NOT FOR SALE

Geonesis

(A GEMCO KATI INITIATIVE)

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FOREWORD BY EDITOR

The Contribution by Indian Mineral Sector towards GDP fell from 1.93% in 2012- 2013 to 1.63% in 2018-2019 in spite of having sufficient drilled Mineral Resources which could be progressed with or without additional drilling into productive mines. These Mineral Resources and Reserves are highlighted in the 12 mineral-wise documents that the Ministry of Mines has recently circulated seeking inputs from professional bodies. The Indian Exploration spending is a meagre $17/km2 as compared to $246/km2 by Australia and $51/sq/km2 by our BRICS counterpart-Brazil. India continues to depend on import of gold, copper, cobalt, molybdenum, tungsten, diamond, platinum, nickel and fertilizer minerals etc despite having mineable Resources of these minerals. The current stagnation in the exploration sector is due to the highly investor-unfriendly MMDR Act-2015. ***This situation has to change***, all the more because of the immense pressure on creation of large scale employment opportunities in the rural areas of the country and in view of the SELF RELIANT INDIA call given recently by our Prime Minister and series of measures announced by the Finance Minister for the sake of EASE OF DOING BUSINESS. In these Uncertain times of CORONA-Virus when Mining Sector has been badly affected we humbly present this special edition of Geonesis . We also invite articles on improvement of Govt policy , Statutory Clearances , Tax & Regulatory issues affecting the sector .

Your opinion matters

Jijo George
Editor
Geonesis

CONTENTS & ARTICLES

REFORMS IN THE MINERAL EXPLORATION & MINING SECTOR — D.V. PICHAMUTHU

Background.

The original MMRD Act of 1957 saw four major amendments before the 2015 amendments. They were in 1972,1986,1994 and 1999. The first two amendments reduced whatever little role the private sector had in non-coal mining. After the liberalization measures carried out by Dr. Manmohan Singh under the watch of Prime Minister P.V. Narasimha Rao were introduced, the role of the private sector in exploration and mining was considerably enhanced. In fact, the amendment of 1999 saw the change of MMRD to the MMDR Act thereby emphasizing the primacy of development over regulation.

To emphasize the dire situation in which the mining industry is in, here are a few facts. In the 1980s, both India and China were producing 3t. of gold each. Today, China is producing over 400t. while India's is down to 2t.per annum. This in spite of the fact that peninsular India's geology is similar to that of South Africa and Australia both of whom are producing hundreds of tonnes of gold per annum. Another fact is that while India likes to call itself a mineral-rich country, the annual value of mineral production (excluding fuel & minor minerals) is Rs.60,000 cr. while our import bill on this account is Rs.3,56,000 cr. i.e. nearly six times.

Identifying the problems.

The most important factor but not the only one today, is the MMDR Act as amended in 2015. Some of the main provisions which are acting as a hindrance are:

1. Exploration is the bedrock on which the mining industry sustains itself. It is a high-risk, high-cost activity and at present also involves high-technology tools. No progressive mineral-rich country like Australia or Canada risks the tax-payers' money on such ventures. However, the Act has virtually nationalized this activity by putting the onus on GSI, MECL, and other public sector entities.

2. The arbitrary decision of cancelling all mining leases granted prior to 2015 with effect from 31 March 2020 has sounded the death knell of merchant mining and is going to severely affect downstream industries like steel.

3. The auction regime has proved to be a disaster both in the coal and the non-coal sectors.

4. Huge collections under the District Mineral Foundation even from explorers have not been spent for the benefit of those affected by mining which was the stated objective of the fund. You must have heard the Finance minister's speech where she has proposed that this fund be used for purposes other than that for which it is meant. At the same time, the burden on the miners has increased due to this levy.

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5. Inordinate delays in processing applications for mineral concessions have called a halt to almost all new exploration and mining activity. A case in point is a gold mine is waiting to be opened with all clearances in place in Karnataka, but the state government is refusing to execute the lease!

6. The status of India can be gauged by the fact that an independent International Agency called Fraser Institute had in 2017 ranked India 97th out of 104 countries in terms of investment attractiveness index for exploration and mining. After that, they have now stopped even ranking India!

7. Other problems:

(a) The effective tax rate for mining is 58% in comparison to less than 40% in South Afrika, Australia and China

(b) India's Export-Import Policy is heavily skewed in favour of steelmakers and aluminium producers to the detriment of merchant miners.

The way forward.

1. The MMDR Act of 2015 needs to be amended drastically especially those provisions pertaining to exploration

2. Only fully explored mineral deposits should be auctioned. Otherwise, first-come-first-served policy to be followed as in all progressive countries.

3. Non-exclusive Reconnaissance Permit should be replaced by exclusive RP as in the old Act.

4. Seamless transition from Reconnaissance Permit to Prospecting Licence to Mining Lease has to be restored.

5 Transfer of mineral concessions should be easy and transparent.

6. A level playing field should be established between Government/Public and private entities.

7. An easy procedure for the listing of mining companies on the Bombay Stock Exchange should be evolved to enable mining companies to raise funds.

8. Processing of applications for mineral concessions should be time-bound and transparent.

9. The effective tax rate for mining companies should be brought down to 35-40%.

10. The inverted Export-Import policy favouring manufacturing companies over mining companies should be modified.

Conclusion.

The root cause of the problem is that the Government considers the mining industry as a milch cow. Therefore, whether is the high tax structure or the auction route, the aim of the government is to maximize revenues. Only when it realizes that the long-term viability of the industry is more important than immediate revenue generation will effective steps be taken. Otherwise, we can safely bid farewell not only to the mining industry but also to all dreams of make in India.

D.V. Pichamuthu.

Past President,

Federation of Indian Mineral Industries.

SUGGESTIONS TO MAKE MINERAL RESOURCES DEVELOPMENT HIGHLY ATTRACTIVE TO PRIVATE INVESTMENTS - BY DR.V.N.VASUDEV

Ever since Corona Pandemic began, employee retention and employment generation have inevitably become most important responsibilities of Governments at the Centre, States & also Private Entrepreneurs. Mining, Quarrying and Water resources management are the biggest outdoor sources of employment besides Agriculture, for lakhs of youth, many of whom have migrated back to their villages & towns. The mining sector has the potential to grow to employ about 48lakh persons directly and create a total of 5 crore jobs in mines and related ancillary industries and services, by 2025. The ratio of direct to indirect employment in the Mining Sector is 1:10. “An investment of US$ 1 in exploration is estimated to give a return of US$15” (Ernst and Young Rept.-2011, p. 34). Another independent study says, that “for every rupee of investment in mining there is an investment of Rs.12 in the downstream value chain ancillary industries". Specially in case of gold, every tonne of gold mined will save 55million US$ in Forex and ploughs Rs.150 to 200 Crores into the Local Rural Economy in the form of wages, ancillary industries, supplies of materials and machinery, skill development, rural infrastructure , education, health care, entertainment etc., besides generating revenue to the Govt. Therefore, mining serves to alleviate poverty to a large degree. As per McKinsey Global Institute, India needs to create 150 million non-farm jobs by 2025, to significantly reduce poverty. The Confederation of Indian Industry (CII) in 2011 had done a study for the Ministry of Mines and brought out a “Skill Mapping Report”. As per this report, in the period up to 2025, there will be a need for some 3,000 geoscientists and 40,000 mining engineers over and above the normal supply. Achieving self-sufficiency in minerals and reducing the dependence on import of metals and minerals, on a fast track investment mode, are the other most important national goals set by the Hon’ble Finance & Corporate Affairs Minister as a follow up on the Prime Minister’s call for a “Self-reliant India Movement” on the 12th May2020. The Hon’ble Finance Minister made Policy Reforms -related pronouncements to fast track investments into Coal Sector & Non-coal Minerals Sector.

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It is in this back drop I have written this article, thanks to Mr. Jijo George, Editor of GEONESIS, who encouraged me to submit this article for publication in GEONESIS. I request all stakeholders in the mineral exploration and mining industry to give their feedback or consider writing to the Ministry of Mines on what needs to be done to make the Indian mineral sector a significant contributor to the national economy. After reviewing briefly the performance of the MMDR Act in the last 5 years and the glaring deficiencies in it, I have offered suggestions to make Mineral Resources development highly attractive to Private Investments. I have examined the recommendations of the HLC-2019 and the recent The Mineral Laws (Amendment) Act-2020in the light of the current economic downturn caused by Corona Pandemic.

It is known to the authorities concerned that unlike money in a bank, Mineral Resources in the Earth left unexplored & unutilized would NOT help the economy of any Nation. Large scale & wide spread mining maintains the supply chain whereas Mineral Exploration ensures replenishment of the depleted resources, conversion of existing Resources into mineable Reserves and discovery of new mineral resources. Prospected Mineral Resources left unutilized should be viewed as Non-Performing Assets which deprives revenue flow to State & Central Governments and mineral supplies to industries. Therefore, any Statute should be simple and time bound with bear minimum restrictions, conditions and should be incentivizing to attract investors in large numbers. The statute should focus on increasing the Policy-mandated deliverables in a strictly time bound manner. I am happy that The Hon'ble Finance Minister, while speaking on Reforms in Minerals Sector referred to the Ministry's intent of introducing "structural reforms to boost growth, employment and bring state-of-the-art technology especially in exploration through introduction of a seamless composite exploration-cum-mining-cum-production regime."

As per the HLC Report-2019, 95 minerals are being mined/ quarried in the country viz., 55 Minor Minerals, 23 non-metallic minerals, 10 metallic minerals, 4 fuel & 3 Atomic minerals. There are 70 minerals commonly used in the country (as listed in MoM's Investor's Guide dt.15.8.2015). Out of these, this article addresses exploration and mining of 33 metallic and non-metallic minerals. They include Bulk Minerals (iron ore, manganese, bauxite, chromite, limestone, barytes, magnesite etc.) and Non-Bulk or the so called deep-seated minerals and metals such as Precious metals (Gold, Silver & Platinum, Palladium, Rhodium); Base metals(Copper, Lead, Zinc, Molybdenum, Cadmium, Antimony, Tin, Tungsten etc); Energy-storage metals (Nickel, Cobalt, Lithium, Vanadium, Graphite); High Technology metals (Niobium-Tantalum, Cesium and REEs); Fertilizer minerals (Potassium & Phosphorite); and Gemstones (Diamond etc.). Each mineral has it's own characteristic distribution in nature. Their content and style of distribution in the Earth vary widely. Their market price is subject to wide fluctuations. Sometimes imports become cheaper than indigenous mine production. High Taxation and revenue sharing especially for non-bulk metals makes importing cheaper. A "Think Tank" at the Council on Energy, Environment and Water (CEEW) has identified most of the non-bulk metals as *"Critical Mineral Resources urgently required for India's manufacturing sector"*(DST Project Ref ID: DST/ NSTMIS/ 05/171/2014-15, Pub. in July 2016). *"The growth of domestic manufacturing has not been able to match the rapid growth in the demand for consumer goods and technology-enabled products, neither in scale nor in terms of diversity"*(Ref. CEEW Analysis-July 2016). In developed nations such as the US, Canada, Australia and some European countries the contribution of the mineral sector to their GDPs is as high as 10%. Such high contribution to the GDP was entirely due to highly liberalized, incentivized Mineral Exploration Laws adopted by these Nations for attracting private investments. Every other industry including Agriculture is dependent on adequate supply of minerals. *The Focal to become "Vocal on Local" is a Mine or a Quarry.*

*Starting Exploration and Mining Business*is so difficult!: Whilst India has made a leap of 23 ranks in the World Bank's Ease of Doing Business, the Indian minerals sector does not even find a place in the Fraser's international ranking of Mining countries in Ease of Doing Business because the *Ease of Starting Exploration and Mining Business* is so difficult! As per the MMDR Act-2015, investors have no choice but to endlessly wait for State Governments to identify and announce areas for auctioning of either Prospecting cum Mining or direct Mining. Then follows years of endless waiting for a host of Statutory Clearances. Then there are other hurdles such as restrictions on transfer of RP, CL & ML; restrictions on Mergers & Acquisitions etc. Added to these is world's highest total tax rate. *The focus of the Act is Revenue Maximization not Resource Maximization and Utilization. Instead of taxing the profits by increasing the number of Corporate Tax payers the Act has focused on taxing the Revenue there by increasing the cost of mining, the cost of mine produce and eventually the cost of downstream value-added products.* Auction has led to drying up of FDI into mineral exploration sector and drove away Indian investors to overseas mineral-business friendly destinations in search of opportunities for mining gold, platinum, base metals & RM-REEs.*US$2.166 billion was the domestic capital out flow* in year 2016 for 26 mineral related deals.

NERP: Auction coupled with the non-exclusivity of Reconnaissance Permit (NERP) has led to total stoppage of mineral exploration in the country. There were no takers for NERP in the last 5 years. The Auction route for granting CL (PL cum ML) has also totally discouraged investments into resource drilling and conversion of extant Mineral Resources into Mineral Reserves particularly of non-bulk metals and minerals. *I am happy to note that the MoM has proposed to amend the NERP to make it ERP (But please see Para-3 under Suggestions).*

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NMEP: Auction route has also not fulfilled the mandates contained in the National Mineral Exploration Policy (NMEP-2016); Paragraph 15.1 of the NMEP states that: *"State Governments have a key role to play in building a steady stream of auctionable mineral Prospects. They will have to take up mineral exploration reports prepared by the GSI or other agencies and build on them to complete G3 or G2 level exploration….."* This makes it clear why the States have failed to grant CL in significant number. This has not only prevented discovery of new Mineral Resources but has also caused heavy loss of Revenue to the Government. *Therefore, hanging on to the Auction process for grant of CL would again fail to achieve the National Goals. Please see Para-3 under Suggestions.*

NMET: The pathetic performance of NMET-sponsored exploration is glaring. NMET has been ineffective in delivering it's purported purpose of promoting regional and detailed exploration in the country. Not even one prospect explored under NMET has come to be allocated for ML or CL in the last 5 years. *MoM would do well henceforth to utilize NMET funds to support GSI to generate fundamental Geoscientific data which would be useful for Exploration Target Generation by private players and PSUs.*

NITI Aayog's "Transforming India's Gold Market": Of all the metals Gold plays a very important role in the National Economy of India because of the consistently huge demand for this precious metal of the order of 800 to 1000 tonnes per annum which is entirely met by imports at a huge cost in Forex to the tune of *USD 42 billion per annum*. It is in the culture of Indians to buy gold notwithstanding a high import duty of 12.5%. Millions of people in our country are dependent on gold for their livelihood in Jewelry industries & trade. It is important to note that stock of gold in a country's Treasury and it's annual accumulation (=wealth creation) lead to growth of a Nation's Gross Domestic Product (GDP). Gold bullion is traded in the commodity markets. On account of it's volatility in terms of price, gold has the ability to tilt the individual's or a Nation's economic fortunes. People regard the investments made in gold and land as their *Safe Haven* savings. For all these very valid reasons the Ministry should bring about restriction-free amendment into the Act which can not be achieved through Auction as it takes away the freedom of entrepreneurs and investors to identify and select areas for either Prospecting or Mining. Use of gold in electronic gadgets is also increasing, for eg. a tonne of scrapped mobile phones contain 300grams of gold compared with 1 to 3 grams of gold in mineable rocks in nature. The Gem and Jewelry market in India is home to more than 300,000 players who employ over 4.64 million workers and is expected to employ over *8 million by 2022*. Its market size is about US$ 75 billion. It is expected to reach US$ 100 billion by 2025 as per a Report on "Transforming India's Gold Market" prepared by *a High level Committee in NITI Aayog, Chaired by Shri. Ratan P. Watal.* This Report reached the Finance Ministry on 26.2.2018. The NITI Aayog's High Level Committee has Re*commended "to focus on measures to boost the domestic supply of gold to reduce dependence on gold imports, by streamlining policies on gold mining, refining and monetisation.* The Committee further Recommended convergence of regulatory domain and functionary authorities through a *Gold Board of India*. Similarly, a constitution of a *Bullion Exchange for Gold* was also recommended.

