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Not Just Mining Minerals...

MINING HAPPINESS



Mining Engineers' Association of India

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President's Message.....

Dear Members,

Greetings...

I wish to share with you the activities undertaken by our Association in the preceding month.

Rajasthan Chapter-Udaipur has celebrated the Silver Jubilee celebrations on 5th July 2023 at Udaipur coinciding with a daylong Program to deliberate on the **“Role of Artificial intelligence and Automation in mining”** in a grand manner. I missed the opportunity to attend this program at the last minute under unavoidable circumstances. But, through this platform I would like to appreciate and congratulate the members of the Chapter and thank all the founders & senior members for their valuable contribution in nurturing the Chapter to its current status.

Bhubaneswar Chapter conducted an **“Awareness Program on CEA”** for field Engineers with the support of DGMS on 19.07.23 at Chrome Valley Club, Tata Steel Mining Limited, Sukinda. Such programs/ workshops/ discussions create awareness and improve the skill set of Field Engineers. They will be very useful for the Industry as well as the career growth of field engineers.

I am delighted and happy to inform you that our Bhubaneswar Chapter Chairman **Sri. Pankaj Kumar Satija** received **“National Geoscience Award on MINERAL BENEFICIATION AND SUSTAINABLE MINERAL DEVELOPMENT”** from our respected President Smt. Droupadi Murmu on 24.07.23. On behalf of MEAI, we congratulate him on his spectacular accomplishment.

Enthused by the phenomenal success of MPDP and MTS programs, MEAI has now launched another program beneficial to the industry; i.e. Onsite training program in physical form namely **“MEAI ONSITE TRAINING (MOST) PROGRAM”**. We have conducted the first program at Deogiri mines of Sandur Manganese & Iron Ore Ltd, (SMIORE) Ballairi district, Karnataka on 14-15 July 2023. This program was well organised under the aegis of B-H Chapter and was hosted by SMIORE Ltd. Sri. Md Abdul Saleem, Director (Mines) SMIORE was the Chief Guest and Sri. Sunil Singh, Sr. VP, JSW was the Guest of Honour for the program. We thank the Management of SMIORE and BH Chapter team for their instantaneous support in organizing the first training program.

As a part of MEAI TECH SERIES (MTS) monthly online program, a talk on **“Quality Assurance & quality control in Mineral Exploration”** was delivered by Dr. M.K. Devarajan, VP, Supreme Gold Exploration on 28th July 2023 in MTS-13. This MTS program was being conducted regularly on 4th Friday every month. I request all the mineral industry professionals to avail this opportunity.

I am delighted to inform all our esteemed members regarding the forthcoming **8th Council meeting, 50th AGM and Award function** planned at Ahmedabad on 25th August 2023. A two-day **“International Conference on Mining Vision 2047”** will follow it during 26-27 August 2023, organised by the Ahmedabad Chapter. I request our Association members as well as non-members to join the same.

Regards,

K. MADHUSUDHANA
President



Mining Engineers' Association of India

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EDITOR'S DESK



Dr. P.V. Rao
Editor, MEJ

A general feeling that prevails among the stakeholders in the Indian Resources sector is that the current system in the country has not been effective in infusing anticipated investments to bolster mineral exploration and help discovery of deep-seated mineral deposits. The surficial mineral deposits mined today mostly represent the bulk commodities that have been easy to trace and explore. They could only meet the country's increasing mineral requirements partially, compelling continued reliance on minerals/ metals imports. To moderate this emerging severe situation, the government has been pursuing the twin strategies of funding the exploration companies from its coffers and arriving at arrangements with friendly countries to acquire critical mineral assets across the world.

The mineral exploration funding at present is largely supported from the National Mineral Exploration Trust (NMET) fund that was established by the government of India vide Gazette Notification G.S.R.633(E) of 14th August 2015 in addition to limited budgetary support extended annually to the government organisations such as Geological Survey of India (GSI), Mineral Exploration Consultancy Ltd (MECL) etc. When equated with the massive funding needed to explore deep-seated mineral deposits, the NMET funding would prove to be

insignificant. Hence, it became more critical for the Resources Sector to attract global investments in the risky exploration endeavours in India.

The reassuring role played by key stakeholders viz. policy makers, regulators, professional bodies, and investors have a distinct bearing in attracting investments in exploration and mining for a sustainable growth of the Indian Resources Sector.

It is for the lawmakers to legislate a vibrant National Mineral Policy (NMP) and National Mineral Exploration Policy (NMEP) and for the government agencies to guarantee their effective enforcement. The reigning mineral policies envisage the necessity to motivate global investors and establish an investor friendly business ecosystem. The extant Mineral Auction Rules and Minerals (Evidence of Mineral Contents) Rules for granting Composite Licences (CL) and Mining Leases (ML) of minerals are yet to demonstrate accomplishment of this vital objective of enticing massive global investments in the Resources Sector.

Securities Exchange Board of India (SEBI) has a major role to play in enabling the exploration and mining companies to raise capital through listing in the stock exchanges while ensuring protection of investors' interests. Prominent stock exchanges in the world have already established exclusive disclosure rules for the listing of exploration and mining companies to boost investors' confidence and participation. Such global stock exchanges recognise only the Committee for Mineral Reserves International Reporting Standards (CRIRSCO) compliant public reporting standards, including Indian Mineral Industry Code (IMIC), for the disclosure of Exploration Results, Mineral Resources and Reserves. Taking a clue from this international best practice, SEBI may make it mandatory for the exploration and mining companies to adopt the 'Made in India' public reporting standard 'IMIC' for disclosure of Mineral Resources and Reserves.

