the prospective bidders during the pre-bid meeting that the Ministry of Coal will decide on the auction according to the coronavirus situation, the official said.

The government in March offered 67 coal mines for sale, launching the second tranche of commercial coal mining auction and termed it a step towards 'Aatmanirbhar Bharat'.

This is the highest number of mines on offer in a particular tranche after commencement of the auction regime in 2014.

The blocks on offer are a mix of mines with small and large reserves, coking and non-coking mines and fully and partially explored blocks spread across six states - Chhattisgarh, Jharkhand, Odisha, Madhya Pradesh, Maharashtra and Andhra Pradesh.

The government expects that commercial coal mining will bring in new investments, create huge employment opportunities and boost socio-economic development in coal-bearing states, and a market-based coal economy will help the nation become self-reliant in coal.

Source :Businessworld

Odisha Mining industries seek public hearing through online mode

The mining sector in Odisha has urged the Centre to allow public hearings through online mode instead of cancelling the procedure due to the resurgence of the COVID-19 pandemic.

Federation of Indian Mineral Industries in a memorandum to the secretary in the Ministry of Environment, Forest and Climate Changes, said that cancellation of public hearing will adversely affect mining production in the country.

The federation wrote a letter after the Odisha State Pollution Control Board cancelled public hearing of certain mining projects due to

the surge in the COVID-19 pandemic. The public hearings were cancelled to avoid gathering of people at the proposed events.

"Such cancellation of public hearing will cause inordinate delays in grant of Environment Clearance (EC) process," the federation said, adding that this will further impede mining activities besides adversely impacting the socio-economic development as well as employment opportunities in mining regions, along with revenues of the exchequer.

Therefore, the federation suggested expediting the public hearing for mining projects by conducting them through online platform/ digital

more rather than cancelling them.

Such online public hearing will greatly help in saving time and resources for the public as well as all other stakeholders while being able to strictly follow the governments guidelines for COVID-19 and being safe, it said.

The federation urged the Centre to advise the Odisha State Pollution Control Board to conduct public hearing instead of cancelling them for indefinite period.

Eastern Zone Mining Association also urged the OSPCB to facilitate EC proposals for the state based projects.

GOA: Mining corp before May 30

Goa's mining sector is a unique case study. In the early years, mining was seen as the best thing to have happened to the State. It created employment, it brought revenue and the main players invested in corporate social responsibility, before CSR became fashionable. Then the shadow of breaking environment laws darkened the sector and it wasn't long before the dark clouds of illegal mining completely obfuscated the sector. That's when mining came to a halt and reached crossroads where it got stuck for a long period, uncertain of which fork to take. The government, after much thinking and prodding by the stakeholders in the sector to take a decision, finally decided to take the path of forming a mining corporation to resurrect the sector that has been covered in the dust of illegal mining controversy. Ironically, this was the very option that Goa Foundation had suggested even a couple of years ago, stating that it would allow resumption of activities in the silent pits without having to auction the mining leases.

On March 24, presenting the State Budget in the Assembly, Chief Minister Dr Pramod Sawant surprised everybody with the announcement that the government was proposing to set up the Goa State Mining Corporation to revive the sector that has remained dormant since 2018 after the Supreme Court judgment of February 7, 2018 had set aside the second

renewals granted to 88 mining leases. At that time, the Court had asked the State to initiate process to grant fresh leases, but the State explored many other options in the intervening three years. Later the same evening that he presented the Budget, speaking to the media the Chief Minister announced that a Bill for the formation of the corporation would be introduced during the Budget session itself, displaying hurry that was otherwise unseen. Just days later, the Assembly session was hurriedly adjourned to July, and the House passed a vote on account for five months to allow the government to tide over the finances of the State, until the session is reconvened during the monsoon.

The adjournment came hours after the State Election Commission announced the schedule for the civic elections to five councils. What happened due to this is that the Bill that would have paved the way for the formation of the corporation was not introduced, which is a stumbling block to the plans of the government to start the mining corporation. Yet, last week, the Chief Minister set a deadline by which the mining corporation will be functional, and the date for this is Statehood Day, May 30, 2021. In the absence of an Act that would give legal sanctity to the new corporation, the only way in which the government can incorporate the new corporation is by promulgating an Ordinance which would then

have to be cleared by the House when it meets in July-August. Goa, therefore is set to get a mining corporation that will be the outcome of an Ordinance, and not of a Bill introduced and passed in the Assembly after discussion.

So, the absence of an Act, as the State Legislature has not passed the Bill to incorporate the corporation, may be met by promulgating an ordinance, but there are other hurdles on the path that may not be so easy to clear. For instance, while announcing the plan for the formation of the Goa State Mining Corporation, the Chief Minister did not include any financial provision for it. Any expenditure of the government has to be set against a budgetary provision, and a new corporation that has enormous financial implications, as it entails staff, office and other expenses, would require quite a substantial sum to be set aside to meet the outgoings. This has not been done in the Budget. In fact, MLAs had pointed out to the absence of such a budget head and a financial provision in the Budget speech and questioned how the corporation would be formed. Besides, mining being a very capital intensive industry and the sums involved, depending on how the corporation takes forward the sector, are still unknown.

For that matter, there is also no clarity on how the Corporation would function and whether it

Continued on Page 14

would be the mining leases or the ore after being mined that would be auctioned through the new entity. At that time of making the announcement of the corporation, and even over two weeks later, this is still not been revealed, though deadlines have been announced. One aspect, however, is certain, the government is finally looking at some tangible solution to the mining muddle that has lasted for longer than it was necessary.

A relevant question now is whether Goa should have taken this step much earlier. State mining corporations are not a new idea to the country, and Goa could do well to look at how other States have taken up mining via corporations. Odisha, Madhya Pradesh,

Maharashtra are some of the States that have such corporations. The Odisha Mining Corporation Limited was incorporated in 1956, the Maharashtra State Mining Corporation Ltd was incorporated in 1973. Why has it taken Goa so many years to change the way it was running the mining sector?