Mr. Amitabh Kant CEO of NITI Aayog, at the 4th Nat. Conclave on Mines & Minerals organised in July 2018 by the Ministry of Mines has said; "*importing minerals made no sense when there were ample reserves within the country*".

"It cannot be done by the government alone. The private investors would have to take the lead," said Mr.Rajiv Kumar Vice-chairman of Niti Aayog. Investment, especially private investment, is the key driver that drives demand, creates capacity, increases labour productivity, introduces new technology and generates jobs. Production of minerals is a priority for which the blueprint proposes a revamped exploration policy and a regulator".

Union Budget Dt.5th July 19: The following proposals made in the Union Budget presented on 5th July 19 gives an idea of the mega scale of mining and exploration activities to be undertaken on a war footing. This requires restrictions-free laws to be enacted. It could be a combination of 30% Auction and 70% grants through FCFS route without disrupting the rights already vested for RP, PL, MLs under pre-2015 Act (*See paras 1 to 4 under Suggestions*).

- Manufacturing and Agriculture Sectors to contribute $1 trillion each; Mega manufacturing plants of solar photovoltaic cells, lithium storage batteries and solar electric charging infrastructure;*(Since India has set a goal to switch completely to electric vehicles by 2030, it needs to invest in the domestic manufacturing of lithium-ion batteries. India needs to aggressively explore and build up adequate resources of lithium, cobalt and nickel. At the same time Indian PSUs and private companies need to forge JVs for secured supply of these metals in order to build up its domestic battery manufacturing industry.)*
- Incentive schemes for battery-powered bikes, scooters, cars and three wheelers;
- 19.5 million houses under Pradhan Mantri Awas Yojana (PMAY) during 20-22;
- 125,000km of roads under the Pradhan Mantri Gram Sadak Yojana.
- To bring in Rural India under the Digital India Program for effecting INCLUSIVE growth and create jobs.

The mineral prospectively of our country and the existing drill-proven Mineral Resources of a number of non-bulk minerals are highlighted in the following 5 important recent publications

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and in the Annexure; "Exploration & Mining Opportunities in India: An Investor Guide", dt.15th Aug.2015 and "New Insights on Mineral Exploration Concepts & Guidelines", Misc.Pub. No.66 of GSI Dt.Feb.2018. These two are published by the Ministry of Mines. GOLD in INDIA by Padmashree Dr.B.P.Radhakrishna & L.C.Curtis, published by Geological Society of India, Bangalore in year 1999;FIMI'sExploration-Key to Resource Development, Oct. 2018; Mining Matters for India!-June 2019and INDIAN MINING-a Synopsis,Jan.2020; Gold Resources of India: Immense Scope for Development of New Gold Mines in the Country by Dr.Vasudev, Feb.2019 pub.in Gold Mining in India-The Way Forward, Geol.Soc.India.

Exploration of OGP Area of 6,44,415 sq km needs Urgent Attention (see page 8 in MoM's publication titled "Exploration and Mining Opportunities in India-An Investor Guide, dt.Aug.2015 and NMEP Doc.(National Mineral Exploration Policy Doc):Some 15 years ago the GSI recognized a total area of 6,44,415 sq.km in different parts of the country as the area having a high probability of making new discoveries of Mineral Resources and progressing the already discovered resources into mineable Reserves. GSI designated it as the area of Obvious Geological Potential (OGP area) needing detailed exploration and prospecting on priority. India is one among the least explored countries in the world with an exploration spend of $15-20 million annually which equates to ~17$ per sq km or Rs.1000 as compared to $ 900 million every year in Canada and Australia. Within the OGP area, GSI has identified metal-specific potential areas, viz.,1,02,890 sq km for Gold; 3,00,000 sq km for Diamond & Precious stones; 1,81,150 sq km for Base metals such as copper, lead, zinc & associated metals; 8,130 sq km for PGMs & Nickel; 6,000 sq km for Molybdenum; 1,300 sq km for Tin & Tungsten; 2,690 sq km for Chromite; 5,135 sq km for Iron Ore; 4,600 sq km for Manganese and 32,520 sq km for Bauxite. Hidden among these are areas potential for Rare Earth Elements (Lanthanum, Cerium etc) and Rare Elements (Niobium, Tantalam, Cesium etc). Coal and lignite covers an area of 60,215 sq km which fall outside the area of OGP. About 400 prospects of non-bulk minerals & metals falling within the OGP await conversion of the already drilled and identified Mineral Resources into mineable Mineral Reserves. Included among these are 198 gold & gold-copper prospects, 32 of them are mineable gold resources(See Table in the Annexure). It is impossible for the State DGMs to package such large OGP area into blocks for auctioning in quick succession. But it is possible for exploration companies to file applications over 5 lakh sq km over a short span of 2 years, as happened during 1994-1996, in response to NMP-1993. See para 3 under suggestions.

The Way Forward?

The National goals set by Ministry of Mines can be achieved only by fully liberalizing the Ease of Starting Exploration and Mining Business and lowering the Cost of Doing Business.

The amendments to the extant Act should be such that they cause to start thousands of Mines and mineral MSMEs and hundreds of commercial mineral exploration companies for enhancing National Mineral Resources inventory, employment generation and reduction of import of non-bulk minerals and metals. By lowering the Cost of Doing Business, the Ministry of Mines would, at once, cause to increase the number of mineral discoveries, number of mines, rate of production, mineral supplies at competitive costs and eventually increase the number of Corporate and Income Tax payers.

NITI Aayog in it's blueprint, the "Strategy for New India@75", released in Dec 2018 has set the following Objectives with the aim to accelerate growth in the Minerals Sector."Double the area explored from 10% of Obvious Geological Potential (OGP) Area to 20%" and Increase the job contribution (direct and indirect) from the current 10 million (2 million in coal and Major Minerals and 8 million in Minor Minerals) to 15 million in 2022-23.

Para 3.3 in The National Mineral Policy (NMP)-March 2008 and para 12.1 of NMEP-2016serve as an excellent premise on which future amendments to the MMDR Act-2015 should be carried out. Para 3.3 of NMP-2008 gave private sector a primary role for exploration and emphasised that "In order to make the regulatory environment conducive to private investment the procedures for grant of mineral concessions of all types, such as Reconnaissance Permits, Prospecting Licenses and Mining Leases, shall be transparent and seamless and security of tenure shall be guaranteed to the concessionaires. The first-in-time principle in the case of sole applicants and the selection criteria in the case of multiple applicants will be appropriately elaborated. Prospecting and mining shall be recognized as independent activities with transferability of concessions playing a key role in mineral sector development. (para 3.3)". Para 12.1 of NMEP-2016 "Government's objective is to facilitate, encourage and incentivize private sector participation in all spheres of mineral exploration. Government intends to harness the Capabilities of the Private sector to discover and exploit the country's vast mineral resources."

Most Private Entrepreneurs, Geologists, Mining Engineers and also PSUs strongly believe that the introduction of auctioning even for grant of exploration licence (CL=PL cum ML) has taken away the rights of individuals and companies to select potential mineral-bearing areas and file applications. The highly disconcerting experience of the past 5 years has shown that the intent of Revenue Maximization through auctioning has impacted highly negatively the Mineral Sector of our country. Auctioning has not only prevented Resource Maximization & Utilization but also heavily reduced the real-time flow of Royalty revenue to the States and Corporate Tax to the Central Govt. All that has been achieved in the last 5 years is PROMISE of a few lakh crores of Revenue share by a few Steel & Cement producers over 50 years mine life!!!

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Auctioning for grant of exploration license (PL cum ML) is currently the biggest disincentive as proven in the last 5 years. Only now, due to Corona Pandemic, MoM seems to have realized the futility of the restrictive regulations and swimming against global best practices. Auctioning for grant of exploration license (PL cum ML) is currently the biggest disincentive as proven in the last 5 years.

Suggestions for *Ease of Starting Exploration and Mining Business* and lowering the *Cost of Doing Business.*

Make the Merchant Mining Sector Vibrant & Dynamic: Yes, MoM is on it's way to achieve this goal. At a time when the demand for metals has drastically reduced and, global supply chains are disrupted due to corona pandemic-related slowdown in consumption, our Govt. should shun drip feeding of Mining Lease through the current mode of Auctioning which is not only snail-paced but also expensive and restrictions-ridden. Free up auctioning and make it acceptable to a wide range of investors, mineral MSMEs and Mega Industrialists. Allow the private sector the freedom to identify Mineral Resource-bearing blocks and seek grant of Mining Lease. Here is the first of a series of suggestions;

(1) Auctioning for grant of Mining Lease: Sections 10B(3) to (7) and 11(2) of the MMDRA Act-2015:

(a) Mineral Blocks to be Auctioned: G1, G2 & G3 level Prospected Blocks of any mineral where existing Mineral Resources/Reserves are defined as per UNFC-2009/2019 Categories 111, 112,223,222 and 221 or CRIRSCO-recognized IMIC (Indian Mineral Industry Code) only be considered for auctioning. The blocks shall be free of any encumbrances {ie., not covered under 10A(2)(b) & (c) or under litigation}. ML Blocks of Industrial minerals or other small deposits of metallic or non-metallic minerals which are prospected other than by drilling should also be considered. GSI, MECL & IBM need only to reclassify the mineral Resources contained in old GRs as per UNFC-2019. The Mineral Resource (quantity + average grade in terms of contained metal or mineral) intended for auctioning shall be certified by an independent Committee of Professional Geologists in every State or attached to the Ministry of Mines. UNFC-2019 and IMIC-compliant reports must be prepared by a Registered Competent Person as prescribed in the IMIC. For information about IMIC please see para-7 below.

(b) Minimum area of a ML may be as small as 2 hectares for the fact that many mineral concentrations would be in the form of Pockets or veins or thin beds or lensoidal or patchy and erratic. 47% of 4,128 MLs as on 31.3.2017 are less than 10Hect in area. Many refractory mineral deposits, abrasive and other industrial mineral deposits are small; 85 out of 198 Gold and copper- gold drilled-resources have less than 1 tonne of gold, yet value wise 1 tonne of gold ex-mine is priced about Rs.350 crore per tonne. There are hundreds of gold prospects containing about 100 kg (=Rs.35Cr). Many currently known resources of base metals (Copper, lead, zinc, cobalt ferous pyrite), strategic and rare metal deposits including tungsten, molybdenum, tin, chromite, nickel, tantalum-niobium, hard rock REEs etc are small. These are good enough reasons to fix 2 hect as the Minimum area for defining an Actionable Mineral Block [Rule 12(5)of MCR-2016].

(c) Upper Limit of ML: Do away with discretion and legislate to fix the upper limit of ML to 50 sq.km per Company per State.

(d) MLs which are available after expiry/determination/lapsing and surrender, containing updated Mineral Resource estimates as per UNFC-2019 or IMIC should be available for Auctioning.

(e) Non-performing Mineral Resources reserved in favor of PSUs shall be taken out and put for Auction.

(f) Resource Blocks of any mineral, free of any encumbrance, identified & properly defined by any individual or company or PSU and communicated to the Ministry of Mines or to State DGMs shall be eligible for auctioning. MoM and State DGMs have to notify such blocks on their websites for a period of 30 days before accepting the bids.

(g) Sections 10B(3) to(7) and 11(2) dealing with Notified minerals and other than Notified minerals should be done away with. They have served no specific purpose.

(h) The MoM has already announced it's intent to encourage Merchant Mining by doing away with captive vs non-captive condition. This is an excellent decision. Thanks to HLC. There shall be no other qualifying criteria for participating in the Auction process other than as a citizen of India or Indian Company or Firm defined under Companies Act-2013.

(2) Unification of Amended Rules:

(a) The Existing Act and Rules [The Mines & Minerals (Development & Regulation) Act-1957, The MMDRA Act-2015, The Minerals (Other than Atomic & Hydrocarbons Energy Minerals) Concession Rules-2016; the Mineral(Auction) Rules-2015, the Mineral(Evidence of Mineral Contents)Rules-2015commonly referred to as M(EMC) Rules, The Mineral (Mining by Government Companies) Rules-2016and The Mineral Laws(Amendment)Act-2020 wef 10.1.2020 need to be properly integrated and made into a Single Act and Single Rules. This is necessary to enable "Ease of Doing Business" and to avoid any misunderstanding among Administrators, regulatory authorities, case workers, general public and Judiciary. The NACRI has suggested the MoM to amend M(EMC) Rules-2015,particularly Rules 4(a)(ii), 5(b) and 7 dealing with Geological Reports (GRs) and Mineral Resources/Reserves, in tune with UNFC-2019 and CRIRSCO compliant IMIC (see para-7 below).

(b) Absurd definition of deep seated minerals: The Mineral Laws(Amendment)Act-2020 which came into effect from 10.1.2020 has defined deep seated minerals as follows

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"For the purposes of this sub-section [Subsection (2) of Section 10C of MMDRA Act-2015], the expression "deep seated minerals" means such minerals which occur at a depth of more than three hundred meters from the surface of land with poor surface manifestations". This definition is absurd. Under the Act, gold, platinum, nickel, diamond, base metals & co are being referred to as deep seated minerals. 90% of all these metals/minerals have good surface manifestation and, world over, are being mined right from the surface. I am at loss to understand how a mineral which occurs at a depth of more than 300 metre scan be accessed at the beginning of a mining operation!.Geologists and Mining Engineers have to put up with such definition because the definition has become a law w.e.f. 10.1.2020!!