The mineral industry professionals and the professional bodies representing them are obliged to follow Code of ethics while producing trustworthy technical reports built on reliable geoscientific, technical, commercial and financial data. The mineral industry professionals should strive to upgrade their technical competencies regularly and acquire desired professional qualifications and experience to act as a Competent Person (CP) under IMIC. Stability in the business environment and the risk mitigation mechanism associated with investments in the country could prove to be the game changer in bolstering the investments in the Resources Sector.

Presentation of exploration data/ reports transparently and in an easy to understand and internationally recognised CRIRSCO International Template, by CP, would go a long way in instilling and increasing investors' confidence.

The splendid role played by the Mining Engineers' Association of India (MEAI) and the National Committee for Reporting Mineral Resources and Reserves in India (NACRI) in developing the 'Make in India' IMIC and ensuring its approval by CRIRSCO has been commendable. ***It is now for the Government of India to recognize and implement this invaluable CRIRSCO compliant IMIC for the overall benefit of the Resources Sector, as has been followed by 13 other major mineral rich geographies in the world.***

- Editor

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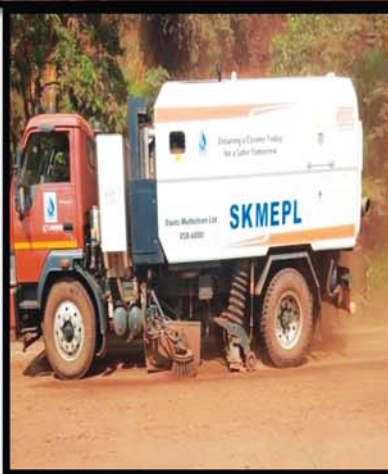
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NEWS FROM THE MINERAL WORLD

➔ **Andhra Pradesh: Gold production at Jonnagiri mine likely to begin in 2024**

Production from country's first private gold mine at Jonnagiri in Andhra Pradesh is most likely to commence from December 2024. The Geomysore and Deccan Gold Mines Limited (DGML), which launched gold mining exploration operations at Jonnagiri block of Kurnool district, are going with all guns firing to kick-start the full commercial operations in next 16 months. Deccan Gold Mines Ltd. (DGML), the first and the only gold exploration company listed on the Bombay Stock Exchange Limited (BSE) has recently acquired a significant stake of 40% in Geomysore Services India Limited, which is developing the first private sector gold mine at Jonnagiri. This is the first private sector gold mine in India since independence.

DGML, for a long period of time, has been involved in gold exploration activities in India and overseas. DGML's exploration in India, particularly in the state of Karnataka led to discovery of open pittable gold deposits in the Archaean greenstone belts of Dharwar Craton. These deposits are in Hutti and Dharwar-Shimoga belts. DGML has also completed a JORC-compliant feasibility on Ganajur gold deposit in Karnataka. Setting eyes on the global footprint, DGML has initiated M&A activities. DGML has also acquired majority stake in Altyn Tor Gold Mine in Kyrgyzstan-60% and Kelavala Gold Project in Finland-32%, with an option to go upto 51%. "We are planning to bring the Altyn Tor gold project to full scale production in the last quarter of 2024," DGML Managing Director Dr Hanuma Prasad Modali said. He explained that DGML has also won Bhalukona-Jamnidi Block through auction, which is considered to be a very high potential area for Ni-Cu-Cr-PGE (nickel) mineralization. This block is situated in the state of Chhattisgarh and is acquired as a part of its diversification into battery and multimetal deposits. This will be the only nickel production plant in India when it commences operations. India has depended on 100 percent import for nickel needs.

"DGML also owns exploration licenses in Tanzania through its 100% subsidiary, which are located in the vicinity of large operating gold mines," said Dr Hanuma Prasad.

DGML with a large portfolio of assets, which range from near producing to long term potential gold and multimetal deposits, will be a unique firm to become an India-owned global mining entity in the long term. The acquisition will enable Deccan Gold Mines in a significant equity participation in a gold project with potential to get into revenue stream within the next

two years, it said. It will also help the company to add gold projects into its portfolio and boost its fund-raising prospects. DGML is investing close to Rs 200 crore in acquiring stake in three different firms.

Samdani MN, TNN | Jul 20, 2023

➔ **Commercial mining of lithium, 5 more minerals gets Cabinet nod**

These minerals - lithium, beryllium, titanium, niobium, tantalum and zirconium - have uses in the spacetechnology industry, electronics, communications and will also help in India's energy transition.

The proposed amendments will remove these six minerals from the so-called Atomic Minerals list.

The Union Cabinet on July 12 approved amendments to the Mines and Minerals (Development and Regulation) Act to allow commercial mining of lithium and five more minerals, said sources aware of the development.

These minerals - lithium, beryllium, titanium, niobium, tantalum and zirconium - have uses in the spacetechnology industry, electronics, communications and will also help in India's energy transition.

The country is dependent on imports for most of these minerals as existing laws prevent their commercial exploration and mining. The proposed amendments will remove these six minerals from the so-called Atomic Minerals list. They also empower the central government to auction mineral concessions and introduce exploration licences.

Demand of minerals like lithium is likely to increase manifold as the focus shifts towards clean energy and meeting India's net-zero emission commitment.

LAKSHMAN ROY, Money Control | JULY 12, 2023

➔ **What is Deep sea mining? The controversial project to meet mineral demand**



Deep sea mining is an emerging industry that aims to extract minerals from the ocean's surface. (Photo: Getty)

The International Seabed Authority plans to resume negotiations for deep sea mining, raising concerns about potential environmental impact on marine ecosystems and habitats.

In Short

- Individual countries can soon begin applying for provisional licenses
- Deep sea mining is an emerging industry
- Engineering and technology used for deep sea mining are still evolving

By India Today Science Desk: An obscure UN body based in Jamaica, which regulates the world's ocean floor, is planning to resume negotiations to open the seabed for mining.