That, however, is not to say that a mining corporation would be the solution to all the ills of the mining sector in the State. A government corporation has its merits as they can have greater control on the local market forces but, while it theoretically enjoys all autonomy and flexibility in its management, it is a proven fact that government corporations are not devoid of political interference, which is the

biggest drawback of such corporations. The efficiency is also compromised by the fact that the appointees to the board of directors are politically motivated and serving government officers whose interests may be elsewhere and not on the growth, development, financial stability of the corporation they are directing. The State Mining Corporation that Goa is planning would have to rise above these issues if it aims to redeem the mining sector in Goa. When mining operations eventually resume in the State, perhaps after the 2021 monsoon, they should resume on a clean slate.

By: Alexandre Moniz Barbosa is Editor, Herald.

India's Iron Man: The Unsung Pioneer Who Made JN Tata's Industrial Dream A Reality!

Pramatha Nath Bose is an Indian geologist in the late 19th century, whose achievements have shaped the Indian economy of today. Born on May 12, 1855, in the village of Gaipur in West Bengal, Pramatha Nath Bose or PN Bose is counted amongst India's most eminent scientists, and his many achievements spearheaded the technological revolution in India.

Bose was always a meritorious student. In fact, when he was 15, he was overqualified to appear for the entrance examination for the Krishnagar College. So in this spare time, he wrote poems which would later go on to be published and admired.

Bose joined the Krishnagar College but transferred to St Xavier's College (University of Calcutta) in his third year, and it is here that he came across the Gilchrist scholarship, which would give him the opportunity to study in London.

He appeared for the examination and to no one's surprise, stood first.

Bidding goodbye to his friends and family, Bose left for the University Of London in 1874, for an undergraduate degree in Science—the curriculum included chemistry, biology, geology, physical geography and mental philosophy.

After excelling in the course, he graduated in 1877 and went on to attend the Royal School of Mines in London from where he graduated with maximum marks in biology and palaeontology.

Now, the young man had two choices in front of him. He could carry on in England, where he had a brilliant career ahead of him, or employ his teachings for the betterment of India.

Bose, did the latter. While in England, he learned that industrial regeneration was the only way that India could advance out of England's clutches, and that was possible only through scientific methods.

Bose applied for a government job under the Secretary of State, for both the Indian Education department and the Geographical Survey of India. However, he was not accepted into any position and was forced to stay in England. So, he started delivering lectures as a means of income.

Bose, however, was determined to fight for the cause of India and became the secretary of the England-based India Society, a socio-political body that was fighting for justice in India. Although the society was short-lived, eminent personalities like Dadabhai Naoroji and Ananda Mohan Bose, were its members.

Bose would take part in political meetings and

would strongly criticise the England government. This enraged the higher officials in London who decided to get rid of him by giving him the job he had applied for. He was given a chance to work under the Secretary of State of Indian Education, but chose to work for Geographical Survey of India (GSI), as his instincts were better suited for that field.

Bose returned to India in 1880 and joined the GSI as its Assistant Superintendent. This was the beginning of a long and illustrious career for him.

From 1880 to 1887, Bose spent six months on the field in Madhya Pradesh and would spend the next six months writing extensive reports about his findings, in his Calcutta office.

In this span of time, he came across the regions of Dhuli and Rajhara in Madhya Pradesh which had an abundance of iron ore deposits and were completely untouched.

In 1890, he was sanctioned by the Bengal government to explore the districts of Darjeeling, a region known for its impenetrability due to its hills and forests. However, Bose's expedition was successful, and he found ravines of coal.

Bose's most promising discovery came when he retired from GSI in 1903 and was

Continued on Page 15



several furnaces on a modern scale may be safely depended upon.”

His discovery soon reached all the corners of the world, and newspapers like ‘The Statesman’ and ‘The Englishman’ reported his work, and The Mining Journal Of London even appreciated his findings.

approached by Mohini Mohan Dhar, the Dewan of Mayurbhanj district in Odisha (formerly Orissa). The Dewan knew well of Bose’s capabilities and promised to fund his endeavour if he wanted to engage in the geographical survey of the state.

Bose undertook the responsibility of surveying the state which had no previous survey records and set to work in the winter of 1903.

Along the slopes of Gurumahisani hills, Bose found unusually rich iron-ore deposits. In fact, Bose noted this in his survey—

“It is tough to make even an approximate estimate of the quantity of available iron ores. But it would probably be no exaggeration to say that a practically inexhaustible supply for

Understanding that this was the industrialisation break India needed, Bose was quick to act. He wrote a letter to Jamshedji Tata’s sons urging them to leave the deposits in Dhuli and Rajhara in Madhya Pradesh, as they were miniscule compared to the one in Odisha.

Following this, the Tata group set out to establish his findings, and Bose’s prediction was right. Even today, Odisha is the largest producer of iron ore in the country.

Bose went on to lead the industrial revolution in India by advocating for science and technology. He also set up the National Bengal Institute to deliver quality education to people.

On the occasion of the birth centenary celebrations of PN Bose in 1955, India’s first Prime Minister, Pandit Jawaharlal Nehru, said:

“I am happy to associate myself, even though distantly, with the celebration of the birth centenary of Shri Pramatha Nath Bose. He was, I suppose, one of the earliest of our noted scientists and a great geologist. All of us, or many of us, talk of science and geology today, but in the middle of the nineteenth century it was rare for Indians to think of science. Shri Pramatha Nath Bose was thus one of the pioneers of science and more particularly of geology.”

Besides paving the way for industrial development in India, PN Bose also has numerous other achievements to his credit. Not only was he the first Indian graduate in science from a British University he was the first to discover petroleum in Assam, first to set up a soap factory in India and also the first to introduce micro sections as an aid to petrological work.

He was also the first Indian to hold a graded position in the Geological Survey of India where he served with distinction.

Bose passed away in 1934 at the age of 79. This man of science has left behind a rich legacy and will go down in the annals of history as the geologist who discovered steel for India.

By Ahmed Sherrif

Amendment- 21

Restructured approach to revamp mineral sector

1. Introduction:

The houses of the largest democracy have discussed a long-awaited topic this time. The parliamentarians have finally deliberated on a non-political topic as a part of their routine argument after decades. It was the proposed amendment on the Mines and Mineral (Development and Regulation) Act, 1957. This time it was projected as restructuring in the mineral industry through some of the historical reforms.