(3) Do away with NERP and Enlarge the Scope of CL (Composite Licence) incorporating the provisions for a seamless RP to PL to ML: Amend and integrate Sections 10B(2); 11(3 to 10) and 10C(1) & (2) of the MMDRA Act-2015 for granting CL on FCFS basis for all metallic and non-metallic minerals including the Notified Minerals (as in Schedule-4):

(a) Seamless CL(RP-PL-ML): The MoM has recently proposed to make NERP into ERP (Exclusive RP). Para 3.3 of HLC's Report carries a recommendation, I quote," At present NERP holder does not have rights for transitioning to PL-ML. Therefore, it is necessary that NERP may be made exclusive & there shall be seamless transition from Reconnaissance to Prospecting to Mining to encourage exploration."The Hon'ble Finance Minister while speaking on Policy Reforms in Non-coal Minerals Sector referred to the Ministry's intent of introducing "structural reforms to boost growth, employment and bring state-of-the-art technology especially in exploration through:Introduction of a seamless composite exploration-cum-mining-cum-production regime." This decision would be heartily welcomed by most investors provided the CL is granted through FCFS basis. I am surprised that the most recent The Mineral Laws (Amendment) Act-2020 Gazetted on 13.3.20 mandates that a NERP holder too has to also pass through auction process to pick up a "PL cum ML as per Section 11(for Minerals other than Notified Minerals) or a ML as per 10B(for Notified Minerals)". This is contrary to HLC's recommendation in Para 3.3 as well as the policy intents (seamless..) expressed recently by the Finance Minister, therefore, this new Law again makes NERP least attractive to any investor. This auction obsessed Law is regressive and defeats the National Goals set by PMO.

As per the orders of the Hon'ble Supreme Court, Auction is neither a Constitutional mandate nor the most appropriate method for allocation of concessions for Natural Resources as maximizing revenue may not necessarily serve the 'common good'. "Maximization of Revenue can also be achieved by any other mode other than auctioning". As the need of the hour is "Resource Maximization through exploration" and "production maximization through mining" as emphasized by Dr.Rajiv kumar, Vice Chairman of NITI Aayog on 22nd May 20 during the webinar organized by CII, MoM should immediately restore the right of private sector and PSUs to identify exploration targets on their own and seek grant of CL (seamless RP-PL-ML).FCFS has worked well for over 45years since the enactment of MMDR Act in 1958. FCFS at once enables and entitles our citizens and overseas investors to generate exploration targets and get on with the discovery process. It generates lots of jobs to Geologists to start with.

(b) OGP Area: 6,44,415 sq km is the OGP are available for Reconnaissance, Prospecting and Mining (see page 8 in MoM's publication titled "Exploration and Mining Opportunities in India-An Investor Guide, dt.Aug.2015). It is impossible for the State DGMs to package such large OGP area into mineral specific blocks for auctioning in quick succession. But it is certainly possible for exploration companies to file applications for RP over 5 lakh sq km in a short span of 2 years, as happened during 1994-1996, in response to NMP-1993. Therefore, the best way to promote mineral development in the country on a fast track mode is through granting a seamless RP-PL-ML on FCFS basis.

(c) Area Limits of CL (seamless RP-PL-ML): Do away with discretion and legislate to fix the minimum area limit at 100 sq.km and maximum area limit per CL at 5,000 sq km per Company per State. This way there would be room for a number of investors. The whole idea is to encourage discovery of as many prospective blocks and mining blocks by creating opportunity for thousands of Companies Juniors and seniors (See FIMI's publication "EXPLORATION-KEY to RESOURCE DEVELOPMENT" Oc.2018).

(d) Minimum Expenditure Commitment: Rs.10,000 per sq km at the RP stage of CL and Rs.1 crore per sq.km at the PL stage of a CL.

(e) Selection Criteria when multiple overlapping applications are received on the same day: Applications shall be received ON-LINE. Application received first on any day shall be given preference over all others. Alternatively, number of years of experience in mineral exploration and minimum expenditure commitment shall be the criteria for selection among the applications received on the same day over the same area.

(4) Section 10A(2)(b) read with Rule 4(1) & (2) of M(EMC) Rules-2015: Disturbed by the reports in the Media that the MoM has proposed to delete Section 10A(2)(b) of the Act, Dr.Rajiv Kumar, Vice Chairman, NITI Aayog addressed a letter dt.19.5.20 to the Honble Minister of Mines, Govt. of India, expressing his concern that such a decision would have "serious repercussions on investment climate of the country" and "adversely impact the investor's confidence on policy predictability…". Dr. Rajiv Kumar in his letter has requested the Minister of Mines "to kindly ensure a decision of the pending cases of Section10A(2)(b) before the provision gets deleted".

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On the same day, Mr. R.K. Sharma, Secretary General, FIMI, addressed a letter to the Prime Minister requesting him to kindly advise the Ministry of Mines to ensure / protect the rights of existing concessionaires by not removing or tweaking Section 10A(2)(b) and, in fact, bring in provisions where existing concessionaires covered under Section 10A(2)(b) are immediately granted mining rights seamlessly". The recommendation of the HLC and the intent of MoM to delete Section 10 (A)(2)(b) of the extant Act would be a retrograde decision which is not in the interest of mineral development. As of now, clearing the backlog of applications saved under 10(A)(2)(b) should be the priority for MoM and all the States than hanging on to the time-consuming auction route for allocation of land for Prospecting cum Mining (CL). It is NOT prudent to scrap Section 10A(2)(b) & (c) at this point in time when all the pending grants have to be reviewed &approved in quick succession in order to create lakhs of jobs in rural areas to migrant workers by honoring the rights of those who have discovered the minerals and applied for PL and/or drilled and delineated Mineral Resources and progressed to mining stage. Such quick action is necessary in keeping with our PM's advice and HLC's recommendations on reducing country's dependence on import of non-bulk metals.

(5) Enable Exploration as Stand-alone Commercial Business (Section 12A(2&6) of the Act-2015 read with MC Rule 24):Support and encourage Junior mineral exploration Start Up Companies to list on the BSE (Bombay Stock Exchange): Measures suggested in Para (3)above must be in place to achieve the intents expressed in this paragraph. Mineral exploration is a scientific process of wealth creation. That wealth is called Mineral Resource expressed in terms of tonnes of mineral or metal-bearing rock in the Earth. Exploration is also a property development program involving valuation, transfer and trading of the mineral-bearing property (a Licenced Block) at different stages of exploration from Greenfield (Recce.stage) to Brown field (Prospecting stage). By statutorily enabling the process of exploration as a stand-alone business activity the MoM would at once trigger employment opportunities to thousands of Geologists, Geophysicists, Geochemists, Junior Exploration Companies, Drilling Companies, GIS technicians, skilled workers, Sample preparation labs, Mineral Processing Hubs and Analytical Laboratories all of which contribute immensely to the National Economy.The key to enabling Exploration & Prospecting as a Commercial business is Transfer & Trading of RP, PL and ML for a premium. This requires amendments to Section 12A(2&6) of the Act and MC Rule 24 of MCR 2016. Amendment should be such that to permit transfer of RP/ML/PL for premium, subletting, contracting, financing, mortgaging, M &A etc of mineral concessions to allow exploration & mining operations to run efficiently. Globally the transfer-for-premium provision has enabled thousands of companies to acquire prospective mineral-bearing grounds (EL,PL,ML) to eventually succeed in either defining mineable Resources or developing mines. Currently, the Law allows for transfer of Licences and Leases granted only through Auction route (Sub-Section 6 of Sn.12A) and those MLs attached to manufacturing industries ("Captive purpose"). Provision of transfer in the law, irrespective of the method of grant of concession and weather captive or not, acts as a great incentive to explorers, prospectors and miners. World over exploration companies are permitted to list their companies on stock exchanges and raise money to invest in high risk mineral exploration ventures. Keeping in view the long term benefits to the State and the Nation, those countries have achieved great success in mineral discoveries by encouraging private investors with a series of incentives and, at the same time, offering tax incentives to the general public interested in participating in such high risk ventures via Stock Exchanges (eg. The Canadian Tax Flow Through Scheme).

(6) Create a National Mineral Trading Platform similar to PDAC (Canada), INDABA (S.Africa), China Mining in China, Diggers & Dealers in Australia to attract private investments. FIMI has been holding annual Exhibition cum Trade shows and MoM holds annual National Conclave on Mines & Minerals to facilitate investors to make investment decisions. There is need for a permanent National Mineral Trading Platform to realize the benefits accrued by amendments referred at (5) above.

(7) Indian Mineral Industry Code (IMIC) for public reporting of Mineral Resources/Reserves &Exploration Data, to be incorporated into the MMDR Act and SEBI Rules: To compliment the purposes enumerated at (1), (5) & (6) above, there is an urgent need for an Indian public reporting standard for enabling Mineral Exploration as a stand-alone commercial business by private investors and PSUs. Two Mineral Resource and Reserve classification systems, namely, Committee for Mineral Reserves International Reporting Standards (CRIRSCO) developed by leading professional bodies from mineral-rich countries and, United Nations Framework Classification (UNFC) developed by United Nations Economic Commission for Europe (UNECE) are in vogue.UNFC-2009 and the latest UNFC-2019are a framework for classification of Resources/Reserves. In India GSI, IBM, MECL and State Geological Survey organizations are still using the obsolete UNFC-1997 for preparing Geological Reports (GRs)of non-commercial exploration data and Mineral Resources & Reserves going into the National Mineral Inventory (NMI) maintained by IBM. The CRIRSCO has been leading the initiative of standardizing market-related reporting definitions for Mineral Resources and Mineral Reserves worldwide by promoting best practices in reporting Mineral Resource estimates and Exploration Results according to the levels of confidence in geological knowledge and technical and economic considerations. JORC, CN 43.101, SAMREC, SME Guide are some among CRIRSCO-compliant public reporting standards recognized by global stock exchanges.

Through the determined efforts of the Mining Engineers' Association of India (MEAI) led by Dr.P.V. Rao, and Dr. Abani Samal, an independent body christened "National Core

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Committee for Reporting Mineral Resources and Reserves in India" (NACRI) has come into existence. NACRI has received recognition of CRIRSCO on 1.8.2019 and is currently the National Reporting Organization (NRO) for India. NACRI has developed the Indian Mineral Industry Code (IMIC) in consultation with CRIRSCO. IMIC has gone through the scrutiny process and received the approval of CRIRSCO.I consider this recognition as a milestone in the history of mineral resource development in the country (See P.V. Rao & Abani Samal's article in "Gold Mining in India: The Way Forward, Pub by Geol.Soc India, Feb 2019 and the Editorial in May 2020 issue of MEJ).

Ministry of Mines is considering adoption of IMIC as the national standard "to quantify, qualify, and categorize mineral assets on the basis of best supported data, models, and criteria". To provide a legal backing to IMIC in the MMDR Act and make it acceptable by SEBI (Stock exchange Board of India)& Financial Institutions, the Ministry has constituteda Committee and issued an Office Order on 26.3.2020. The Members of the Committee comprise Mr. Upendra Joshi, Joint Secretary, Ministry of Steel and Mines; Mr. Pradeep Singh, Director, Technical, Ministry of Steel and Mines; Mr. Hemraj Suryawanshi, Dy. Director General, GSI; Mr.S.K. Adhikari, Chief Mining Geologist, IBM; Mr. Israil Khan, Superintending Geologist, GSI; Mr.B.P.Raturi, General Manager, MECL and the two NACRI Members-Dr. P.V. Rao of MEAI and Mr. Pankaj. Satija. Para 7 of the MoM's Office Order States, I quote, "After IMIC is adopted through a suitable Central Government notification, it can be recognized as a Standard to prepare Independent Technical Reports (ITR) on Mineral Resources and Reserves and incorporate the ITR as one of the mandatory disclosures for listing of potential exploration and mining companies on Indian Stock Exchanges. The Indian Bureau of Mines may assimilate the IMIC-compliant reports directly in the National Mineral Inventory (NMI), which will improve the reliability of the total mineral inventory of India".

The Technical Reports or the Geological Reports (GRs) containing Mineral Resource Estimates, being prepared for areas identified for auctioning, continue to be based on the outdated UNFC-1997. NACRI has suggested to the MoM that the GRs and definitions of Mineral Resources and Reserves and their classifications should be strictly in accordance withUNFC-2019 or IMIC. GRs must also be prepared or certified by a Registered Competent Person as prescribed in the IMIC. In this back drop, the legal tenability of M(EMC) Rules-2015 is a matter of concern because it's contents are depended on the obsolete UNFC-1997.Therefore,MEMC Rules have to be amended in tune with UNFC-2009/2019 and IMIC. Our National Inventory of Mineral Resources has to be also maintained in accordance with the UNFC-2019 or IMIC whichever the MoM prefers for ensuring reliability of reporting, acceptability to financial institutions and stock exchanges as desired in NMP-2019.

After the IMIC receives the necessary legal backing in the MMDR Act, it becomes mandatory for all exploration companies aspiring to raise capital through listing on stock exchanges or hold private equity shall declare the exploration results and Mineral Resources as per the IMIC. All Govt Organizations engaged in Geological survey and mineral exploration in the country shall report Exploration Results, Mineral Resources and Reserves as per the UNFC-2019 and/or IMIC. MoM should write to SEBI about the need for creating exclusive listing Rules for (Junior) Exploration companies on the models followed by Canadian and Australian Mineral-dedicated stock exchange.

(8) Cut down on Taxes &Incentivise Exploration & Mining of Metals & Minerals on which India is Heavily dependent on Imports: As per NMP-2019 "efforts to be made to benchmark and harmonize royalty and all other levies and taxes with mining jurisdictions across the world to make India an attractive destination for exploration and mining". India is the highest taxed Mineral Industry in the World. NITI Aayog Estimated the total tax burden at 60%. According to FIMIit is 64%.Forest NPV at the stage of exploration is not included in this!! High taxation add to the steep increase in cost of mineral production which makes importing cheaper and domestic mining unsustainable, mineral conservation impossible & low grade metalliferous mineral resources will remain untouched. High taxation also goes against IBM's intention of promoting zero waste mining. All these will only serve to discourage investments into Exploration because the rewards would not be significant enough to justify the risks associated with exploration. Eventually the Nation's economic revival & rural employment generation will be hit. Mining booms come in cycles, therefore, the tax regimes should be such that it should work for all seasons. Auction-related revenue sharing payments is the biggest burden which Mineral MSMEs can't afford. The focus of the Ministry should be to create Income Tax or Corporate Tax payers and tax their profits. Taxing the Revenue kills the proverbial chicken that has the potential to lay golden eggs and the country continues to depend on imports and the PM's Self Reliant India will remain on paper. Rationalize taxation/ royalty and other levies on mining, capping it at a maximum of 40% of the sale value, as per global practice, to encourage exploration and making mining competitive. This would help both export promotion and import substitution.