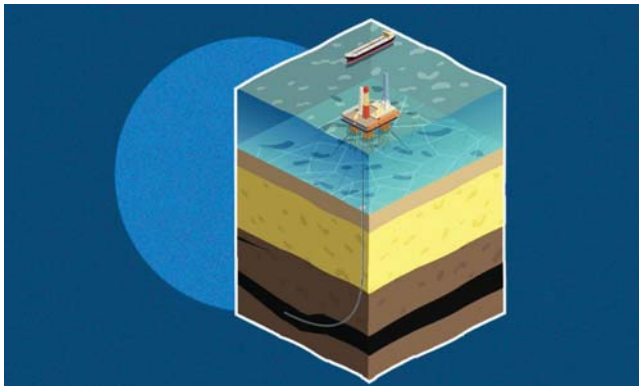
The International Seabed Authority (ISA) is currently accepting mining permit applications, raising concerns about the potential impact of this decision on the marine world, particularly the ecosystems and habitats of the deep sea.

Individual countries and private companies can begin applying for provisional licenses on July 10 if the U.N. body fails to approve a set of rules and regulations by July 9. However, the authority has not yet received an application for actual mining. So what is all this about?

WHAT IS DEEP SEA MINING?

As the world becomes increasingly technologically advanced and demand soars, resources on land are becoming scarce, leading explorers to turn their attention to the oceans to meet these demands.

Deep sea mining is an emerging industry that aims to extract minerals from the ocean's surface, including manganese nodules, seafloor massive sulfides, and cobalt crusts.



Growing concerns revolve around the environmental impact of deep-sea mining. (Photo: Getty)

These minerals are of interest for their potential economic value and their use in various industries, including technology, manufacturing, and energy production.

There are three types of deep-sea mining: extracting deposit-rich polymetallic nodules from the ocean floor, mining massive seafloor sulfide deposits, and stripping cobalt crusts from rock. These nodules, deposits, and crusts contain materials such as nickel, rare earths, cobalt, and more, which are essential for batteries and other applications.

HOW IS DEEP SEA MINING CONDUCTED?

Engineering and technology used for deep sea mining are still evolving. Some companies are exploring the use of massive pumps to vacuum materials from the seafloor.

Others are developing artificial intelligence-based technology to teach deep-sea robots how to retrieve nodules from the ocean floor. Additionally, some are investigating the use of advanced machines capable of mining materials from the sides of underwater mountains and volcanoes.

WHAT ARE THE CONCERNS ABOUT DEEP SEA MINING?

Growing concerns revolve around the environmental impact of deep-sea mining, including damage caused by noise, vibration, and light pollution. Only a small portion of the deep seabed has been explored, leading conservationists to worry about potential damage to ecosystems.

The physical disturbance resulting from mining activities can lead to habitat loss and a decline in biodiversity, potentially affecting the entire food chain within these ecosystems. The extraction of minerals involves removing layers of sediment and disrupting the natural structure of the ocean floor.

Sediment plumes generated by certain mining processes are a major concern. Once valuable materials are extracted, slurry sediment plumes are sometimes pumped back into the sea, which can harm filter-feeding species like corals and sponges. Deep-sea mining operations can also release harmful chemicals and heavy metals into the surrounding water, with long-lasting effects on marine life.

All eyes are now on the ISA's Legal and Technical Commission, responsible for developing deep-sea mining regulations. The commission is scheduled to meet in early July to discuss the draft mining code.

India Today Science Desk, New Delhi | Jul 5, 2023

➔ **India approves lithium mines auction proposal, removes ban on mining six minerals**

The Central government has approved the lithium mining auction proposal, clearing the way for private companies to be able to participate, *CNBC Awaaz* reported on Wednesday. The Cabinet has approved the amendment in the Mines and Minerals (Development and Regulation) (MMDR) Act. The Centre has lifted the ban on mining lithium and five other minerals. Private companies will also be able to mine the six minerals.

Lithium is the lightest and softest metal in the world. The mineral converts the chemical energy it stores into electrical power. Lithium is a non-ferrous metal and is one of the critical components for batteries that power electric vehicles.

Earlier this year, India discovered 5.9 million tonne worth of lithium reserves in Jammu and Kashmir. The amount of lithium is important for the country because it can compete with the global average.

At present, 47 percent of the world's lithium is produced in Australia, 30 percent in Chile and 15 percent in China. India has been import-dependent on many minerals like lithium, nickel and cobalt and has lately been looking to strengthen its supply of key minerals, including lithium, that will be critical for furthering its electric vehicle plans.

India is hopeful of finding more lithium reserves in Jammu & Kashmir as the additional exploration activity is underway in the Salal-Hamima region in Reasi, Secretary of the Ministry of Mines, Vivek Bharadwaj, said last month. He also indicated that the auction of the discovered lithium ore is likely to take place in December and the ministry is in the process of working out the reserve price.

Last month Australian billionaire Gina Rinehart also entered the lithium space after her mining company Hancock Prospecting inked an agreement with Legacy Iron Ore and Hawthorn Resources to explore the mineral at the Mount Bevan project in Western Australia. India's National Mineral Development Corporation (NMDC) holds a 90 percent stake in Legacy Iron Ore, according to the firm's 2022 annual report.

CNBC TV News, Economy | Jul 12, 2023

➔ **Who wants the precious mine? A lot is going on in India on critical minerals front**

Lithium is the new gold. This soft, silvery white metal

is essential for a range of products — from batteries of electric vehicles, mobile phones and laptops to hydrogen fuel storage, air conditioning systems and pharmaceuticals. Even though a vast array of industries hinges on this single metal, India does not produce even a kilogram of it. Recently, India announced the discovery of 5.9 million tonnes of lithium reserves in Jammu and Kashmir and the government is contemplating amending laws to pave the way for private miners to dig it up. But that may take a while.