The Rajya Sabha deliberations were quite noteworthy. The arguments- cross arguments in the upper house have been underlined in

the mining community. Various recommendations from numerous states, supplementary reports, court judgments, media discussions, public view, and sundries were well considered to frame the Amendment-21. Reforms are part of development and mining sector welcomed the same in with warmth.

The Mines and Minerals (Development and Regulation) Amendment Bill 2021 was permitted by the lower house of the Parliament on March 19 and by the upper house on March 22. It recompenses the Mines and Minerals (Development and Regulation) Act, 1957, to aid quicker economic growth and generating faster employment in the country.

The new mineral code permits captive miners to sell in the open market and transfer governing authorizations in case of an auction, flagging the way for a simple command for the sector.

2. Insertions and Substitutions in Definitions, Expressions and Provisions:

2.1 Insertions in definitions:

There are few significant insertions in definitions such as “Dispatch,” “Leased area,” and “Production.” *Dispatch* is defined as removing mineral or mineral products from the lease area, including the consumption of

Continued on Page 16

mineral and mineral products within such leased areas. If a mine has any end use plant within the mining lease area, such as beneficiation, pellet, or sponge plant, the mineral consumed by such plant within the mine premises will be considered part of the dispatched quantity of the mine. On such quantity of consumption, all the statutory payments such as Royalty as per section 9(1), DMF as per section 9B, and NMET as per section 9C of the MM(D&R) Act, 1957 shall be applicable. Apart from these, the confusion arisen under rule 8(2) of the Mineral Auction Rules, 2015 concerning the value of mineral dispatched has also got some clarity. This definition gives few more clarity, such as crushing ROM into lumps and fines using primary and secondary crushers. Assume a quantity of ROM is crushed to fines or lumps within the mining premises before shifting the material to the end-use plant premises outside the lease. The said crushing operation within the mining area can be considered a part of dispatch, and all the statutory payments and premium, in case of auctioned leases, shall be applicable. During the recent past few of the litigations are going on in the various court of laws pertinent to similar aspects, they may hopefully get some technical orientation.

The definition of "leased area" is newly introduced in connection to the area specified in the mining lease within which the mining operations can be undertaken and includes the non-mineralized area required and approved for the activities falling under the definition of "mine" as referred to in clause (i). It comes up with an additional explanation that a mine continues to be a mine till exhaustion of its mineable mineral reserve and, a mine may have different owners during different times from the grant of first mining lease till exhaustion of such mineable mineral reserve. Further to be more specific, the expression "mineral reserve" is clarified as the economically mineable part of a measured and indicated mineral resource. It gives clarifications in two specific aspects i.e., the IBM guidelines concerning to threshold value notification dated 25.04.2018 has become a frame of reference for arriving at the grade of economically extractable minable reserve based on various market dynamics, and

secondly and more importantly, a hidden exit clause is added that the mine can be considered to be surrendered after exhaustion of the minable reserve even before the end of the designated period of the lease grant (50 years) if it does not remain as a mine as redefined herein.

Another essential insertion was about production or any derivative of the word production that means the winning or rising of mineral within the leased area for the purposes of processing or dispatch. A fairway of interpretation to this clause may be that the mineral produced must be kept for processing and dispatch as and then only it can be considered as a part of the definition of production. Any ROM raised from the mining lease and left unprocessed for months together shall not be considered part of the production of the mine. This clause is explicitly brought specifically to ensure the end use of the material raised from the mining lease area and ensure the conversion of ROM into saleable derivatives.

2.2 Clarity on lease lapse:

Mining operations used to be referred to as a group of activities such as raising, wining screening, crushing, loading, transportation, and others. To be more specific, the phrase "mining operation" is replaced with the phrase "Production and Dispatch". Specifically, in Section 4A of the principal Act, it is further clarified that a mine can be terminated if the production and dispatch activities could not be undertaken for a period of two years from the date of execution of the lease or by any circumstances, the production and dispatch activities got discontinued for a period of two years anytime later during the lease validity and proven to be in control of the lease holder. It is not clarified whether the two years of the discontinuity are to be considered at a stretch or in phases. Central Government may issue clarifications in coming days.

2.3 Sale of minerals by captive mines

In the recent amendment, the provision of sale of minerals of captive mines up to 50% is accommodated. The matter shall be dealt in two phases such as coal/lignite as one phase and non-coal minerals as another phase. In the case of captive coal mines granted through auction, a minimum quantity of 50% of the coal must be captively consumed, and the remaining 50% can be exposed to the open

market for sales after meeting the plant requirement. The said captive consumption clause is applicable for the plant linked to the mine during the coal block auction, and no other plant shall be interlinked to avail this benefit. Similarly, in the case of non-coal captive mineral block auction, open market sales up to 50% are allowed after meeting the plant requirement for which the mine was interlinked during the auction proposal and no other plant shall be considered to avail the benefit. This 50% of open market sales can be further increased for the Government companies or corporations by way of gazette notifications which shall not be applicable for any private miners. These open market sales will attract additional payment over and above the existing statutory payment such as royalty, DMF, NMET, etc. and premium for the cases of auctioned leases. The details have been enlisted in the sixth schedule of the amendment. No specific grade bracket or type of ore is considered in these sales criteria. The captive coal blocks auctioned under tariff-based competitive bidding allotment are kept away from this amendment of open market sales up to 50%. A detailed guideline on the same is expected from the Government of India.

2.4 Extension of leases to government companies:

In coal and non-coal sectors, the leases granted to Government companies or corporations have been allowed for extension of leases beyond 50 years. This an extension of the lease period beyond 50 years is subject to additional payment over and above the existing statutory payment such as royalty, DMF, NMET, etc., and premium for the cases of auctioned leases. However, it is to clarify that this additional payment-based extension does not apply to any private miner in either coal or non-coal mining sector. The non-coal blocks of Government companies or corporations extended between 12.01.2015 and 28.03.2021 are also falling under these provisions of additional payment. The same shall be applicable from the date of extension accorded to the mining leases. Donimalai iron ore mine of NMDC of Karnataka is a live example of the same.