(9) Facilitate creation of un-incorporated JVs under Indian laws. This is essential for agreements needed for promoting mineral exploration which is legally allowed in most successful mining jurisdictions.

(10) Environment and other Statutory Clearances: These clearances are most essential for any mining operation, rightly so, but have been the biggest hurdle because of years of delay in obtaining them. This situation is so since the days of the first ever progressive reforms introduced through NMP-1993. The most recent NMP-2019 has no impact on statutory clearances for the fact that out of 70 or so auctioned non-coal blocks "none of the 42 or so green field MLs has come into

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operation primarily due to pending FC & EC clearances"!!Even for Prospecting the Law mandates to obtain FC and pay NPV though no diversion of forest land is involved.

Minerals are site-specific and mineral wealth once delineated through exploration, either in forest or non-forest area, should not be delayed or denied for mining by forest or revenue authorities. Waiting for 4 to 5 years, sometimes up to 10 years, for EC is unheard of in any other country. A large number of MLs of varying types and scales of operation and down stream mineral industries have so far been granted FC/EC within different types of Forests, non-forest and climatic zones in the country for which EIA and EMP data are available. Such data should serve as models to MoEF and Pollution Control Boards for granting of Clearances. Clusters & Mineral Corridors of PLs &MLs should be considered as units for granting EC than demanding EC for individual leases. Without such action for promoting Ease of Doing Business, there is no hope of achieving the goals and schedules set out in VISION documents and NMPs.

PARIVESH was launched on August 10, 2018 as a single window hub for environment, forest, wildlife and CRZ clearances. Environmental Clearances should be considered for clusters & corridors of Mineral Resources than demanding EC for individual leases. The MoEFCC should declare upfront NO-GO forest areas after consulting the Ministry of Mines. Where needed underground mining should be allowed in forest/wild life sanctuaries. I am happy to note that the HLC has recommended for grant of all statutory clearances within 4 months from the date of application for EC,FC,WL & CRZ filed on PARIVESH portal.

Large Magnetite Iron ores, some of them vanadium and titanium -bearing are located in Reserve Forests in the Western Ghats of Karnataka and in parts of Orissa. Several drilled resources of Gold, Diamond, Tungsten, Molydenum, Tin, Copper-Lead-Zinc and RM-REE deposits are in RFs and WLS. Provision should be created in the MOEFCC Act to permit underground mining in Reserved Forests and Sanctuaries.

(11) Introduce RETENTION LICENCE (RL): RL is an international best practice. Generally, the process of exploration and prospecting takes a minimum of 5 years. If successful, it may get extended by 1-2 years for completing scoping, prefeasibility and feasibility studies leading to mining. The whole process of transferring of a licence to financially sound companies is expected to bring in more investment to shape up a discovery to a mineable deposit. In case, prospecting does not result in mineable resources for a given market price such licences should be continued under Retention Licence, provision for which needs to be created in the Act. Alternatively, renewal of CL dealt with in Para-3 above, up to 2 years, should be considered.

(12) NMET's mandate be modified: The National Mineral Exploration Trust (NMET) was constituted under section 9C of the MM(D&R) Amendment Act-2015. The object of the Trust is funding of project proposals of Notified Exploration Agencies for purpose of regional and detailed exploration to accelerate the mineral exploration activities in the country. This object too has failed because of Para 3.4 of the HLC Report states that out of the total 178 projects sanctioned for exploration of minerals at various stages in last 4 years from the NMET fund, 68.5% of these projects accounted for only Notified Minerals i.e. iron ore, limestone, bauxite, and manganese. The mining sector in India is highly focused on bulk minerals. As a result, other minerals (so called deep seated) such as copper, gold, diamond, Rare Metals and Rare Earth Elements, etc are not exploited due to the lack of exploration of these minerals."It is well known to the Ministry that there was (and is) absolutely no urgency to explore for the so called Notified bulk Minerals. In the light of the amendments suggested in Paras (1) to (5) above, NMET's role needs to redefined to enable it to function as a Nationalized Bank attached to MoM to fund GSI, MECL & IBM or for Debt financing or Equity financing of Resource drilling, feasibility studies and construction of mineral processing plants of import-dependent non-bulk minerals and metals by the Indian Private Sector and PSUs.

(13) Revive Gold Exploration & Mining in the 100 km long Kolar Greenstone Belt: The Kolar greenstone belt comprising the mainKolar Gold Fields and it's 35million tonnes of old Tailing dumps need the Ministry's focus. Atleast 10 mines can be started over the next 3 years. That includes revival of 2 mines which were suspended when the BGML operations were closed in April 2001. The geological extensions of KGF hold out a big hope for discovering new gold resources and conversion of extant Resources into mineable Reserves at the prevailing LBM gold price of 1600 $ per Ounce (31.24gram). The Indian price is LBM price +12.5% import duty=1800$/Oz or approx. Rs.4,000 per gram. At this high price, mining of low grade gold ores of 1.2g/t is profitable. Time is ripe to revive exploration and gold mining at KGF and along it's extensions. Several gold prospects dot the entire length of the 100km long Kolar greenstone belt spread over Karnataka, AP & Tamil Nadu. GSI/MECL and a Private Company have generated a lot of data in the last 60 years.

Since the High Court of Karnataka has vested certain rights with the Kolar Gold Mines Employees Union it is NOT possible to auction BGML mining properties. Therefore, I suggest for constitution of a Consortium of BGML-KGF Union-Hutti Gold Mines Ltd and any interested Private Gold mining Company to address all issues relating to revival of KGF. Among the BGML properties, the 35 million tonnes old tailing dumps containing Av.0.72g/t gold has the potential to generate quick cash flows. About 15 tonnes of gold valued at Rs.6,000 Crores could be extracted out of these dumps. The Tailing dumps occupy large space within the KGF township and skirting the thickly populated Robert sonpet and Ander sonpet. If the processed tailings are dumped in the vast open space in the southern part of KGF, new townships could be developed. Large quantities of water filling the old mines could be utilized for processing of tailings if found suitable. The 140 years old Mines and the old buildings, gold processing plants, large shafts and one

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of the earliest railway have a great heritage value. KGF could be developed as a Mining Educational Heritage site and Tourism Hub in line with Gold mining Heritage hubs in Johannesburg in S.Africa, Kalgoorlie, Ballarat and Broken Hill in Australia.

(14) Expenditure needed for Exploration and development of new Mines: As an example, I have attempted to estimate the annual expenditure needed to achieve 100 tpa of Gold production by 2029:The volume of expenditure needed over the next 9 years for converting the existing Resources of ~500 tonnes of Gold into mineable Reserves and, to discover and carry out intensive drilling to define new gold Resources of the order of 1,500 tonnes is about Rs.4,000 crores. Another about Rs.12,000 crores is required for development of mines and construction of Processing plants alongside land acquisition and infrastructure over a 9 year period. It takes a minimum of Rs.2 crores to discover and define one tonne of mineable gold metal (Reserve) from Recce stage to Mining stage. A minimum of 3 Lakh metres of drilling has to be carried out per year. The cost of top-of-the range drilling+Sampling+Assaying is Rs.15,000 per metre. Therefore, Rs.450 crores is needed to be spent on drilling alone per year and Rs.1,300 crore per year on construction of processing plants, infrastructure and development of mines (Total Rs.1,750 crore per year). This way it is possible to achieve a gold production of 18 tonnes by 2025 and 60 tonnes per annum by 2029 + 20 tonnes of byproduct gold from smelting of Copper concentrates.

Geological Survey of India's gross Budget for 2019-20 is Rs. 1648 Cr. of which only Rs.782.64Cr is earmarked for geological mapping, geophysical surveys and exploration related activities of all minerals. Only a small amount of Rs.40 Cr which is ~5% of the budgeted exploration expenditure of Rs.782Cr. is likely to be spent on gold exploration. This is pittance. Therefore, to attract investments of the order of Rs.1,750 crores per annum for detailed exploration involving drilling, metallurgical & feasibility studies, mine development and setting up of processing plants, there is no alternative for the Ministry of Mines other than to implement the suggestions made at Paras (1) to (5) above and attract large scale participation of the private sector, both Indian and overseas.

(15) All operational non-captive Merchant mines be allowed lease extension of 10 years beyond March 2020 or till exhaustion of Mineral Reserves: In the recently (10.1.2020) Gazetted "The Mineral Laws (Amendment) Act-2020", two new Sections 4B & 8B and a sub-section 4 in Section 8A have been introduced into the MMDR Act-1957. These are meant for enabling the States to Auction the MLs expired on 31.3.2020. The Country is passing through economic downturn and struggling to come out of it. This is not the time to disrupt mineral production and supplies though that is not the intent of the amendments. However, it takes considerable time to implement the amendments which results in disruption of mineral production and supplies. I request the Ministry to reverse the decision and relegislate to permit extension of tenure of all such MLs.

23% is reported to be the rate of current rural unemployment.

(16) Declare all Mineral Resource-bearing areas as NO GO for Non-Mineral purposes: Mineral deposits by their very nature are site-specific which means, unlike forests, you cannot "grow" them where you want. They got to be mined where they are found. Quantified Mineral Resources and measured blocks of land identified by any agency as potential for prospecting for any metal liferous mineral shall be declared as NO GO for non-mineral purposes other than Defence of India projects. Such declaration of Mineral No Go areas should help MOEFCC & PCBs to accord Cluster-wise or Corridor-wise FC and EC.

SUMMING UP: In the last 5 years, Mines and Geology Departments in most of the States have resorted to cherry picking of areas for auctioning. The average rate of auctioning of blocks for ML & CL, all India, is a trivial 2 per month in the last 5 years!!. Karnataka has not granted even one CL in the last 5 years. With regard to large area reconnaissance exploration there were no takers to NERP, not even one, in the last 5 years!!. The States also did not clear the pre-2015 back log of PLs and MLs under 10A(2)(b) provision. Overall, the amended MMDR Act-2015 has killed commercial mineral exploration and led to skewed development of mineral resources in the country. Efforts to reduce imports have remained on paper. New mineral resource discoveries did not happen. There were years of delay in granting statutory clearances such as FC/EC. These are good enough reasons to abandon the auction-mode of granting license for mining and prospecting, at the least, for grant of CL (seamless RP-PL-ML) as discussed in Para-3 above.

The State Mines & Geology Departments are NOT geared up to fast-paced packaging of OGP (Obvious Geological Potential) areas falling within their State. The total area of the OGP is 571,000 sq km. as stated in the NMEP document.It is 6,44,415 as per MoM's publication titled "Exploration and Mining Opportunities in India-An Investor Guide, dt.Aug.2015 and NMEP Doc. Mining is undertaken in only about 2% of the OGP. If we assume that the States would prefer to Auction 25sqkm blocks for grant of a CL, it would divide 571,000 sq km into 22,800 blocks. If the States prefer to grant CL of say 100 sq km area then, there would be 5,710 blocks to Auction!! Packaging of such large number by the GSI and preparing documentation by the States is a huge task even over the next 5 years. All the States depend upon GSI to do the "Packaging" job. The Mineral Resources which were put on auction were classified on the basis of the obsolete UNFC-1997!!.

Directors of Mines & Geology of several States have often expressed difficulty in packaging & pricing mineral-bearing areas for Auctioning for CL.The process of "Packaging" is lengthy depending upon whether it is for ML or CL as it involves Prospect-scale mapping, trenching, drilling, Resource modelling, Resource estimation, Resource classification and

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finally pricing and documentation. FCFS would, at once, transfer all these jobs to the Private Sector and PSUs who would either pick up potential mineral-bearing ground on the basis of knowledge generated by the GSI or State DGMs or on their own. Current Resource-Nationalism statute keeps investors waiting endlessly for State Governments to announce the areas available for ML or CL. Oversees players have lost interest. FDI into mineral exploration has dried up. Even big players have found it difficult to bid for & share revenue on a CL block because, even before defining a mineable Resource the bidder for CL had to commit for revenue sharing!!

For all the above reasons the Auction route for exploration and mining of Non-bulk, so called deep-seated metals & minerals (other than the 5 Notified Minerals), has remained a hurdle for ease of starting exploration and mining business in the country. India is not in a position to wait. It has to act fast to "Make India Self Reliant" in minerals, at least to an appreciable extent. 23% is reported to be the rate of current rural unemployment. There is pressure to create lakhs of jobs and work towards economic upturn.

The Hon'ble Finance Minister, while speaking on Reforms in Minerals Sector referred to the Ministry's intent of introducing "structural reforms to boost growth, employment and bring state-of-the-art technology especially in exploration through introduction of a seamless composite exploration-cum-mining-cum-production regime." That is the way to go forward not the revenue- obsessed Auction mode. Resource Maximization, Production Maximization and Maximization of Corporate Tax payers should be the Mantra. The Ministry should restrict the Auction route to unencumbered Mineral Resource Blocks as discussed in Para (1)(a) to (h) above and also consider implementing the suggestions in Paras (3) (4) (5) on priority. The Act is currently over crowded with amendments. All the amendments to the MMDR Act-1957 and MC Rules-1960 and the many new Rules promulgated post 2015 should be consolidated into one comprehensive Act and one book of Rules. If these are put in place within the next 3 months, I strongly believe that within the next 9 years, our country would be able to make many new mineral discoveries, enhance National Inventory of Mineral Resources and develop hundreds of new Mines of both metalliferous and non-metalliferous Mineral Resources alongside the existing mines. Every mine would serve as a CSR center and create an economic ripple effect. The mines would also serve as Agricultural Extension Service Centers as well as Centers of Industrial Skill development, the beneficial impact of which on rural India could be extraordinary and a major game changer.