For now, India imports lithium, and it relies mainly on China and Hong Kong. China accounted for 73% of India's imports of lithium-ion — which is used in batteries — in 2020-21. Add Hong Kong and India's import reliance on them shot up to a staggering 96%.

Besides lithium, there are several critical minerals such as cobalt, nickel, vanadium, niobium, germanium, rhenium, tantalum and strontium, which India imports entirely. Then there are others such as copper, gallium, graphite, phosphorus, potash, tin, titanium and tungsten, which carry high economic significance as well as supply risks.

All these metals have figured on the Government of India's recent list of 30 critical minerals, which are instrumental to the country's economic growth and national security. India Inc has applauded the move but wants a definitive policy that lays down guidelines for private engagement and which incentivises it to mine and process them. Demand for some of these metals is set to zoom and even a small disruption in their supply chains will cripple industries such as high-tech electronics, telecommunications, transport and defence. According to industry estimates, the demand for lithium and cobalt, for example, may grow by 42 and 25 times respectively, between 2020 and 2040.

Tarun Mehta, CEO of Ather Energy, says the government has taken the first step towards de-risking supply chains and it should incentivise industries to mine and refine the metals. "Bringing parts of the value chain to the country will make EV batteries cheaper and help develop EV adoption across the country," says Mehta. Ather Energy is an electric two-wheeler manufacturer with production facilities in Bengaluru and Hosur.

Vivek Srivastava, CEO of solar module manufacturer Waaree Energies, says "it is alarming" how the processing of many such metals is concentrated in certain geographies, with China having a significant presence across the board. "The current supply and investment plans are inadequate to service the transformation of India's energy sector, which could

possibly lead to delays in transition,” he says. The world is still relying on fossil fuels as three-fourths of energy supply come from oil, coal and natural gas, but once it shifts gears towards low-carbon technologies such as solar and wind, many critical minerals will play a crucial role.

While more and more nations are enthusiastic about a low-carbon regime, there is also a realisation that the landscape of new energy minerals is tilted in favour of a handful of countries. Bolivia houses the world’s largest deposits of lithium, although it has not mined the metal yet. Nearly half the world’s lithium is mined in Australia. A report titled “Addressing Vulnerabilities in the Supply Chain of Critical Minerals” published in April and authored by multiple agencies, including the Council on Energy, Environment and Water (CEEW), says China accounts for the production of 79% natural graphite, a mineral used in batteries, lubricants, fuel cells, et al. India houses about 9 million tonnes of graphite of which only a small portion has been mined so far.

Globally, the CEEW report says, only 15 countries are home to at least 55% (up to 90% in certain cases) of seven minerals — cobalt, copper, graphite, lithium, manganese, nickel and rare earth element (REE). These countries are Australia, Brazil, Chile, China, Congo, Gabon, Indonesia, Madagascar, Mozambique, New Caledonia, Peru, Philippines, Russia, South Africa and the US. Each of these minerals is of immense value to new-age industries. Cobalt is used for battery electrodes, turbine engine components and automobile airbags, while nickel is an important ingredient in solar panels, batteries, aerospace and defence applications and EVs. India imports both these items. Clearly, an energy transition could be turbulent for countries like India which don’t figure on the critical minerals map. India has to either explore new deposits or ensure a guaranteed supply from foreign locations despite turbulent and changing geopolitics.

Economist Pronab Sen argues that, meanwhile, India should consider stockpiling some critical materials. “If we do that, we have to figure out how much we should stockpile and over what period of time. After all, such a move will require a whole lot of investments,” he says, insisting that the research community must play a big role in finding alternative metals and processes.

MORE ORE

Rishabh Jain, senior programme lead of CEEW, says India must chart a path on how to use these minerals, right from mining to end-use value chains, which will create jobs and help the economy grow further. He says the government should also periodically calibrate

the list of 30 minerals on the basis of priorities and geopolitical dynamics.

This means the government has to institutionalise a mechanism. According to Srivastava of Waaree Energy, the government should set up a task force to look into the entire chain, from identifying reserves to production and processing. Several countries are emphasising on the processing part. China, for example, dominates in processing rather than in producing many minerals, Srivastava adds. Europe is also fast learning the trick. Though Congo accounts for 70% of global cobalt production, Finland, Belgium and Norway are leading in the production of refined cobalt, a processed product. At this juncture, a viability gap funding (VGF), a kind of government subsidy, is needed to localise the processing of minerals, says Randheer Singh, former director of electric mobility at NITI Aayog. “Industry also needs targeted R&D and testing facilities for critical minerals for managing clean energy and EV applications,” he adds. The government and the industry have been upping renewable energy targets. India’s EV market is likely to cross 10 million units a year by 2030, up from 1 million in 2022. But that can be possible only if there’s no major disruption in the supply of its inputs. “With the government announcing its target of installing 37 gigawatt (GW) of offshore wind projects by 2030, and onshore wind targets of about 10 GW additions per annum till 2028, India will need to boost its wind turbine manufacturing capabilities,” says Sumant Sinha, founder and chairman of ReNew, a leading clean energy company. Turbines require rare earth elements.

Lithium is a major input for battery energy storage systems, which can store energy from various sources such as solar and wind. Easier and cheaper availability of lithium will reduce the cost of manufacturing storage batteries, Sinha adds. Rahul Lamba, CEO of The Energy Company, says more and more of these metals have to be processed in India itself to reduce the final product cost. Lamba, who runs the Bengaluru-based startup that manufactures batteries for EVs, adds that localising the refining process of copper and nickel may reduce the cost of a vehicle by Rs 15,000-20,000.