Continued on Page 17

2.5 Transfer of statutory clearances:

Indian Government has taken few proactive measures in the transfer and/or vesting of clearances, which is evident from the amended section 8B of the Principal Act. As per this amendment, it can be interpreted that all valid rights, approvals, clearances, licenses and the like granted to a lessee in respect of a mine shall continue to be valid even after expiry or termination of lease and clearances accorded by any mineral block shall be transferred or vested to the new lessee granted through auction subject to certain conditions provided in such laws. In this provision, the definition of valid rights/ approvals/clearances means the rights/ approvals/clearances remained valid on the date of expiry or termination. Any rights/ approvals/clearances expired prior to the expiry or termination shall not be transferred or vested to the new lessee granted through auction. It is also to highlight the interpretation here that the transferred or vested rights/ approvals/clearances will remain valid till the expiry or termination of the lease period, and it shall be lawful for the new lessee to continue mining operations on the land till expiry or termi-

nation of mining lease granted to it, in which the previous lessee was carrying out mining operations.

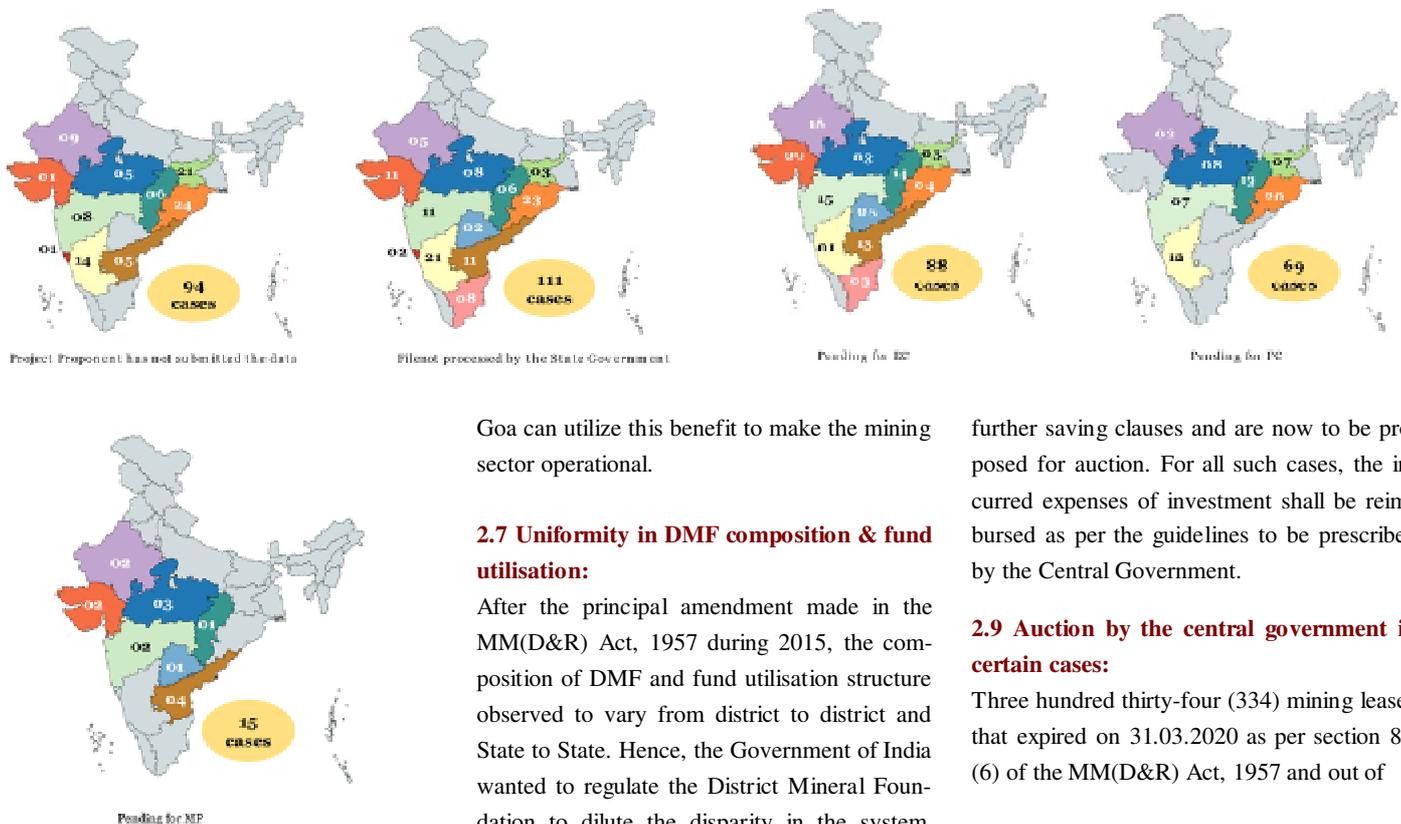
2.6 Concept of Designated Custodian for temporary arrangement:

The amendment also provides an option to Government companies or corporations to become the Designated Custodians (expression taken from CMSP, Act, 2015) for the leases expired or terminated and pending for execution. The State Government can grant these leases to the Government companies or corporations until selecting a new lessee through auction subject to a maximum period of ten years. This is also to clarify here that the said Government companies or corporations to whom the leases are supposed to be granted for a maximum period of ten years at a stretch. The said Government companies or corporations shall be deemed to have been acquired valid rights, approvals, clearances etc vested with the previous lessee. For these cases, the upper limit of area restriction of lease extent in a state as per section 6(1) of the Principal Act, will not have any bearing. The interpretation of valid rights/clearance is applies to these cases. The leases lying ideal in the State of

Central Government's intervention in the composition and utilization of the DMF fund.

2.8 Creating a level playing field:

The government of India observed that 572 cases were falling under 10A(2)(b) and 10A(2)(c) with a total area of 4.6 lakhs ha in the country. These areas were lying ideal for the past 40 to 50 years, and in few cases, project proponents have not submitted requisite clearances, ministries have rejected the proposals of applied clearances under various grounds. Few of the state wise details are mentioned here for reference; Status of almost 377 cases is mentioned herein above. These cases got addressed during amendments made in 2015. However, even after the expiry of six years, none of the State Government could revive them. If the Government continues to keep the cases alive and allot them to the RP or PL holders through non auction route, then transparency allocation concept may lose its ground. FCFS basic of allocation and auction process both will come into existence for a time being and may hamper the enthusiasm of auction trend. Hence the areas falling under these specific sections have been rejected from



Goa can utilize this benefit to make the mining sector operational.