ANNEXURE-1

Table-1: ALL INDIA RESERVES / RESOURCES of GOLD, STATE-WISE, *EXPRESSED IN TERMS OF THE CONTAINED METAL as ON 1.4.2018

State	Gold Specific OGP Area in SqKm.	Number of Drilled Gold Prospects	Number of Prospects with Mineable Resource+ Existing Mines	Total Number of Prospects	Reserves As on 1.4.2018 (A)	DRILLED RESOURCE As on 1.4.18 (B)	Total RESOURCES (A+B+C)	Possible Number of New Mines in addition to existing 4 mines	Provisional Estimate of Annual Gold Production by end 2025 (including Byproduct Gold+Tailing
All India: Total	**1,09,390**	**166**	**32**	**198**	**200.21**	**492.74**	**693**	**36**	**44***
Karnataka	35,000	58	12	70	140.20	144.96	285	9	8
Rajasthan	25,000	24	6	30	-	240.53	240	6	2
Andhra Pradesh	3,000	28	6	33	46.96	41.14	88	5	3
Jharkhand	10,000	11	2	13	7.32	11.61	21	2	1
Madhya Pradesh	5,650	5	1	6	-	15.01	15	1	1
Maharashtra	5,500	9	1	10	5.73	6.50	12	1	1
Chhattisgarh	2,800	12	2	14	-	10.30	10	2	0.5
Orissa (Pri+ Plcer)	8,680	8	-	8	-	5.00	5	3	0.5
Gujarat	5,500	1	-	1	-	-	-	1	-
Kerala	1,000	3	1	4	-	12.69	12	1	0.5
Uttar Pradesh	4,500	2	1	3	-	1.00	1	1	0.2
Bihar	1,180	2	-	2	-	1.00	1	1	0.1
Tamil Nadu	1,000	3	-	3	-	1.00	1	2	0.2
West Bengal	2,580	1	-	1	-	2.00	2	1	-
TOTAL		166	32	198	200	493	693	36	18
By Product Gold from Copper Smelters								?	15

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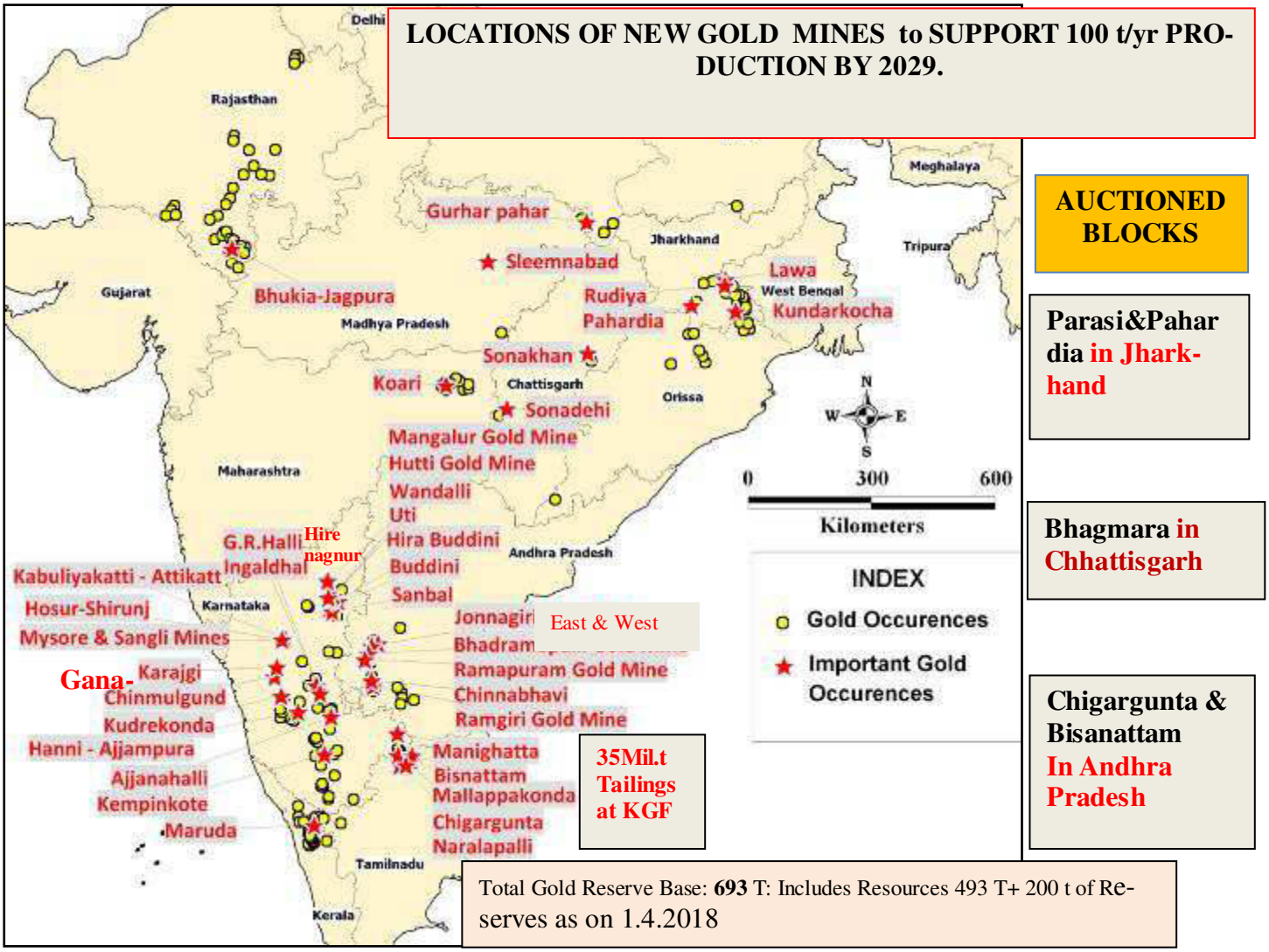
ANNEXTURE-2



ANNEXURE No:3

Immense Scope for development of Small and Medium scale Gold Mines under Mineral MSME Sector: *Need for a Gold AUTHORITY of INDIA*

SMALL SCALE METAL MINING: Generally small mines are viable only if they extract higher grade ores unlike large-scale mining which can turn even very low grade gold resources, as low as 0.5g/t, into profitable long term operations. For example, FORT KNOX gold mine in Alaska is mining the lowest grade gold ore in the world @ 0.45g/t at the rate of about 70,000 tonnes per day ore which goes on to Heap Leach Pads for extraction of gold. Right now **693 tonnes** of explored gold Resources & Reserves exist in the country. They are spread over **5 active mines and 193 gold prospects** (most of them hold drilled resources) in parts of Karnataka, Andhra Pradesh, Jharkhand, Rajasthan, eastern Maharashtra, Chhattisgarh, UP, MP, Orissa, Bihar, Kerala and Tamil Nadu States as listed in above Table-1 above. ***43% of 193 Prospects ie.,85 Prospects are small*** resources containing 1 or less than 1 tonne of gold metal. Value-wise each tonne is significant. Annual production in the range of 100 kg to 10kg gold would mean a range of **turnover of Rs.40 Cr to 4 Cr.** Therefore, development of small precious metal mines and base metal mines should be encouraged by the Ministry under statutorily incentivized schemes.

Tax holidays will provide comparative advantages to development of Small Gold RESOURCES (<3 tonnes of gold). Substantial reduction in Tax Rates will enable development of Medium-scale Gold RESOURCES (<15 tonnes) into profitable mining operations. The Goal of any National Government should be to increase the number of Income Tax Payers than burdening the Small and Medium scale entrepreneurs with taxes at the stage of mining. Taxes such as Royalty+DMF+NMET+Mandatory CSR would only add to the cost of mining, therefore, makes small and medium scale mining unviable. High tax regimes drives away potential investors to overseas mining-friendly jurisdictions.

Major arguments in favor of Small-Scale Mine (SSM)-development are the utilization of otherwise unexploitable

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small mineral Resources, high absorptive capacity of low-skilled and unskilled labor, efficient use of scarce capital, modest infrastructural requirements, opportunities for indigenous entrepreneurial development, and conservation of scarce high-skilled manpower, low investment costs and short implementation periods.

Governments should treat Small & Medium scale mining enterprises as "CSR Centers" as they eminently serve as sources of employment in rural areas and development of a host of ancillary industries, educational and health services. Small and Medium scale mines should be viewed as Mineral MSMEs. By enabling an enterprise to flourish and pay ~30% Corporate Tax, the Govt of India will, in a way, become 30% equity partner to such mining enterprise. In many parts of Africa and South America liberalized exploration laws and incentivized Small-Scale Mining (SSMs) have received attention as community developmental efforts.

Similarly, depreciation allowances for mining equipment should be granted *albeit* cautiously in order not to jeopardize the choice of appropriate technology. All expenses incurred on exploration must be made fully tax-deductible. Laws and procedures of obtaining exploration & mining rights and associated forest and environmental clearances should be simple and strictly time-bound. The globally adopted and time tested procedure of granting rights to first applicant should be the norm. Transferability of concessions for premiums to parties meeting eligibility criteria should be automatic.

Declaration of **Tax holiday for the first 7 years on all new gold mines of marginal grade gold resources** of grades <2.0g/t gold would be a great incentive to Private investors. Rationalize taxation/royalty and other levies on mining, capping it at a maximum of 40% of the sale value, as per global practice, to make mining competitive and facilitate investments including FDI. This would help both export promotion and import substitution.

Every tonne of gold produced from mines will save **55 million US$ in Forex and ploughs Rs.150 to 200 Crores into the Local Rural Economy** in the form of wages, skill development, rural infrastructure etc., besides generating revenue to the Govt. India has the right Geological potential to discover more gold, not less than 5,000 tonnes, in the next 10 years provided Exploration licenses with seamless transition to Prospecting and Mining are granted on FCFS basis.

It's time to also open up the most sought after RM-REE (both Hard rock & Beach sand resources) and other non-bulk mineral deposits such as base metals, Ni-PGE and Diamond and grant Composite (seamless RP-PL-ML) Licenses on FCFS basis to the Private Sector and PSUs. Such a decision has the potential to create jobs to *50 million people* by 2025 and contribute up to 3% or even more to the GDP.

Gold Exploration & Mining deserves to be dealt under a separate Authority (GOLD AUTHORITY of INDIA) on par with Coal, Steel & Hydrocarbons":

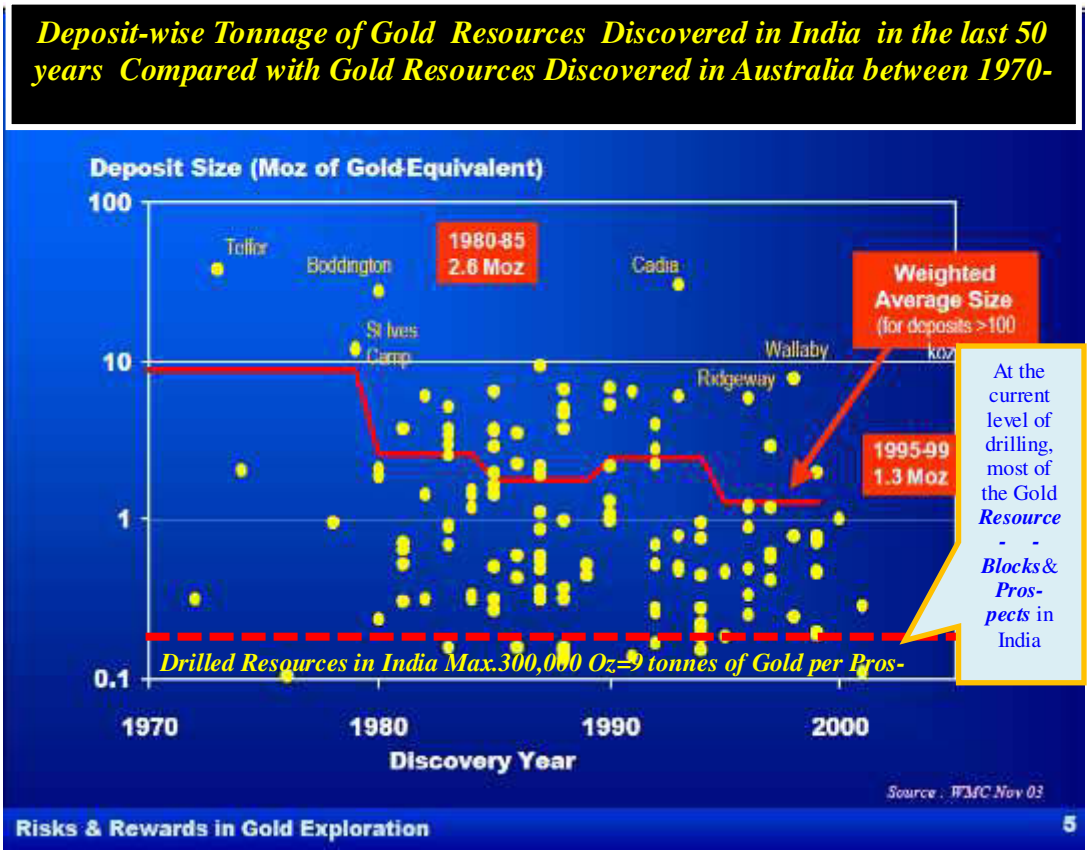
In a recent interview (Feb 2020) the Union Minister of Mines has stated that the expressed vision of the PMO is to reduce our country's dependence on Imports. The Mines Ministry as well as NITI Aayog knows well that Gold tops the list of high-import cost metals. Such is the importance of gold to the national economy that it prompted **Padmashree Dr.B.P.Radhakrishna,** who was the President of the Geological Society of India, Bengaluru, to urge the Govt of India to constitute a Gold Authority of India. That was 11 years ago in 2009. Because of serious implications of gold imports to the National Economy and for the fact that Indian Geology is capable of triggering and supporting exploration and development of at least a hundred new gold mines within the country, the erstwhile **Planning Commission** in it's **Document dt. 4th Nov. 2011,** para 6.1, recommended for creation of a centrally coordinated agency for taking a Mission Mode approach on gold and other precious metals. Recently **t**he need for an independent Govt Body to deal with all aspects of Gold has also been felt by ***a High level Committee Chaired by Shri. Ratan P. Watal, Principal Adviser, NITI Aayog and Member Secretary, EAC – PM.*** Shri. Rattan Watal has proposed for a **GOLD BOARD.** This need has arisen because of our country's dependence on import of a huge quantity despite having the Geological potential to produce at least ***90 tonnes of gold per annum by 2029***. As stated above there are currently**5 operating gold mines** and**193 gold Prospects** which together hold **693 tonnes of gold Resources + Reserves** as listed in a Table in Annexure-1 above. **27 new gold mines** can be commissioned into operating mines in the next 5 years. About **Rs.16,000 Crores(=40tonnes of gold)** would have to be spent over the next 9 years to reach 100 tonnes per annum of gold production by 2029 and add about **1,500 tonnes** of additional gold Resources into the inventory. **Rs.40,000 Cr.** is the value of 100 t of gold at the current price. A focused effort is needed to achieve these goals, hence an independent Gold Authority.

MANDATE of the proposed Gold Authority of India: To achieve 100 tonnes of gold production and to add 1,500 tonnes of gold Resource into the National Mineral Inventory through continuous exploration.

[For details on Gold Resources of India please see Publications of the Geological Society of India Particularly **GOLD in INDIA** by Dr.B.P.Radhakrishna & L.C.Curtis, 1999; Geological Survey of India Particularly **GOLD RESOURCES OFINDIA** by Ziauddin, M. and Narayanaswami, S.(1974) Bull. GSI, Series A, V.38 and its subsequent updates by the officers of the GSI; and, the most recent one on "**GOLD MINING IN INDIA:THE WAY FORWARD**, Feb2019 published by the Geol.Soc.India. I have prepared a list of 193 Gold Prospects].