While most of the 30 critical minerals are related to renewable energy and defence industries, two are agri items—phosphorus and potash. “I am not surprised by their inclusion as energy security and food security are the two most critical components for any nation’s progress,” says former Union agriculture secretary SK Pattanayak. “India’s agriculture will collapse if there’s no import of phosphorus. We have domestic deposits

in isolation but we have always preferred imports to mining. It's high time we dug up phosphorus," he says.

CRITICAL MINERALS WHICH INDIA IMPORTS ENTIRELY (Data Pertains to 2020)

LITHIUM

Used in: Rechargeable batteries (of phones, computers and EVs), hydrogen fuel storage, military ballistic armour, aircraft, train components
Import Source: Hong Kong, China, Indonesia, Singapore, South Korea

COBALT

Used in: Battery electrodes, turbine engine components, automobile airbags, drying agents for paints
Import Source: China, Belgium, Netherlands, US, Japan

NICKEL

Used in: Jet and combustion engine components, rechargeable batteries (phones, computers, EVs), industrial manufacturing machines
Import Source: Sweden, China, Indonesia, Japan, Philippines

VANADIUM

Used in: Military armour plating, vehicle axles, nuclear reactor components
Import Source: Kuwait, Germany, South Africa, Brazil, Thailand

NIوبيUM

Used in: Jet engines, rockets, MRI scanners, oil rigs and pipelines
Import Source: Brazil, Australia, Canada, South Africa, Indonesia

GERMANIUM

Used in: Fibre-optic communication networks, camera and microscope lenses, infrared night vision systems
Import Source: China, South Africa, Australia, France, US

RHENIUM

Used in: Aerospace products, refined petroleum products
Import Source: Russia, UK, Netherlands, South Africa, China

BERYLLIUM

Used in: Computer, electronic and optical products
Import Source: Russia, UK, Netherlands, South Africa, China

TANTALUM

Used in: Capacitors, gas turbine components, missiles and radio communication systems
Import Sources: Australia, Indonesia, South Africa, Malaysia, US

STRONTIUM

Used in: Casting of non-ferrous metals, bike accessories
Import Source: China, US, Russia, Estonia, Slovenia

THE REMAINING 20 CRITICAL MINERALS ARE:

antimony, bismuth, copper, gallium, graphite, hafnium, indium, molybdenum, platinum-group elements, phosphorous, potash, rare earth elements, silicon, tellurium, tin, titanium, tungsten, zirconium, selenium and cadmium.
Source: PIB, Ministry of Mines' report, June 2023.

*Lijee Philip & Shantanu Nandan Sharma,
ET Online | Jul 15, 2023*

➔ MP puts 51 blocks on auction, 14 of these hold critical minerals

This is the highest number of mineral blocks notified for the auction in a single tranche by any state, the Mines Ministry said in the release.



Representative Image

Madhya Pradesh on Friday issued a tender notice for the auction of 51 mineral blocks, including 14 with critical minerals, according to a release.

This is the highest number of mineral blocks notified for the auction in a single tranche by any state, the Mines Ministry said in the release.

"Madhya Pradesh has announced the largest number ever of mineral blocks for auction. The state has issued Notice Inviting Tender (NIT) for auction of a record number of 51 mineral blocks on July 14th," it said.

The 51 blocks comprise 14 minerals including strategic and critical minerals like graphite and vanadium, platinum group of elements (PGE) and also other major minerals such as manganese, bauxite, limestone, iron ore, base metal and gold.

"13 blocks are for mining lease and 38 blocks are for composite licence," it said.

While mining lease is given for mines with proven reserves, composite licence for mines where some level of exploration is needed.

Madhya Pradesh auctioned 29 blocks in 2022-23. Since the introduction of the auction process in 2015, the state has notified 125 mineral blocks for auction, of which 46 have been successfully auctioned.

“Bihar, West Bengal, Telangana, Punjab, Himachal Pradesh, Haryana and Kerala have not auctioned any blocks since 2015,” the ministry said.

PTI JULY 15, 2023

➔ **SEBI New Disclosure Norms Tightening Compliance Burden to be Effective from Saturday**

The capital markets regulator, the Securities and Exchange Board of India (SEBI), has imposed a stricter timeline of 12-24 hours for disclosure of material events or information, increasing the compliance burden on listed companies starting Saturday.

SEBI directs companies to disclose agreements entered into by shareholders, promoters, related parties, directors, key managerial personnel, and employees of the listed entity or its subsidiary to stock exchanges, which can impact the management and control of such firms.

If the listed entity is involved, the agreements must be disclosed within 12 hours and 24 hours if the listed entity is not a party.

Under Paragraph A of Schedule III under the LODR (Listing of Obligations and Disclosure Requirements) Regulations, disclosure of family settlement agreements was already required. The regulator had amended the LODR earlier after its board approved a proposal.

Besides, for material events or information that emanate from the listed entity, including those related to acquisitions, Scheme of Arrangement, consolidation of shares, and buyback of securities, the timeline for disclosure by the entity has been set at 12 hours, according to the SEBI circular.

Further, if the information does not emanate from within the listed entity, timelines have been fixed 24 hours from the event's occurrence. This includes a revision in rating, fraud, or defaults by a listed entity, its promoter, or directors; restructuring about loans from banks; one-time settlement with a bank; and winding-up petition filed by any party/creditor.

The outcome of meetings of the board of directors needs to be announced within 30 minutes from the closure of such meetings.

Equitypandit | July 14, 2023

➔ **Why leading steel cos are surrendering commercial coal blocks**

Leading players in the Centre's commercial coal auction are surrendering their mines to the government.

Business Standard has learnt that Essel Mining & Industries Limited (EMIL), Adani Enterprises (AEL), and JSW Steel are looking to surrender their mines.