2.7 Uniformity in DMF composition & fund utilisation:

After the principal amendment made in the MM(D&R) Act, 1957 during 2015, the composition of DMF and fund utilisation structure observed to vary from district to district and State to State. Hence, the Government of India wanted to regulate the District Mineral Foundation to dilute the disparity in the system. Accordingly, a provision is made for the

further saving clauses and are now to be proposed for auction. For all such cases, the incurred expenses of investment shall be reimbursed as per the guidelines to be prescribed by the Central Government.

2.9 Auction by the central government in certain cases:

Three hundred thirty-four (334) mining leases that expired on 31.03.2020 as per section 8A(6) of the MM(D&R) Act, 1957 and out of

Continued on Page 18

these, 46 leases were working leases. However, the state Government of Karnataka and Odisha could auction only 28 mines in time despite of various clarifications by the Central Government from time to time. This caused an acute shortage of mineral supply to the existing industries. Considering this, Central Government intends to interfere in the notification process of notified and non-notified mineral blocks, the auction process of ML and CL and/or the cases of termination or lapse of issuance of LOI. In consultation with the State Government, the Central Government shall finalize the timelines for bringing the mineral blocks into auction which is currently managed by the respective State Governments solely. It is also to be clarified that if the State government fails to notify the mineral blocks for auction or ordelay the auction process as scheduled by mutual consultation of both State and Central Government, then the Central Government can initiate the auction process by its own official infrastructure. The Central Government will exercise its power till finalization of Preferred Bidder and the same shall be intimated to the State government for further process of grant of lease to the Preferred Bidder. However, the State's revenue share in terms of premium and Statutory payments shall remain same as usual.

2.10 Restrictions on reserved leases:

The amendment proposed that the leases shall be granted to the Government Company or corporation or a joint venture with in five years form the date of reservation for which any area has been reserved under Section 17A of the Act. Moreover,if any cases the period of such five years are expired before 28.03.2022 and the State Government grants no lease to the respective companies then the

said reservation shall be considered to be lapsed.

The Government company or corporation in whose favour an area has been reserved before 12.01.2015 has commenced production from the reserved area without execution of mining lease, then such Government company or corporation shall lapse upon execution of the mining lease or 28.03.2022, whichever is earlier.

2.11 Clarity on "Lawful authority."

Hon'ble Supreme Court in WP (C) No. 114 of 2014 has held various companies and individuals responsible under the expression "without any lawful authority" as per Section 21(5) of the Act. This This leads to various judicial implications under various other enactments in force. Hence,Central Government has clarified that the expression "without any lawful authority" mean raising, transporting, or causing to raise or transport any mineral by a person without prospecting licence, mining lease or composite licence or in contravention of the rules made under section 23C of the MM(D&R) Act, 2015.

2.12 Simplification in certain provisions:

Henceforth, no mines are to be proposed to put for auction as a captive industry. No Non-Exclusive Reconnaissance Permit shall be granted. NMET will be an autonomous non-profit-making body. Any type of mineral concession granted under the MM(D&R) Act, 1957 is transferable without any transfer fee. Any reservation of mineral block for a Government company or corporation, or a joint venture company shall be subject to the additional payment specified in the fifth schedule of the Act which is even applicable for the leases reserved between 12.01.2015 to 28.03.2021. As a way forward, private company participation is entertained in the pros-

pecting and exploration sector subject to the notifications of the Government of India from time to time. Grant of ML or CL has been restricted to the Government companies with respect to leases falling under Part B of Schedule-I minerals (Atomic minerals).

3. Conclusion:

The amendment-21 brings "five-point significance" to the mining sector, such as transparency, efficiency, ease of doing business, creation of a level playing field,and output maximization. Transparency is brought by giving an extension of leases to government companies and giving clarity in a most debated topic such as "lawful authority". Private participation in exploration, allowing open market sales up to 50% in captive mining and stopping the further grant of captive mining are the signs of an efficient and systematic approach towards the mining industry. Bringing the saved cases into auction, transfer of lease without any fees and the seamless transfer of statutory clearances are symbols of ease of doing business. The Central Government's timely intervention in case of delay from State Government and restrictions in reserved leases are hinting towards the creating of level playing field in the mineral sector.

Similarly, bringing the concept of Designated Custodian for temporary arrangement in the mineral sector will maximise the mineral output in the country. Amendment-21 has brought hope in reviving the Goa mining sector as well as transparency in DMF fund utilisation. Further amendments in central rules framed under the MM(D&R) Act, 1957 will bring some more clarity in days to come. The "Amendment-21" is a miners' take with no second thought. State Governments, PSUs and captive miners seem to bite the big piece.

- Sabyasachi Nayak

Founder, MineMagma

IMPACT OF COVID-19 ON INDIAN MINING INDUSTRY: A SPOTLIGHT - Abhay Kumar Soni

Abstract: The effect of COVID-19 are being felt around the world and the Indian mining industry is no exception to it. This essay type general reading article has described the impact of COVID-19 on the mining industry concerning India. The analysis is based on observation and experience and not on total statistical data analysis or modelling because arranging unreliable separate data for mines and mining areas are difficult. It

Continued on Page 19

concludes that its effects are more severe on the social front, which has a fear factor too. The 'virus' type which spread with human contacts, can be contained with due care, available local resources and manageable with the precautionary approach. To control it, a planned managed strategy is best and should suffice the purpose. Any sort of panic may lead to trouble for the population and masses- the study reveals.

1.0 INTRODUCTION

From our ancestors, we heard of natural calamities which caused a large number of human toll or destruction. To name some, mention can be made of Spanish Flu (1918-1920), Plagues, Cholera, Asian influenza (Flu), Locust (tiddi) attack, HIV/AIDS, Kala-azar, dengue / Chicken guniya, Swine-Flu, Ebola and Zika virus attack. Natural disasters such as flash-floods, landslides and earthquakes etc. are also from a similar devastating category causing large scale destruction. Some of these were from endemic / pandemic category, spread across large parts of the globe whereas others were localized in one or two countries. In early days, and when most of us were not present, or if present, not aware of the destruction severity of such mass spreading calamities including their evolution, management and containment. The COVID-19 pandemic is the greatest global crisis after World War -II, affecting millions of people. This pandemic has worldwide spread in almost all countries in the world. Far from being just a health hazard, it has led to an unprecedented social crisis as well. With this background, I thought to track the impact of the crisis on the industry, with which I am associated since last three decades.