Continued on Page 15

ANNEXURE No: 4



ANNEXURE No: 5

Need to Encourage Hundreds of Junior Mineral Exploration Companies: Globally, private enterprise is the largest contributor to mineral exploration as they have the technology, expertise and willingness to take risk. Private enterprise accounts for more than 90% of the global exploration budget with about 50% contributed by major mining companies & 40% by Junior Exploration Companies whereas Government institutions accounted for only around 10% of the budget. Exactly opposite is the current situation in India. Tax payer's money is being spent on mineral prospecting which should have been left to private mineral exploration companies and PSUs. India's annual expenditure of around U$15 per sq.km on general exploration (other than coal) compares unfavorably even with its BRIC counterparts such as China and Brazil, who have exploration expenditure of around US$ 60 per sq.km and US$ 35 per sq.km. respectively and Canada US$ 192 per sq.km. Australia US$ 246 per sq.km.

Junior Explorers are like Startups under "Make In India". There are thousands of Junior Mineral Exploration companies (JECs) in the world but hardly a few in India. JECs are NOT well established companies with financial track records but group and individual Geologist or group of entrepreneur geologists who, upon identifying an interesting mineral-bearing area or a potential mineral prospect, form a NEW Company and acquire the exploration rights. At the time of acquiring the exploration rights this new company typically has strong technical expertise but NO financial strength. The junior explorers raise funds for exploration after securing license on prospect by prospect basis. A typical junior explorer will not have note than 5-6 active prospects in one company. Staying small is important for a junior company as exploration projects often fail and one failed project quickly decimates the valuation being created by other successful prospects. Junior explorers typically make profit by staying small, reducing overhead expenses, spending money on exploration work and increasing the VALUATION of the prospect on stock market. Their objective is to sell the project to a major mining company and repeat the model with another area. JEs work at a huge risk segment of the mining industry value chain and are thus very sensitive to jurisdictional incentives with stable and clear regulations. Junior projects many times fail due to non-technical reasons like delay in grant of licenses, needless Govt interference in transfer of lease or licence, or delays in granting environmental and forest clearance, obtaining surface rights, water rights, access permissions, import permissions etc. As mentioned above India does not have a very good track record of converting RP to PL and ML and environmental and forest clearances. The success of junior exploration companies or startups depends upon the enabling provisions in the Act to retain the discovered Prospects under Retention License at least for 3 years after the expiry of a PL to enable the JEC to find an investor who would buy the discovered resources. This provision is called "finders keep" which is a global best practice.

Our Ministry should encourage Young Geologists and Mining Engineers and mineral processing engineers to start small scale mining operations to utilize small mineral resources, eg. A small deposit of gold containing just about 100kg of gold should be

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allowed to be mined as a stand-alone small enterprise. A 100kg gold deposit is today valued at Rs.40 Cr. It could be mined at the rate of 10kg per annum i.e., a turnover of Rs.4 Cr per year by a JEC or small Startup or a Mineral MSME by whatever name they may be called. Rs.4 Cr annual turnover is a good business in India. Likewise Mineral Process Engineers should be encouraged as startups for finding uses for mining wastes and tailings of processed ore. Like other National Geological Survey Organizations, the role of GSI too should be confined to generating basic Geoscientific data which includes thematic geological maps, geophysical and geochemical maps on different resolutions and prospecting operations on need based basis as mandated by the Ministry.

ANNEXURE No:6

Potential for Converting Existing Mineral Resources of Non-Bulk Metals into Mineable Reserves. The figures highlighted in Red in column-B are existing Resources awaiting development into New Mines

Mineral	Unit	As on 1.4.2010 Reserves (A)	Remaining Resources (B)	Total (A+B)
Antimony #				
Ore	tonnes	-	10588	10588
Metal	tonnes	-	174	174
Cobalt (Ore) #	m. tonnes	-	44.91	44.91
Copper #	'000 t			
Ore		237573	1273445	1511018
Metal		2996.97	9221.56	12218.53
Gold #				
Ore (Primary)	'000 t	14616	480188	494804
Metal (Primary)	tonnes	71.91	568.48	640.39
Ore (Placer)	'000 t	-	26121	26121
Metal (Placer)	tonnes	-	5.86	5.86
Lead & Zinc #	'000 t			
Ore		102795	606248	709043
Lead Metal		2114.91	9888.89	12003.80
Zinc Metal		10893.10	24963.00	35856.10
Lead & Zinc Metal		-	140.82	140.82
PGM (Metals)	Tonnes of Metal Content			
Potash	m.t.	-	21816	21816
Pyrites	'000 t	-	1674401	1674401
Molybdenum #				
Ore	tonnes	-	19371698	19371698
Contained MOS_2	tonnes	-	12668.37	12668.37
Nickel #	m.t.	-	188.71	188.71
Silver #				
Ore	'000 t	118281	401289	519570
Metal	tonnes	7907.97	21880.38	29788.35
Tin #				
Ore	'000 t	7	83719	83726
Metal	tonnes	1181.19	101093.65	102274.84
Titanium Minerals	'000 t	22030	371966	393996
Tungstun #				
Ore	tonnes	-	87387464	87387464
Contained WO_3	tonnes	-	142094.35	142094.35
Vanadium #				
Ore	tonnes	-	24633855	24633855
Contained V_2O_5	tonnes	-	64594	64594

693 T as on March 2018

12 Mil. T

35 Mil. T

15.7 T

1.67 Bil.T Ore

19 Mil.T Ore

188 Mil. T Ore

29,000 T Metal

100,000 T Metal

87 Mil. T Ore

25 Mil. T Ore

45 Mil.T

1.5 Bil.t

10,600 T Ore

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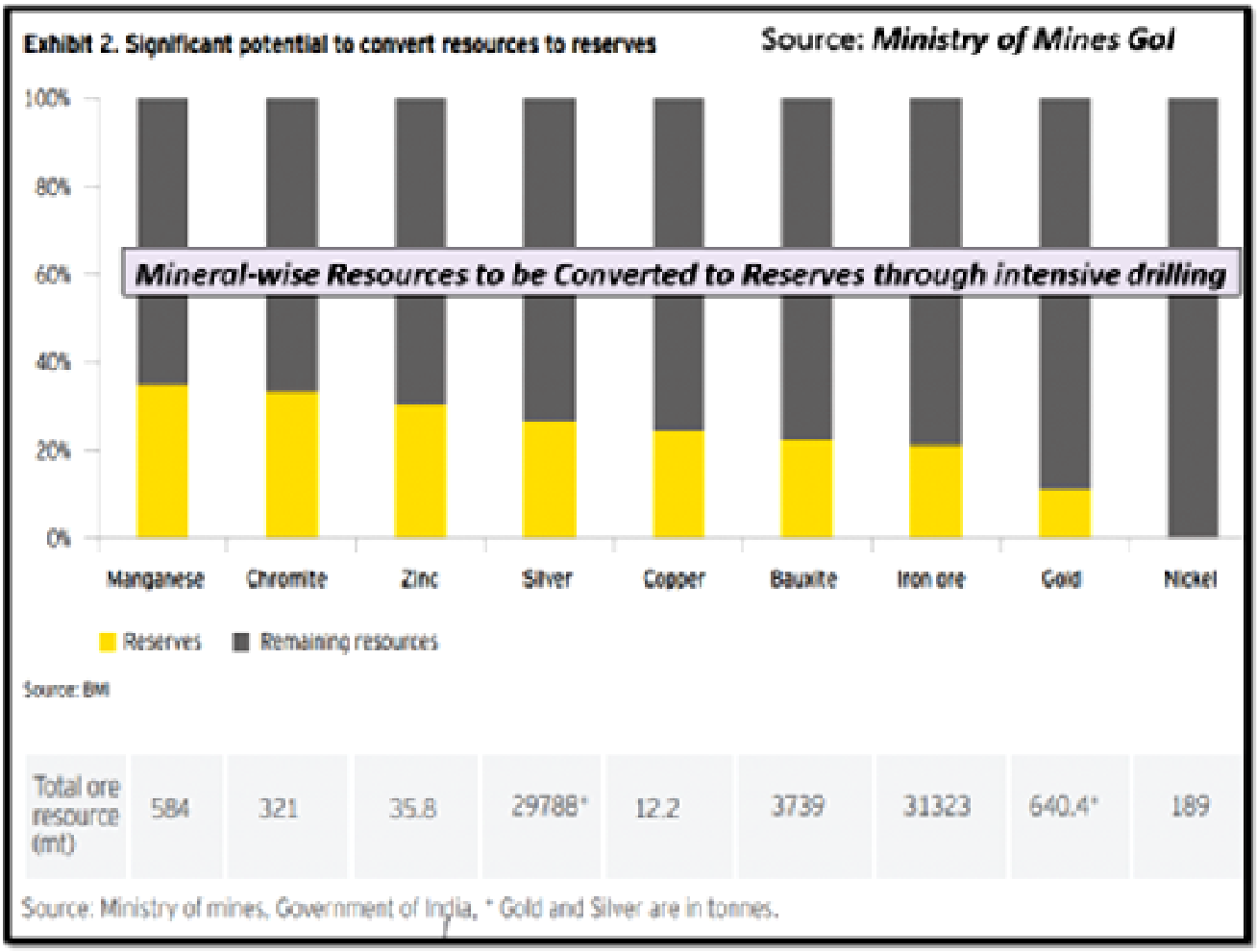
ANNEXURE No: 7



ANNEXURE No: 8

List of Key Metallogenic Zones/Belts of India are tabulated below *(Source: New Insights on Mineral Exploration Concepts & Guidelines' GSI's Misc.Publ.No.66,Feb. 2018).*These Mineral belts fall within the OGP areas defined by GSI. As on 31 March 2016, the country had around **1,878 reporting mines** excluding Minor minerals, crude petroleum, natural gas& Atomic minerals.

1. Khetri Cu belt
    a) Khetri parallel belt (Nim-ka-thana)
2. Ahirwala – Baleswar Cu belt
3. Alwar – Kalajoda-Golbadsahpur Cu zone
4. Khankhera Cu belt
5. Sawar Pb – Za belt
6. Bhilwara basemetal province
    a) Pur-Banera Pb-Zn-Cu belt
    b) Rajpura – Dariba Pb-Zn belt
    c) Akola-Wari-Bhinder Cu-Pb belt
    d) Rampura – Agucha Pb-Zn-Cu belt
7. Zawar Pb – Zn belt
8. Padar-Ki-Pal Cu zone
9. Jhakra-Parsola Pb-Zn-Cu ± Fe (Au) belt; (Bhukia gold belt)
10. Basantgarh – Golia Cu-Zn zone
11. Deri – Ambamata Pb – Zn – Cu belt
12. Balda – Dewa kaBera WO3 belt
13. Bar Babra W belt
    a) Chitar-Kalabar Cu-Zn belt
14. Cuddapah Pb-Zn-Cu-Ba province
    a) Agngundala Pb-Zn (Cu) belt
    b) Varikunta – Zangamarajupalle Pb-Zn belt
    c) GaniKalwa Cu belt
    d) Pulivendla Cu-Pb belt
15. Kolar-Ramgiri-Hutti Muski Au (W) province
    a) Kolar Au (W) belt
    b) Ramgiri Au belt
    c) Hutti – Muski Au belt
16. Sandur Fe-Mn-Au province
17. Chitradurga polymetallic (Fe, Mn,Au) zone
18. Nuggihalli-Krishnarajapet-Aladahalli polyetallic (Co, Cr, u,Fe,Ti,V)belt.
19. Bababudan Cu (U), Fe zone
20. Gadag Au zone
21. Ghattihosahalli Ba belt
22. Eastern Ghat Al – Mn province
23. Kanjamallai – Attur Fe (magnetite) belt
24. Bhabani – Harur-uttargarai Mo belt

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25 Ghattihosahalli Ba belt 26 Eastern Ghat Al – Mn province 27 Kanjamallai - Attur Fe (magnetite) belt 28 Bhabani – Harur-uttargarai Mo belt 29 Satyamangalam-Ajjur Fe (magnetite) belt 30 Kudremukh-Shimoga Fe-Mn, Cu, Fe (Ti. V) Au belt 31 Sakoli Fold Belt :Pular– Parsori– Kolari– Thambethani Cu – Zn (± Au) 32 Malanjkhand Cu belt 33 Sausar Mn zone 34 Bailadilla Fe belt 35 Rowghat Fe belt 36 Dalli-Rajhara Fe belt 37 Sakoli Fold Belt: Agargaon – Kuhi – Khobna Tungsten belt 38 Bonai – Noamandi – Jamda Fe-Mn province 39 Gorumahisani Fe-Au belt. 40 Singhbhum Cu-U-Apatite belt	41 Sargipalli Pb (Zn) belt 42 Barganda-Parasia Cu belt 43 Baula-Nausahi PGE – Cr belt 44 Roro-Jojobatu Cr belt 45 Sukinda-Nausahi PGE – Cr belt 46 Bihar-Mica-Nb-Ta-Be belt 43 Bastar-Malkangiri-Pegmatite-Nb-Ta-Be-Sn province 47 Nellore Mica-Nb-Ta-Be belt 48 Wynad Au belt 49 Sarguja U belt 50 Goa Fe – Mn- belt 51 Jonnagiri Au belt52 South Raipur Kimberlite belt 53 Bastar Kimberlite zone 54 Krishna Lamproite zone 55Tosham Sn belt. 56 Sittampundi PGE bearing Mafic-ultramafic Comp 57 Attapadi PGE and Gold bearing mafic –ultramafic suite

SOURCE: GSI, National Mission-II: Mineral Exploration Guidelines, Misc.Pub.No.66, 2018, Min. of Mines.

ANNEXURE No: 9

More the Drilling More the Resources. The Table below shows the multifold increase in Resources of some Bulk Minerals and a few Non-bulk Metal Resources between 1954 and 2015 which was achieved through exploration by drilling and/or Mine development

Metals	Resource Position in 1954	Resource Position in 2014-15
Iron Ore	6 Mil.T	129 Mil. T *(152 Mil.T for 13-14)*
Bauxite	76,000 T	22 Mil. T
Chromite	46,000 T	2 Mil.T
Manganese	1.54 Mil.T	2.35 Mil.T
Limestone	7 Mil. T	293 Mil.T
Phosphorite	2,000 T	1.58 Mil.T
Barytes	19,000 T	911,000 T
Dolomite	140,000 T	6.2 Mil.T
Gypsum	622,000 T	2.48 Mil.T
Kaolin	148,000 T	3.86 Mil.T
Magnesite	72,000 T	276,000 T
Steatite	43,000 T	774,000 T
Lead Concentrate	3000 T	127,000T of Pb 198,000T
Copper Concentrate	---	139,000 T (3.8 Mil.T of Ore)
Zinc Concentrate	4000 T	750,000 T of Zn) (1.5 Mil.Tof Ore)
Silver (as a By Product)	5 T	327 T
GOLD Production in 2017-18: Total: 12 *tonnes All India.* *(i)* ***From Mines****: Hutti Gold Mines; Uti gold Mines; Hira-Buddini Mines; Kundarkocha in Jharkhand(only 13kg per annum);*	450,000 T of 3.5g/t gold ore:1.7 T gold (from Mines)	Total Resource= 693 Tonnes As on March 2018
(ii) By *Product Gold from Copper smelting*	10 tonnes	

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ABOUT AUTHOR

The author of this paper, Dr. V.N. Vasudev is a well known professional Geologist having pan India and international experience in basic Geosciences as well as hands-on mineral exploration with several significant mineral discoveries to his credit. Dr. Vasudev is passionately involved in the National Mineral Policy issues right from NMP-1993. In his article, Dr. Vasudev has very ably analysed the ailing non-coal minerals sector and has suggested a series of amendments to the MMDR-Act with the main aim of attracting large scale private investments and FDI into the non-bulk mineral exploration and mining in the country.