Of these, AEL and EMIL have already notified the government.

AEL, in its latest annual report 2022-23, has said it has submitted a relinquishment letter to the Ministry of Coal for the Jhigador and Khargaon coal mines in Chhattisgarh.

“Mining projects at Jhigador and Khargaon coal mines are temporarily suspended.

“The group has been following up with the Government of Chhattisgarh and the Ministry of Coal for a grant of prospecting licence-cum-mining lease, without which it cannot proceed with the mining activities.

“Considering the delay in getting the said licence, the group has submitted a relinquishment letter to the Ministry of Coal and is awaiting response,” AEL said in its annual report 2022-23.

The Government of Chhattisgarh is reportedly not providing the mining leases to the coal block owners for mines in the state.

The state government also moved a resolution recently to get all those coal blocks cancelled, which are in the immediate vicinity of the ecologically pristine forested Hasdeo Arand area.

It is also protesting the inclusion of coal blocks in the upcoming rounds in this area.

“The Chhattisgarh Assembly on July 26, 2022, had resolved the coal blocks in the Hasdeo area be cancelled.

“The coal ministry was informed about the resolution on September 19, 2022.

“I have been directed to inform the state government's objection to the proposed auction of nine block blocks in the area,” said Jai Prakash Maurya, special mining secretary of the Chhattisgarh government, in a letter to the Ministry of Coal, informed reports.

AEL won the two mines of Khargaon and Jhigador in the second tranche of the commercial coal auction in 2021.

Both blocks are unexplored and have an estimated resource capacity of 250 million tonnes (mt) each.

EMIL is surrendering the Radhikapur (East) coal block in Odisha, which it won in the first round of the commercial coal auction in 2020, said senior officials in the know.

The government source did not reveal the reason. EMIL offered a 16.75 per cent premium against the floor price of 4 per cent to obtain the Radhikapur (East) coal block, which has an annual production of 5 mt per annum.

Despite being an explored block (faster to mine coal) and awarded three years ago, sources said no operations have commenced on it.

EMIL could not be reached for comment until the time of going to press.

The website of EMIL does not mention the said block under its current or future business operations in its last available financial statement on its website.

EMIL has mentioned it spent Rs 5.5 crore on preparing the geological report for the Radhikapur (East) coal block.

JSW Steel is looking to surrender the Banai-Bhalumuda coal block in Chhattisgarh, said government sources.

However, the ministry has not received any official word from the company as yet.

In a reply to emailed queries, a spokesperson for JSW Group wrote: "We prefer to not provide any comments regarding market speculation."

Minsitry officials said, according to the bidding guidelines, all those who surrender coal mines without giving any satisfactory reasons will face the penalty of their bank guarantees being forfeited.

The person refused to comment, which of the above mentioned three players will face the penalty.

Since the launch of the commercial coal mine auction in June 2020, vesting or allocation orders have been issued for 49 coal mines, the Ministry of Coal said in a Rajya Sabha reply in April 2023.

Before that, the Centre launched the e-auction of the cancelled 200 coal mines; 43 mines were awarded for captive use (self-use) to 34 private players.

Shreya Jai, Rediff.com | July 14, 2023

→ UK needs to revive rich mining past to counter China's minerals grip



South Crofty, about 390km drive west of London on the Celtic Sea Coast, was the last tin mine in Europe when it closed in 1998. (Image courtesy of Cornish Metals.)

When work began at the South Crofty tin mine in Cornwall, Queen Elizabeth I was on the throne, the first English settlement in America had only just been established, and the world's trade with the Far East was controlled by Portugal. It shut in 1998 after more than four centuries of continuous operation, a victim of sinking prices.

Now, South Crofty is part of a wave of mining activity across England's southwestern tip aiming to resuscitate an industry that until recently looked all-but dead. Tin, copper, tungsten and lithium, along with associated geothermal energy, are the focus of companies trying to capitalize on the surge in demand for the raw materials that are key to the shift to clean energy.

For Cornwall, it's the chance to use past strengths to secure its future in a new world where minerals are strategic, ideally responsibly sourced, and self-sufficiency is key. For the UK, it's a test of the government's ability to come up with the money and vision quickly enough to ensure the country doesn't get left behind.

The evidence on — and under — the ground suggests things are moving, even if hurdles remain for the viability of some projects. "Most of the questions revolve around, why is it taking so long?" said Richard Williams, chief executive officer of Cornish Metals, the owner of South Crofty. "It now just seems to be taking off. Not just here, but around Cornwall."

Tin's comeback is thanks in part to a European Union regulation from 2006 that banned lead in solder, meaning it became ubiquitous in electronic circuits rather than the sardine cans of old. But it's recent geopolitical tension between the US and China that's

raised the stakes further, particularly for a Britain now outside the EU.

Bloomberg News | July 6, 2023

➔ **Brazil wants 10-year pause on deep-sea mining, citing environmental concerns**

Brazil's representative to the International Seabed Authority has said the country supports a precautionary pause for at least a decade. The official said the protection of the international seabed should be a priority.



Brazil has said the protection of the international seabed should be a priority. (Reuters/ Representative Image)

Brazil on Friday urged a 10-year precautionary pause on deep sea mining in international waters just days after companies and countries were allowed to start applying for provisional licenses.

The call came during a two-week conference held by the International Seabed Authority, a UN regulatory agency based in Jamaica that failed to approve a set of rules and regulations to govern deep sea mining by a July 9 deadline.

The agency has not issued any provisional licenses, nor has it received any applications, although the government of Nauru is expected to apply soon for a license via the Canadian-based Metals Co.

The government of the tiny Pacific island said Friday that it wants to diversify its "limited economic base," but promised it would not sponsor an application during the UN conference, which ends July 21.