In this paper, we had neither analyzed statistical data nor modelled them to arrive the conclusion as I believed that the COVID-19 related statistical data are fast-changing, difficult to segregate for mining industry alone and exclusively. Therefore, based on authenticity and experience this analysis has been done. It is possible that one may record a difference of opinion with the author and may agree or may not. To analyze the devastations caused by such mega-size long-duration pandemic, we need a common-sense logical analysis for its management, together with the medical cure which this pandemic require. If anyone claims that various in-depth details are known and future pandemics can be avoided based on the details and experienced-practical analysis, in my opinion, such claim is not correct. The crisis posed by nature is different in the different time-period and has to be tackled differently, as they occur. We have to learn a lot from this sudden arisen pandemic situation. How will be the future course of actions in such situations, that can safeguard us probably, is still not unknown.

2.0 INDIAN MINING INDUSTRY

India is endowed with rich mineral resources it produces as many as 87 minerals, which includes 4 fuel, 10 metallic, 47 non-metallic, 3 atomic and 23 minor minerals (including building and other materials).

The mining sector is an important segment of the Indian economy. Since independence, there has been a pronounced growth in mineral production both in terms of quantity and value. The Indian mining industry is a capital intensive large industry contributing from 2% to 4% of national GDP. It has about 3938 operational mines of different mineral types from coal to minor mineral (**Table 1**).

Table 1: Number of mines in India

S. No.	Mineral Category	Number of mines	Remarks
1.	Coal Mines	409	Coal India Limited (CIL) Mines = 364. Singareni Coal Company Ltd (SCCL) mines = 45.
2.	Metallic and Non-metallic Mines	3529	As per the data of Indian Bureau of Mines (IBM), Nagpur; Reported mine-leases for 2019-20 (provisional).
Total number of mines in India		3938	

Since minerals are valuable natural resources being finite and non-renewable, they constitute the vital raw materials for many basic industries and are a major resource for national progress as well as development. Therefore, an analysis of the current situation will provide a spotlight for the industry as a whole. One may refer to it as the *status* or *the inside view* of the COVID -19 for the industry.

3.0 MINING COMPANIES AND THE COVID CURVE

Fig. 1 given below explains the various phases of a generalized 'COVID response curve'. Concerning the mining organizations and pandemic management in the industry as a whole, if we take a period of one year or 12 months as the period of its existence in civic society than this curve has three distinct phases, I, II & III viz. responsive phase (01 -03 months); flattening phase (03-06 months) - A phase of pandemic management and the recovery phase (06 -12 months). Though this COVID-19 curve embeds a lot of uncertainties, for broader understanding, it serves the best purpose. Each phase has its particular challenges and at each stage, the mining company and its role are extremely critical as well as important. Individual

Continued on Page 20

mine (or mining organization) in rural areas can achieve varying results, depending on the management course they adopt. The results may be positive or negative and success in one phase does not guarantee success in the next.



Fig. 1: COVID Response Curve and Mining Industry

The pandemic has also taught us the concepts of the first-wave & second-wave and stronger-strains & weaker strains of coronavirus, which was not known to us earlier. In continuation of its handling, we came across that they are manageable with the precautionary approach.

The mining industry is a labour-intensive production industry moving on the line of modernization. By its very nature, it is not a 'white-collar industry' that has clean, healthy and dust-free milieu. At the same time, it is also true that the industry is not complete without the support of other ancillary industries (e.g. mineral processing mills, metal extraction companies and many service/ production and maintenance units that provide supports to core mine operations), referred as 'stake-holders', here. Such ancillary industrial units have immense human interference too because of several diversified anthropogenic activities when we talk about pandemic handling. Nonetheless, such 'stake-holders' of the industry requires social as well as technical support for the crisis management if smooth functioning of the industry, as well as mines, is to be ensured. As described above, each phase of the pandemic has its particular challenges and at each stage, everyone's role is important so let me elaborate it further for better understanding.

i) Role of concerned mine (Production units): Mine operators can take benefit of their goodwill with local communities for tangible benefits. Various mechanisms can be set up with common sense and in consultation for societal management. Therefore, the role of mine as a production unit and as a stakeholder is major as well as constructive. Adherence of government guidelines, consultation, proper communication and effective implementation, will act as a bridge between society and industry. It is desired that local conditions of the mine /company should be prioritized to minimize losses. Later on, when the pandemic is controlled, an adjustment factor may be applied for recoupment of incurred commercial losses. The proactive approach and positive attitude will help in maximizing gains thereby building community relations.

ii) Role of concerned institutions: The word 'institution' is referred here for those which support the main production units/mines namely, policy organizations, associations, R&D organizations, academics, etc. These constituent stakeholders of the industry are since intra-linked, their role can't be ignored. For the Indian mining and mineral industry, Federation of Indian Mineral Industries (FIMI), New Delhi covers the interest of all industrial minerals, minor minerals and minerals mined by artisanal mining (small scale mining). The gamut of major fuel minerals i.e. coal & lignite, metallic minerals and non-metallic minerals, though covered separately but not out of sight from FIMI. To promote the interests of all mining-related activities right from the excavation of mineral (mining), mineral processing, metal extraction and other mineral-based ancillary industries, FIMI is an important independent apex body, since 1966.

Mines and quarries in private sectors, public sectors and joint ventures look towards FIMI to promote their professional interests especially leases - grants and renewals, taxation, trade, import /export, labour and tenure etc. FIMI has more than 400 direct members and 25 regional associations which represent entire local small mining units in the country. Each of these concerned institutions is supportive, yet their role in impact rectification is vital for the industry. By playing, long-term and short-term on-site roles, the industrial growth can be brought back on track and positive results can be assured in the Indian peninsula.

iii) Role of stakeholder: There are many dependent local industries on mines. These ancillary and non-dependent stakeholders are equally hard hit by COVID-19 as its nature is of that type. In a variety of ways, they can play a social role in the evaluation and assessment of the impact of COVID -19, the building of de-tracked social relationships with public and support to the mining company on case to case basis.