SUGGESTIONS FROM DR N.N.SINGH

1. The Mining companies working at corporate level as organised sector carry out adequate exploration to meet the mineral conservation objectives and to employ world-class mining techniques. Companies like Golcha Group and others invest significant amount on developing market based products which add to the value should be given ample opportunity to invest in mining of Minor/Major minerals. The Mining Leases granted to such companies should have the life based on 'LIFE OF ORE RESERVE (MEASURED+INDICATED)' and not any arbitrary figure of 50years/30 years etc. A review of the RESERVE should be made by competent authority before renewal of Mining Leases is accorded.

2. Minor Minerals :- Though now are under state jurisdiction, but in order to promote the minor minerals at domestic and international level, a Country policy is required - more specifically NO AUCTION/ Consistent subsidise rate of Royalties / Incentive on Export. (For example Talc mines are under auction process in Rajasthan where as in Uttarakhand it is allotted without auction and the rate or Royalty may also be different in different state)

3. In some exceptional cases where Auction is required, the policy should support the current lease holder in term of

- First right of refusal
- Reimbursement of Mines and Market Development cost
- Reimbursement of paid NPV cost for remaining life of reserve
- Mandatory mineral sale from new lease holder to current lease holder so he can operate his plants and supply to his customers

4. Lease holder should have right to spend the DMF fund as CSR in development of villages around the mining lease rather than depositing in the DMF

5. Organised Mines should be made and treated different than 'BAJRI-Mining'. So we should not be suddenly brought to an end.

6. The Rights accrued through section 10A2(b) of MMDRA2015 must be honoured and the RP/PL holders prior to MMDA2015 must be granted next stage of licence/lease so that mineral development continues to grow. The mineral policy should be 'Resource generation policy' and 'Revenue generation policy', both.

7. The coming up blocks for grant through Auction must be as compost licence with single window clearance. The holder of Licence through Auction should have the tenement duly associated with other statutory clearances without running door to door.

8. In order to have mineral development, any private person/firm/company should be allowed to apply for exploration licence – cum-PL-Cum ML based on their conceptual target without going through Auction regime. In such cases the applicant may be asked to pay appropriate fee as up-front.

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SUGGESTION IN BEACH SAND & REE - DEEPAK RATHOD

The Ministry of Mines, GOI vide Notification No. G.S.R. 134(E) dated 20th Feb, 2019 has amended the Atomic Mineral Concession Rules 2016, thereby the mining of Beach Sand Minerals viz. Ilmenite, Garnet, Sillimanite, Rutile, Zircon and Monazite, is allowed only for Government Companies. Private companies cannot operate their existing mining leases and not eligible to allocate new leases. Major reasons cited for issuing this said notification are strategic uses and conservation of these minerals.

It may be noted that the activity of mining of beach sand minerals was reserved for the public sector since 1956 to 1998. Keeping in view the liberalization of the economy and recognizing the potential for these minerals, the Central Government opened this sector to private sector companies in 1998 through a new Policy for Exploitation of Beach Sand Minerals. Then prevailing very low production to reserve ratio of less than 0.001% in the sector and the inability of the government companies to invest more in BSM industry also necessitated to bring in the new policy for private sector participation.

There is no justification for this sudden change in the policy, on account of the following reasons and hence the notification shall be revoked.

India has significant resources of beach sand mineral deposits, but these resources remain grossly under-utilized and there is no dearth of resources for exploitation by public sector companies.

Pursuant to this policy of 1998, Private sector companies made significant Investments in the industry for exploration, R&D, mining leases and to set up mineral beneficiation & separation plants.

Since the entry of the private sector into this sector, the production of beach sand minerals has increased almost 100% by 2010.

Majority of the ilmenite, zircon and monazite and entire Garnet & Sillimanite produced are being consumed by non-strategic industries.

Total ilmenite reserves in India are 629.57 million tonnes and rutile 33.95 million tons. Out of which, 294.64 million tonnes of ilmenite and 15.32 million tons of rutile are in Odisha and Kerala and are primarily reserved for PSUs. Further, as per the Atomic Minerals Concession Rules 2016, all beach sand mineral deposits in India containing more than 0.75% Monazite in total heavy minerals is already reserved for Public sector companies, which account about 60% of the total reserves in India.

The Directorate General of Foreign Trade vide notification No.26/2015-2020 dated 21August 2018 has directed that all the exports of Beach Sand Minerals have to be canalized through Indian Rare Earths Limited, a PSU under DAE. Further, the exporters are required to obtain Monazite Test Certificate (MTC) from the AMD for every export consignment. Thus, the Govt. of India has already taken preventive action to check unauthorized export of monazite if any along with other minerals.

Thus, the notification prohibiting total private sector investment in BSM industry will jeopardize the basic vision of the National Mineral Policy 2019.

The amendment issued by the Ministry of Mines dated 20.02.2019 is prospective in nature and there is no justification in prohibiting operation of the existing mining leases granted prior to 20.02.2019. Further, the amendment dated 20.02.2019 was made without making any amendment to MMDR Act.

Further, already granted mining/prospecting leases are with prior approval from the Central and State Governments and leases were granted based on the merit of the entity and rules and regulations. Based on the approvals, such industries have made huge investments on ground and generated huge employment in the coastal backward areas. Therefore, now reviewing those applications based on the new rules and to take action retrospective may affect the investments already made.

In view of the foregoing facts, we request that private sector companies should be allowed for mining of beach sand minerals and we request that the notification dated 20.02.2019 issued by Ministry of Mines barring private sector from BSM exploitation may please be revoked. This will give immediate relief from any further losses to the Industry, the Government, livelihood of the employees, local villagers, job opportunities and ancillary industries.

Deepak Rathod

Vice President (Technical Services)
Trimex Sands Pvt Ltd

BEACH SAND MINERALS – SUGGESTIONS ON AMENDMENTS TO THE ACT & RULES – MINERAL EXPLORATION & MINING - T. SRINIVASAGAN

Our country is blessed with more348 Million Tons of Ilmenite Reserves, which is second largest in the world. However, vast geographical areas are still to be explored to the desired levels. Detailed exploration to understand and uncover this potential is crucial for the growth of Indian economy.

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Whereas, our Ilmenite Reservesare under-utilised, due to stringent laws in our country. The mineral Ilmenite is occurring along with the Associated Minerals viz., Garnet, Rutile, Zircon, Leucoxene, Sillimanite and Monazite. Ilmenite is major component (50-60%) of this associated minerals and this associated mineral are otherwise called as Beach Sand Minerals (BSM). There is a heavy demand for all of these BSM both in our country and also in every part of the world. The Policy on Exploitation of BSM 1998 allowed Mining and Mineral Processing by the Private Entities. This has resulted in Increase in Mineral Production from 0.3 Million Tons to 0.9 Million Tons. For the past one year all the BSM Mining and Allied Activities were stalled, by the Central Government, by passing several orders against Private BSM Mining. Due to this stringent action and Central Government's decision on Private BSM, our country has lost Financial Inflow of about Rs. 10,000 Crores per year. We the reputed organisation who is continuously No. 1 Position in the World in Production of Garnet and Ilmenite, strongly recommends to restart the Private BSM Mining by revocation/ amendment of various orders as detailed below. If all the Private BSM players are allowed to carry out mining, we are affirming a business of Rs. 10,000 Crores per year in our country and also provide Employment Opportunities to around 5 Lakhs people for the both educated and uneducated people all over in India. It will also help to increase our Economy growth, as well as GDP. Hence we identified following suggestions to make amendments on the Acts/ Rules :

Sl. No.	Clauses in the Rule/ Notification	Issues/ Challenges	Suggestions	Justifications
1	**MoM Notification G.S.R. 2356 (E) Dt. 11.07.2016) -** Beach sand minerals, that is, economic heavy minerals found in the teri or beach sands, which include ilmenite, rutile, leucoxene, garnet, monazite, zircon and sillimanite are listed as Part – C (Atomic Minerals) of First Schedule of MMDR Act, 1957.	Based on this Notification now the Ministry of Mines is in the move of instructing all the State Governments for Premature Termination of all Existing Mining Leases, pertaining to Private BSM Industries under section 4A(1) of MMDR Act, 1957,	Suitable Amendments in MMDR Act, 1957 to be notified by MoM for delisting the entries of 7, 11 & 12 of Part B of First schedule and include listing into the Part C of First Schedule. All Beach Sand Minerals (including Ilmenite, Rutile, Monazite, Leucoxene, Garnet, Sillimanite and Zircon), Titanium Bearing Minerals and Ores (Ilmenite, Rutile & Leucoxene) and Zirconium Bearing Minerals including Zircon to be made as Part -C of First Schedule of MMDR Act – Metallic and Non-Metallic Minerals.	1. To protect from premature termination existing private BSM mining leases, which is against Natural Justice and against Fundamental Rights. 2. All Beach Sand Minerals are not prescribed substances (except Monazite) and they are not controlled as per provisions of Atomic Energy Act, 1962 (Kindly refer DAE Notification S.O. 61(E) Dt. 18.01.2006 & S.O. 1592(E) Dt. 28.04.2016). 3. All BSM are utilised for commercial purposes only. 4. By this Participation of Private Sector shall be envisaged in line with the NMP 2019, NMEP 2016& Policy on Exploitation of BSM 1998. 5. In line with the National Mineral Policy, 2019, there shall be cooperation between and coordination among all organisations in public and private sector engaged in Mineral Processing and Beneficiation. 6. To prevent revenue loss to our country due to import of BSM from other countries.

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2.	**MoM Notifications for Amendment in AMCR, 2016 vide GSR 126(E) 19.02.2019 & GSR 134(E) 20.02.2019 -** "threshold value" means the grade of atomic mineral, specified as percentage of weight of the prescribed substances contained in the ore, as specified in Schedule A as the threshold value for the particular atomic mineral occurring as such or in association with one or more minerals. **Schedule A** 7. Titanium bearing minerals and ores (ilmenite, rutile and leucoxene) - All cases of titanium-bearing minerals occurring in Beach Sand Minerals and other placer deposits in association with monazite are notified as above threshold (i.e. the threshold is 0.00% monazite in Total Heavy Minerals), irrespective of monazite grade. 11. Zirconium bearing minerals and ores including zircon - All cases of zirconium - bearing minerals occurring in Beach Sand Minerals and other placer deposits in association with monazite are notified as above threshold (i.e. the threshold is 0.00% monazite in Total Heavy Minerals), irrespective of monazite grade. 12. Beach Sand Minerals i.e. economic heavy minerals found in the teri or beach sand, which include ilmenite, rutile, leucoxene, garnet, monazite, zircon and sillimanite - All cases of Beach Sand Minerals and other placer deposits in association with monazite are notified as above threshold (i.e. the threshold is 0.00% monazite in Total Heavy Minerals), irrespective of monazite grade.	1. As per the MoM Notifications GSR 126(E) Dt. 19.02.2019, GSR 134(E) Dt. 20.02.2019 and rule 5(1) of AMCR, 2016, no fresh mining leases shall be granted for Private BSM Industries, except to the case of Mineral Auction. Whereas, the above MoM Notifications does not have any role or impact on existing mining leases. Since, the above notifications are attracting the provisions of Rule 5(1) of AMCR, 2016 and the rule 5(1) of AMCR, 2016, is confined to grant of fresh mining leases. 2. Whereas, without any valid rule provision, now the Ministry of Mines is in the move of instructing all the State Governments for Premature Termination of Existing Mining Leases, pertaining to Private BSM Industries under section 4A(1) of MMDR Act, 1957, which is purely based on the provisions of Rule 5(1) of AMCR, 2016. Whereas, the rule 5(1) of AMCR, 2016, is confined to grant of fresh mining leases alone. Due to this, the whole private BSM industries stalled their operations. 3. Whereas, without any valid rule provision, now the Indian Bureau of Mine is issuing order for Revocation/ Rejection of Mining Plans/ Scheme of Mining Plans/ Review of Mining Plans pertaining to Existing Mining Leases of Private BSM Industries, which is purely based on the provisions of Rule 5(1) of AMCR, 2016 . Whereas, the rule 5(1) of AMCR, 2016, is confined to grant of fresh mining leases alone. 4. Whereas, without any valid rule provision, now the Indian Bureau of Mine is asking us to discontinue the submission of IBM Returns, which is mandatory under rule 45 of MCDR, 2017.	Reverse/ revocation of the MoM Notifications GSR 126(E) Dt. 19.02.2019 & GSR 134(E) Dt. 20.02.2019.	1. To protect from premature termination existing private BSM mining leases, which is against Natural Justice and against Fundamental Rights. 2. All Beach Sand Minerals are not prescribed substances (except Monazite) and they are not controlled as per provisions of Atomic Energy Act, 1962 (Kindly refer DAE Notification S.O. 61(E) Dt. 18.01.2006 & S.O. 1592(E) Dt. 28.04.2016). 3. All BSM are utilised for commercial purposes only. 4. By this Participation of Private Sector shall be envisaged in line with the NMP 2019, NMEP 2016 & Policy on Exploitation of BSM 1998. 5. In line with the National Mineral Policy, 2019, there shall be cooperation between and coordination among all organisations in public and private sector engaged in Mineral Processing and Beneficiation. 6. To prevent revenue loss to our country due to import of BSM from other countries.