Nauru noted that its "good-faith decision" does not mean officials are withdrawing their plan to pursue deep sea mining.

"We're no longer in a 'what if' scenario, but 'what now'?" said Margo Deiye, Nauru's permanent representative to the International Seabed Authority.

A growing number of countries and companies, including BMW and Volvo, support a moratorium on deep-sea mining, warning that extracting precious metals from the deep sea that are used in electric car batteries and other green technology could cause environmental damage.

Brazil's representative to the International Seabed Authority, Elza Moreira Marcelino de Castro, said the country supports a precautionary pause for at least a decade.

"Priority must be given to the protection of the international seabed until conclusive and comprehensive studies are available," she said.

Scientists have warned that deep sea mining could kick up dust storms and cause light and noise pollution, noting that minerals that grow at such depths take millions of years to form.

Companies, however, have said that deep-sea mining is cheaper and has less of an impact than land mining, while some countries have said it would allow them to grow and diversify their economy.

On Friday, several council members insisted on more scientific studies before any licenses are awarded.

"Exploitation must not commence until it can be guaranteed that there will be no loss to biodiversity," said Siddharth Shekhar Yadav, Vanuatu's representative.

The UN agency has issued more than 30 exploration licenses, with most of the activity focused in the Clarion-Clipperton Fracture Zone, which covers 1.7 million square miles (4.5 million square kilometers) between Hawaii and Mexico.

Exploration is occurring at depths ranging from 13,000 to 19,000 feet (4,000 to 6,000 meters).

The UN agency's 36-member council is working on a proposed framework that would regulate potential deep sea mining, but it's unclear when it would be ready.

"Exploitation in the area should not be carried out in the absence of rules, regulations and procedures," Gina Guillén, Costa Rica's representative, said in a statement that represented the stance of more than a dozen countries.

Australia's representative said Friday that it was clear draft regulations would not be ready before the conference ends nor by the next meeting scheduled for October and November.

Associated Press, San Juan | July 18, 2023

CAREER PLANNING IN MINING ENGINEERING: A PERSONAL JOURNEY

Dr G. R. Adhikari

Abstract

This paper presents a brief overview of career planning for mining engineers. It discusses the importance of career planning, different approaches to career planning, and the steps involved in the career planning process. The paper also shares a personal account of a successful career journey of a mining engineer who navigated diverse career paths across four government organisations. This real-life example effectively demonstrates how career planning can lead to success in the field of mining engineering.

Keywords: Career planning, Mining engineering, Career path, Career advancement, Personal journey.

1.0 INTRODUCTION

The mining industry stands as a cornerstone of global economies, supplying essential raw materials to diverse industrial sectors. Mining engineers apply engineering principles to extract and process minerals from the earth for industrial use. They play a vital role in the industry, taking on different roles such as mineral exploration, mine planning and design, operations, and management. As the demand for natural resources continues to escalate, the significance of mining engineering has soared exponentially. Prominent mining companies worldwide actively seek qualified and experienced mining engineers to fill crucial roles within the industry. However, technical expertise alone is inadequate for achieving success in this field. Early career executives must also possess a strong aptitude for strategic thinking, planning, communication, and problem-solving (Bhattacharya, 2022).

In today's fiercely competitive job market, career planning emerges as the guiding compass that empowers both recent graduates and seasoned professionals to unlock their full potential and make informed decisions. By aligning their passions, skills, and aspirations, and continuously reflecting on their goals, mining engineers can pursue their dream jobs, cultivate valuable skills and interests, enhance their effectiveness in their roles, acquire specialised knowledge, stimulate career growth, foster a sense of accomplishment, and achieve a harmonious work-life balance amidst the myriad challenges they encounter (Thurgate and Jackson, 2011).

Countless resources have been published on the subject of career planning, advancement, and success, featuring various models and theories of career development (Barrett, 2009; Craps et al., 2021; Hoschette, 2010; Landefeld, 2009; Powell, 1995; Juntunen et al., 2019). Building upon this wealth of knowledge, this paper provides a concise introduction to career planning, including different approaches and essential steps. Moreover, it integrates the personal journey

of a mining engineer as a valuable addition to the discourse on career planning. By showcasing various experiences, challenges and lessons learned, the author aims to inspire, guide, and advise early career engineers, illuminating the path towards overcoming obstacles and achieving their goals.

2.0 DIFFERENT APPROACHES TO CAREER PLANNING

There are four different approaches to career planning: self-directed, employer-directed, mentorship, and counselling.

Self-directed career planning, also known as career self-management emphasises the importance of individuals taking ownership and responsibility for their careers. This approach involves individuals taking control of their career by proactively planning, developing, and managing their skills, experiences, and networks (King, 2004; Walker, 1973). By taking ownership and responsibility for their careers, individuals can increase their chances of success and satisfaction. (Fiske, 1966; Hoschette, 2010)

Employer-directed career planning involves employers providing support to employees' career development through training programs, job rotations, and promotions. However, many employers fail to offer adequate support, which can lead to lower employee engagement, retention, and organisational performance. Walker (1973) suggested guidelines to improve human resource planning and development, which can help employers to better support their employees' career development.

Mentorship is a process where an experienced individual guides and supports a less experienced person in their career development (Landefeld, 2009). Mentors provide valuable advice, feedback, and assistance to help individuals achieve their career goals. They can also help mentees develop networks, identify opportunities, navigate challenges, and gain insights into industry practices and

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emerging technologies. Finding the right mentor significantly enhances your chances for career success (Hoschette, 2010).