Continued on Page 21

iv) Role of government: There is no second thought that the role of government is the most important and on top. For the action and control, it is beyond doubt that Industrial decisions and federal /state government decisions have to be in tune with each other. It is quite obvious that both mines and other stakeholders are at loggerhead and have to play the role of recuperating. The role of each one involved in recovery will depend on the impact type or nature they are dealing to solve with.

Right at the inception of the pandemic, the federal government of India decided for the complete lockdown. At the middle of pandemic torage, the government played the role to ensure that the balance does not rupture from COVID disruptions in trade and operation and partial /sectoral lockdown was imposed. The last phase, probably not yet reached, has efforts for recovery of losses incurred and gaining momentum to achieve business as usual scenario.

It is significant to note here that overall country-level data and state-level data, as recorded by many agencies are available for micro and macro analysis but it is difficult to separate the data for the discussed industry, separately and exclusively because the COVID management is controlled by local civic bodies which in turn lies in the jurisdictions of state authorities. Hence, the mining industry role with government support should be to induct structural reforms and fill the fiscal gaps so that major collapse is avoided. Small and minor gaps will be bridged slowly with time.

4.0 ASSESSMENT OF EFFECT

According to the Ministry of Health, New Delhi data and media reports of October 13, 2020 (PTI) in India about 47% of COVID -19 deaths have been recorded among those aged below 60 years. The ratio of Male: Female fatalities were in the ratio of 70: 30 (Table 2).

Table 2: COVID -19 Fatality rates with and without comorbidities

Age Group	With comorbidities	Without comorbidities	Remarks /Explanation
60 years and above	24.6 %	4.8 %	Comorbidity is associated with worse health outcomes, more complex clinical management, and increased health care costs.
45 years to 60 years	13.9 %	1.5 %	
Below 45 years	8.8 %	0.2 %	

After, December 2020 there has been a decline in the COVID -19 positivity rates which stand at 8.07% (Cumulative); 6.24 % (Weekly) and 5.16 % (Daily).

Mineral-rich states namely Jharkhand, Odisha, Bihar, Madhya Pradesh, Rajasthan, Maharashtra and Chhattisgarh, where the majority of mines are located and important minerals (coal, iron ore, manganese ore, limestone, bauxite, dolomite and chromite ores) are extracted, the imposed lockdown due to COVID-19 has affected the mineral production and related ancillary activities during the whole year of 2020. In the April-June quarter of 2020, the GDP of the world's most economies shrunk due to pandemic (Fig. 2), India being highest at (-) 23.9 %.

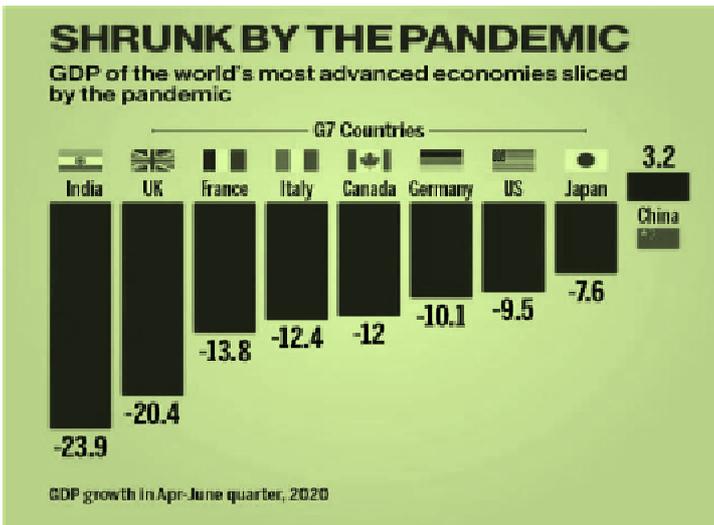


Fig. 2: COVID -19 and GDP growth in different countries

(Source: Business Today. in)

COVID-19 has put an immense impact and operational pressure on the owner/mine operators of the whole mining industry. The production has abruptly been scaled down and supply chains have been significantly disrupted. The market of metals has come down due to a drop in international trades. Indigenous demand of raw material from industry is also reduced because of the closure of enterprises. Financial losses are exceeding the profits of many mining companies, whether operated by the government or by the private sector companies. On magnitude front, though difficult to quantify, the impact assessment can be said as 'severe' (Singh, 2020).

Indeed, on the workforce governance and management, involved in the mining industry, retrenchment/job losses and restructuring are the most visible and observable impacts of COVID-19 (Fig. 3). This figure, given below, clearly depicts that the COVID -19 has impacted the mineral industry in terms of - (a) Reduced demand from user industries both domestically and internationally (b) Higher taxes (c) Shrinking of

mining based ancillary industry/ Reduced market of contractors (d) Shortage of labour resources (e) Delayed payment schedule and (f) Slumping production leading to financial losses (Sandip Saha, 2020).

Continued on Page 22

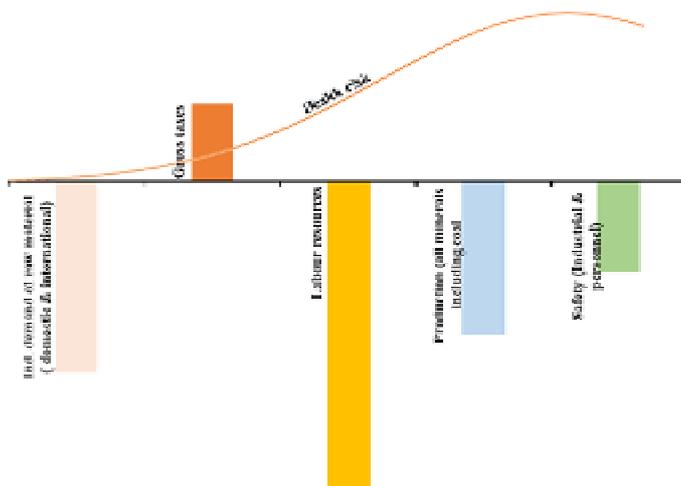


Fig. 3: COVID-19 impact graph

- vi) Effect on the health of the workforce
- vii) Effect on the morale of the workforce (behavioral aspects)
- viii) Effect on employers and employees relations (aspirations, rights, disputes etc.)
- ix) Effect on governance and management at the corporate and unit level (implementation regarding).