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3.	**DGFT notification No. 26/2015-2020 (S.O. 4053(E)) dated 21.08.2018 for amendment in Export Policy of "Beach Sand Minerals"** The existing entries in the 'Note' of Chapter 26 of Schedule 2 of ITC(HS) Classification of Export and Import Items 2018 are substituted as under: "NOTE: 1. Export of Rare Earth compounds classified as Beach Sand Minerals (BSM), namely [Ilmenite, Rutile, Leucoxene (Titanium bearing mineral), Zircon, Garnet, Sillimanite and Monazite (Uranium and Thorium)], shall be regulated in terms of Sl. No. 98A of Chapter 26 Schedule 2 of ITC(HS) Classification. 2. Other minerals under code 2617 are freely exportable, except those which have been notified as prescribed substances and controlled under Atomic Energy Act, 1962. 3. A new entry at Sl. No. 98A is inserted in Chapter 26 of Schedule 2 of ITC (HS) Classification of Export & ImportItems 2018. Thus the Export of Beach Sand Minerals have been **brought under STE and shall**	1. IREL is our main business competitor and perhaps this canalisation shall have severe impact and shall affect the Well Developed Marketing Strategy and Good Reputation in the international Market of the Existing Private BSM Industries, that they gained over the years. Timely delivery is a good marketing Strategy. Whereas as per the present Canalisation Procedure, the beach minerals have to be supplied through M/s. IREL. This Canalisation Procedure is lengthy procedure and due to this procedure abnormal delay is observed for delivering to reputed customers in all over the world. Moreover, this procedure shall have negative impact on our Nation's Image among the International Market of Beach Minerals. 2. As per section 3 of the Foreign Trade (Development & Regulation) Act, 1992, "The Central Government may, by order in the official Gazette, make provision for the development and regulation of foreign trade by facilitating imports and ***increasing*** exports". Whereas the DGFT notification	1. "Beach Sand Mineral" shall be made freely exportable as per existing procedures without any canalisation procedure to export more beach minerals cargo to all over the world and earn millions of dollars as a foreign exchange every year to our nation to improve our economy quickly and it will also provide more employment opportunity to our nation people. 2. If at all the Government wants to implement the Canalisation and then a separate agency who is not a producer of the Beach Sand Minerals may be appointed. As M/s. IREL is also a producer and exporter of Beach Sand Minerals in India and M/s. IREL will not allow other Beach Minerals Producers to export cargo easily, due to the competition among the Beach Mineral Producers. Hence, we strongly suggest that MMTC may be appointed as a canalisation agency instead of IREL. The MMTC is the Government Enterprises Trading Company, which is not involved in any	1. It is against the Resolution -Policy on Exploitation of Beach Sand Minerals vide DAE Notification No. 8/ 1(1)/ 97-PSU/ 1422 Dt. 06.10.1998. 2. IREL is our business competitor and this canalisation, shall bring the tension among the competitors and shall result in unhealthy competition. Appointing the business competitor as Canalisation Agency is against Natural Justice under Court of Law. 3. As per section 3 of the Foreign Trade (Development & Regulation) Act, 1992, "The Central Government may, by order in the official Gazette, make provision for the development and regulation of foreign trade by facilitating imports and ***increasing*** exports". Whereas the DGFT notification No. 26/2015-2020 dated 21.08.2018 is deviating from the conditions of the Act and will result in ***decrement of Exports***. 4. Beach Sand minerals (Ilmenite, Rutile, Zircon, Garnet &Sillimanite) are not covered under prescribed substances under Atomic Energy Act (Kindly refer DAE Notification S.O. 61(E) Dt. 18.01.2006 & S.O. 1592(E) Dt. 28.04.2016). 5. Beach Sand minerals (Ilmenite, Rutile, Zircon, Garnet &Sillimanite) are not at all Rare Earth Compounds, as mentioned in the DGFT notification No. 26/2015-2020 dated 21.08.2018.. 6. Beach Sand minerals (Ilmenite, Rutile, Zircon, Garnet &Sillimanite) are 100% industrial minerals and used for commercial purposes only. Following details prove that they are commercial minerals and not strategic minerals: **Composition of Beach Sand Minerals:** **a. Ilmenite** is an ore of Titanium ($TiO_2FeO\ Fe_2O_3$) and not covered under the list of prescribed substances. **b. Rutile** is an ore of Titanium oxide mineral (TiO_2) and not covered under the list of prescribed substances. **c. Zircon** is a zirconium silicate mineral with a chemical composition of ZrSiO4 and not covered under the list of prescribed substances. **d. Garnet** is mainly Silicate of Iron and Aluminium ($Fe_3Al_2(SiO_2)_3$) and not covered under the list of prescribed substances. **e. Sillimanite** is Silicate of Aluminium ($Al_2O_3SiO_2$) and not covered under the list of prescribed substances.

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	be canalized through Indian Rare Earths Limited (IREL). Beach sand minerals, permitted anywhere in the export policy, will now be regulated in terms of policy under at Sl. No. 98A of Chapter 26 of Schedule 2 Export Policy	No. 26/2015-2020 dated 21.08.2018 and this draft Comprehensive ITC(HS) Export Policy, 2019, are deviating from the conditions of the Act and will result in ***decrement of Exports***. 3. Beach Sand minerals (Ilmenite, Rutile, Zircon, Garnet &Sillimanite) are not covered under prescribed substances 4. Also, the Beach Sand minerals (Ilmenite, Rutile, Zircon, Garnet &Sillimanite) are not at all Rare Earth Compounds, as mentioned in the DGFT notification No. 26/2015-2020 dated 21.08.2018. Whereas, the Beach Sand minerals (Ilmenite, Rutile, Zircon, Garnet &Sillimanite) are 100% industrial minerals and used for commercial purposes, only.	Beach Sand Minerals Production and Export. M/s. MMTC can act as a common agency, for both Government and Private Beach Mineral Industry, to regulate and monitor the Export of Beach Minerals from India. Moreover, this may create common platform for both Government and Private Beach Mineral Industry to promote this industry to the next level, in the International Market, by using various promotional activities. Further the M/s. MMTC is the authorised and active canalisation agency, successfully carrying out Exports for the years of many significant minerals viz., Iron ore, Lime stone etc. from various states of India, in systematic manner and through digitalisation.	**Uses of Beach Sand Minerals:** **a. Ilmenite** is mainly used in the manufacture of Titanium Di-Oxide, a white pigment for paints, welding rods, and production of Ferro-Titanium Alloys. **b. Rutile** is used for coating of welding electrodes and also for the production of Titanium di-oxide white Pigment and for the production of titanium metal sponge. **c. Zircon** is mainly used in the manufacture of refractories, ceramics, foundries etc. **d. Garnet** is mainly used for sand blasting, manufacture of abrasives for polishing glass/ TV tubes, wood and for water filtration. Thus fully utilised for commercial purposes. Also not for any strategic purpose also. **e. Sillimanite** are mainly used in the manufacture of high temperature refractories and fully for commercial purposes. Also not for any strategic purpose also. 7. If at all the Govt feels that Canalisation need to be implemented, a separate agency who is not a producer of the Beach Sand Minerals may be appointed. As IREL is also a producer of Beach Sand Minerals, we suggest the appointment of MMTC as an agency. The MMTC is the Govt Enterprises Trading Company, which is not involved in any Beach Sand Minerals Production and hence they'll not have any vested interest on Export Beach sand minerals.
4.	**Rule no. 4 (1) of AMCR, 2016 -** Prospecting for atomic minerals under second proviso to section 4.– The agencies permitted under the second provision to sub-section (1) of section 4 of the Act may carry out prospecting operations for atomic minerals without a prospecting licence and such prospecting operations shall be carried out in compliance with Schedule B.	As per rule 4(1) of AMCR, Prospecting or Exploration of Atomic Minerals are restricted to the Government Agencies viz., GSI, IBM, AMD, MECL or any Government Company. Thus Private Entity are not allowed to carry out Mineral Exploration activities.	Suitable Amendments to be incorporated in AMCR, 2016 to allow Private Entity to participate in Exploration of Atomic Minerals.	By this Participation of Private Sector shall be envisaged in line with the NMEP 2016, NMP 2019 & Policy on Exploitation of BSM 1998.

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5	**Rule 3 of M(OAHEM)CR, 2016 -** Applicability.- These rules shall apply to all minerals, except (i) minor mineralsdefined under clause (e) of section 3; and (ii) minerals listed in Part A and Part B (Atomic Minerals) of the First Schedule to the Act.	As per the rule 3, the rule M(OAHEM)CR, 2016 is not applicable for any Atomic Minerals (Part B of First Schedule of MMDR Act). This is contradicting to rule 3(2) of AMCR, 2016. As per rule 3(2) of AMCR, Mineral concessions relating to atomic minerals where the gradeof atomic mineral contained in the ore is less than thethreshold value will be governed, mutatis mutandis, by the provisions of the Minerals (Other than Atomic and Hydrocarbons Energy Minerals) Concession Rules, 2016, in force. Due to this Contradictory issues for 3 years period from 2016 to 2019, all of our mining leases saved under clause 10A(2)(c) were not processed and Mining Plans of existing mining leases were not processed.	Suitable Amendments to be incorporated in M(OAEM)CR, 2016 to sort out the dispute in applicability of Atomic Minerals (below TLV).	1. First time in Mining History, for the past 3 years' period about 70 BSM existing mining leases (below TLV) were withheld and no development works were carried out due to dispute in Applicability of Rule provision. 2. Due to Dispute in Applicability of Rules for the past 3 years period from 2016 to 2019, all of our mining leases saved under clause 10A(2)(c) were not processed and respective Mining Plans were also not processed, which were now considered as cancelled.
6	**Rule 3 of Mineral (Auction) Rules, 2015:** Application: These rules shall apply to all minerals, except minerals notified as minor minerals specified in clause (e) of section 3 and minerals specified in Part A and Part B (Atomic Minerals) of the First Schedule to the MMDR Act, 1957.	As per rule 3 of Mineral Auction Rules, 2015, fresh mining leases can be granted to only Government Companies and Mineral Concessions cannot be granted through Auction by Competitive Bidding.	New Atomic Minerals Block Allocation Rule to be framed immediately, similar to Coal Block Allocation Rules, 2017.	1. To Earn Revenue to the Government through Competitive Bidding. 2. To increase the BSM Production in order to meet both domestic and foreign requirement. 3. To improve our Country's economy and support for Employment. 4. To line up with the NMP 2019, NMEP 2016 & Policy on Exploitation of BSM 1998.

The Mineral Monazite is also occurring along with the mineral Ilmenite. The mineral Monazite consists of 70% of Oxides & Chlorides of Rare Earths and 7% of Thorium.India has remarkable reserves of about 7.2 million tons of Rare Earths. Monazite is the chief source for the Rare Earths. India is blessed with more than 11.93 million tons of Monazite. Although Rare Earths are 100% utilized for commercial purposes only, due to meagre content of Thorium, the mineral Monazite is considered as Prescribed Substance. Hence DAE is not allowing Private Entities to carry out processing and handling of Monazite. On the other hand, now our Government of India is on the move of opening Defence, Coal to Private Entities. By opening Monazite to Private Entities shall result in flourishment of several downstream industries in the following manner:

Light Rare Earth Elements are Lanthanum (La), Cerium (Ce), Praseodymium (Pr), Neodymium (Nd), Promethium (Pm), Samarium (Sm) and Heavy Rare Earth Elements are Europium (Eu), Gadolinium (Gd), Terbium (Tb), Dysprosium (Dy), Holmium (Ho), Erbium (Er), Thulium (Tm), Ytterbium (Yb), Lutetium (Lu), Yttrium (Y), Scandium (Sc).

Currently the dominant end uses of Rare Earth Elements are for Automobile Catalysts and Petroleum Refining Catalysts, Use in Phosphors in Color Television and Flat Panel Displays (Cell phones, Portable DVDs and Laptops, Permanent Magnets and Rechargeable Batteries for Hybrid and Electric Vehicles and Numerous Medical Devices. There are important Defence applications such as Jet Fighter Engines, Missile Guidance Systems, Antimissile Defence and Satellite and Communication Systems. Permanent Magnets containing Neodymium, Gadolinium, Dysprosium and Terbium (Nd Fe B magnets) are used in Numerous Electrical and Electronic components and New Generation Generators for Wind Turbines.

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World's Rare Earths Usage by Industry

i. Magnet Industry – 27 %
ii. Metal Alloys Industry – 19 %
iii. Catalysts Industry – 18 %
iv. Polishing Industry – 12 %
v. Glass Industry – 6 %
vi. Ceramics Industry – 5 %
vii. Phosphorous Industry – 5 %

Other Industries – 8 %

Whereas, in India only Government Companies are only allowed to process and handle Monazite and Rare Earths. Hence the production of Rare Earths in India is almost Nil. Thus delisting of Monazite from Prescribed Substance List and delisting from Atomic Minerals List shall pave way for many downstream industries. No doubt this Policy Decision shall have Positive Impact on both Indian Economy and Employment.

6	**DAE Notification S.O. 1592(E) Dt. 28.04.2016** 0A103 - Thorium. 0A104 - Any of the materials specified above in 0A101, 0A102, or 0A103 in the form of metal, alloy, chemical compound, or concentrate.	Based on this Notification Monazite is listed as Prescribed Substance, and due to which Processing and Handling of Monazite is restricted to Government Companies alone.	Suitable Amendments to be Notified by DAE for delisting Thorium from the entry 0A104.	1. Thorium rich materials can be stocked as per AERB Norms. Presently Monazite rich material is stocked separately as per AERB Norms. Moreover, at present Thorium is not having any demand both in India or in abroad. 2. The opening up of Rare Earths to Private Entity will pave way for the development of many downstream industries in India using REEs as the raw material which will have additional benefits both in Financial as well as Strategic.
7	**Part B (Atomic Minerals) of First Schedule of MMDR Act, 1957** 3. Minerals of the "rare earths" group containing Uranium and Thorium. 9. Uraniferousallanite, monazite and other thorium minerals. 12. Beach sand minerals, that is, economic heavy minerals found in the teri or beach sands, which include ilmenite, rutile, leucoxene, garnet, monazite, zircon and sillimanite are listed as Part – C (Atomic Minerals) of First Schedule of MMDR Act, 1957.	As per List of Minerals in part B of First Schedule of MMDR Act, 1957, Monazite and Rare Earths are listed as Atomic Minerals, and due to which Processing and Handling of Monazite & Rare Earths is restricted to Government Companies alone. Private Entities are not entertained to carry out Processing and Handling of Rare Earths and Monazite.	Suitable Amendments in MMDR Act, 1957 to be notified by MoM- for delisting the entries of 3, 9& 12 of Part B of First schedule into Part C of First Schedule. All the Rare Earth Minerals, Monazite and Beach Sand Minerals (including Monazite) to be made as Part -C of First Schedule of MMDR Act – Metallic and Non-Metallic Minerals.	1. Thorium rich materials can be stocked as per AERB Norms. Presently Monazite rich material is stocked separately as per AERB Norms. Moreover, at present Thorium is not having any demand both in India or in abroad. 2. The opening up of Rare Earths to Private Entity will pave way for the development of many downstream industries in India using REEs as the raw material which will have additional benefits both in Financial as well as Strategic.6. To prevent revenue loss to our country due to import of BSM from other countries.

Hence, it is kindly requested that the above suggestions shall be taken up with the concerned Ministries, accordingly.

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