These effects, described above, are mostly social and psychological but their impact on the professional front can disarray the organizational gains. The pandemic of Corona Virus (COVID-19) that hit India is increasingly testing the psychological resilience of the masses. When the global focus has mostly been on testing, finding a cure and preventing transmission, people are going through a myriad of psychological problems in adjusting to the current lifestyles and fear of the disease (Varshney et al., 2020). An online survey to evaluate its psychological impact data has been done (Varshney et al., 2020) but not for the mining industry alone. During the initial stages of COVID-19 in India, almost one-third of respondents had a significant psychological impact. This has urged the need for more systematic and longitudinal assessment of the psychological impacts of the population, which can help the government in formulating holistic interventions for affected individuals (Varshney et al., 2020). Though health responsibilities of the workforce are not the sole responsibility of organizations but support to contain the epidemic spread is in the hand of industry and its management staff. In brief, in the pandemic period (pre/post & during) the associated uncertainty had risen sharply.

5.0 MANAGEMENT: PREVENTION AND CONTROL

Pandemic prevention and control is the priority of the government as well as local civic bodies. Mines and mining areas of the mining industry are just a part of the government work areas. According to Bhatnagar, 'strategic mine management' is a way forward for the whole mining industry (Bhatnagar, 2020). For personnel safety and management, using a mask and maintaining social distancing is a cost-effective solution. The pandemic management and its solution lie in the health /medication domain, but voluntary support of all, either permanently or temporarily, is the supportive gesture for the prevention and control of the crisis is the best way. The common approach should be to take personal care, avert it and manage with precaution.

Analyzing the COVID-19 curve, which has 03 different phases - I, II & III, it was found that the pandemic can be kept contained with precautionary measures and care. It's possible to curb it from the available common resources but containing it is a bit difficult task due to its ubiquitous nature. The holistic and industrial perspective of the pandemic management dictates that the prevention and precautionary measures are the best management solutions for the whole industry. If stakeholders from industry and constituents from civic society, join together at the responsive phase (Phase-I; lockdown at initial /begging stage) itself, we can win the fight against the pandemic and curb its spread. At once, when the crisis is overcome the changed practices be adopted in routine.

5.1 What is important for COVID Management?

Some keys that should be considered for COVID management are - Locally available resources as suggested by the health experts; no panicking; common person understanding of three phases of crisis i.e. quick-respond, manage and recover; patience-full yet strong and resilient leadership to abate. With these keys, one can create a manageable and 'favourable to live condition' in the industry.

Some mining companies will need to retrench or restructure the workforce, close, merge or go into administrative reforms. To sustain and remain viable in industry one may need to re-negotiate contracts for benefits. Thus, governance and management at the corporate and unit level will notice changes, which may be taken by employees either negatively or positively. It is thus, assessed that the coming changes are extremely important for employers. The observed effects are both direct and indirect e.g.

- i) Effect on public relation
- ii) Effect on communication and consultation towards workforce
- iii) Effect on sharing of thoughts and knowledge
- iv) Effect on clarity in decision making
- v) Effect on the leader and their management skills (leadership quality)

Continued on Page 23

So far and as our observation goes, there is no fixed dimension to manage, therefore this crisis needs to be managed by 'flexible management approach'. 'Awareness' and 'Precaution' will be another important as well as helpful tools to control and manage unprecedented COVID-19 situations. Nation's major mining states with important minerals reserves and production and as named earlier, must take COVID management as an important issue of great concern, particularly in the mining areas, due to labour their intensity and migration.

Migratory manpower, involved in the actual groundwork and those who have retreated to their home base during lockdown due to pandemic, should be re-established because such migration is causing a setback for the mining industry too.

6.0 CONCLUSIONS

This essay type article has described the impact of COVID-19 on the Indian mining industry as a whole. Mining is heavily dependent on the labour and the workforce, hence the pandemic can be prevented with due personal care and common safety bindings. It is manageable with precaution and proactive approach. Compared to the other pandemic, this pandemic should be managed with long-term strategy only, as a short-term strategy will not suffice the control. Since the root cause of the pandemic is a 'virus' of the type which spread with human contacts, *health deterrence/ recurrence* and social side effects both should be attended together and none of them is spared or leftover. Any sort of panic may lead trouble to the population and masses.

It is concluded that the observed effects of the 'coronavirus' are more severe on the social front, which has a fear factor too, therefore the disturbance must be handled with due diligence. It was found that most of the Indian population, about 0.3 % in mines and mining areas in India, had a significant psychological impact because of the pandemic.

7.0 REFERENCES

Varshney Mohit, Jithin Thomas Parel, Neeraj Raizada and Shiv Kumar Sarin, 2020. Initial psychological impact of COVID-19 and its correlates in Indian Community: An online (FEEL-COVID) survey, Open access research article published online: May 29, 2020; <https://doi.org/10.1371/journal.pone.0233874>.

Bhatnagar, Bhanu Prakash, 2020. Strategic mine Management and Effect of COVID -19, Cement Manufacturer's Association (CMA), Noida, July, pp. 09-26.

Singh Rajdutt Shekhar, 2020. Impact of COVID-19 on Mining Sector, Business World, August 19, 2020.

Sandip Saha, 2020, Innovations and investment in India, Global Mining Review, Vol. 3 Issue 6, Nov -Dec, pp.10-13.

About Author:

Abhay Kumar Soni

Abhay Kumar Soni is the Chief Scientist of CSIR-Central Institute of Mining and Fuel Research (CIMFR), Nagpur.

DISCLAIMER: This is a compilation of various news appeared in different sources. In this issue we have tried to do an honest compilation. This edition is exclusively for information purpose and not for any commercial use. Your suggestions are most valuable.

Your suggestions and feedback is awaited at :-

editor@geonesis.org