Career counselling involves working with a professional counsellor to identify career interests, strengths, and values, and create a plan to achieve career goals. Online career services have expanded to supplement traditional face-to-face counselling (Pordelan and Hosseinian, 2022). Machine learning algorithms now power online career tests that analyse an individual's interests, ambitions, background, personality traits, and potential occupations (Robinson, 2022). While these tests cannot predict future careers with certainty due to various factors, they provide valuable insights into an individual's interests and strengths, offering guidance towards compatible career choices.

These approaches are not mutually exclusive. As a mining engineer, you can combine multiple approaches in your career development journey. In the following section, the author will specifically focus on self-directed career planning, exploring its advantages and strategies for success.

3.0 CAREER PLANNING PROCESS

Different authors have identified various steps in the career planning process (Souder, 1983; Fiske, 1966; Magnusson, 1995; McKay, 2022; Pelta, 2022; Talmage-Rostron, 2023). These steps typically include self-assessment, exploration, goal-setting, action planning, implementation, and periodic review. A concise overview of the career planning process is illustrated in Figure -1.

3.1 Self-Assessment

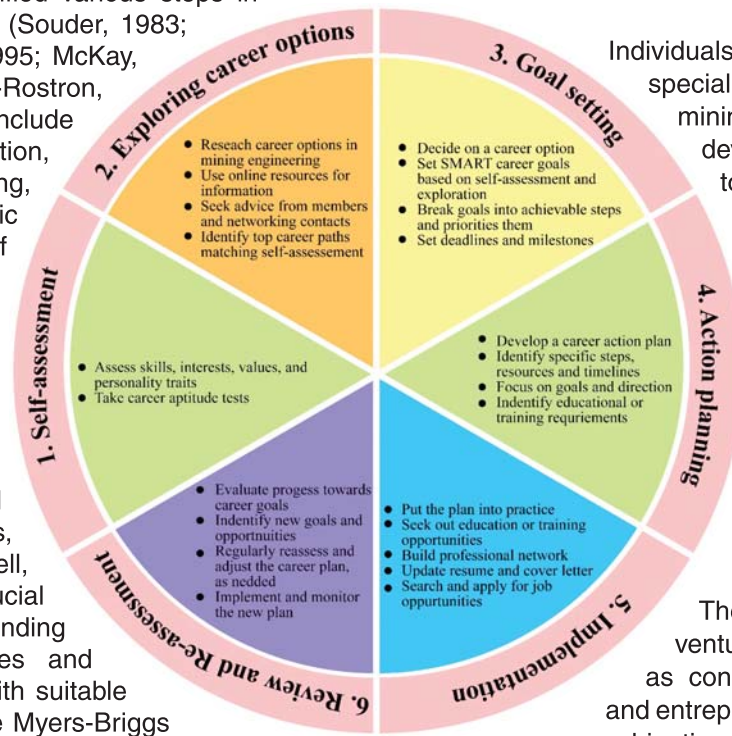
Self-assessment is the first step in the career planning process. It involves the evaluation of technical and soft skills, interests, values, and personality traits (Powell, 1995, Fiske, 1966). It is crucial to gain a deeper understanding of these personal attributes and preferences to align them with suitable career choices. Tools like the Myers-Briggs Type Indicator (Tieger et al., 2014) and online career tests (Robinson, 2022)

Experienced individuals can gain valuable insights by reflecting on their past job roles and experiences. This reflection enables them to identify the positions and responsibilities that genuinely bring them satisfaction.

3.2 Exploration of Career Options

The second step is to explore different career options available to mining engineers. Mining engineers can use job portals like LinkedIn, Indeed, and Monster, as well as online resources such as company websites to find suitable roles and companies. When evaluating each option, factors such as job responsibilities, salary prospects, growth opportunities, job security, location, and work-life balance should be taken into consideration.

Career paths in engineering are broadly classified into three main categories: managerial, technical, and hybrid (Tremblay et al., 2002). Managerial career paths involve overseeing and coordinating activities within the mining industry. Examples of managerial roles include mine manager, general manager, chief operating officer, and chief executive officer. Mine managers assume overall responsibility for the operation of a mine, ensuring safety, production efficiency, and financial performance. General managers oversee the company's operations, including mines, processing facilities, and transportation. Chief operating officers handle day-to-day operations of the company, while chief executive officers set strategy and oversee overall operations of the mining company.



Individuals on the technical paths specialise in specific areas of the mining engineering and continuously develop their skills and knowledge to excel in their specific area of expertise. Some technical career paths within the field of mining engineering include mineral resource assessment, geotechnical engineering, mine planning and design, environmental engineering, health and safety engineering, research and development, as well as academic positions.

The hybrid career path involves venturing into diverse areas such as consulting, sales and marketing, and entrepreneurship. These roles require a combination of technical knowledge and business-oriented responsibilities.

It is important to note that mining engineers have the freedom to transition to different career paths, enabling them to explore new opportunities or pursue diverse interests throughout their professional journey.

3.3 Goal Setting

Once career options have been narrowed down, individuals can start setting goals. The goals must be SMART (Specific, Measurable, Achievable, Relevant, and Time-bound) goals (Powell, 1995; Khera, 2018). Mining engineers should ensure that their goals align with their self-assessment, preferred career options, and aspirations. Seeking guidance and support from mentors or career coaches is encouraged.

Clear and specific goals, with established deadlines, keep individuals focused and motivated (Powell, 1995; Khera, 2018). Goals can be categorised as short-term (up to one year), medium-term (up to three years), and long-term (up to five years). For example, the short-term goal of a mining graduate trainee could include successfully completing an internship or attending a training program. On the other hand, the long-term goal of a mining graduate trainee could be to attain a Mines Manager position, which typically requires around five years of experience in the field.

Breaking down long-term goals into smaller, manageable steps is crucial. These smaller goals serve as milestones on the path to achieving larger objectives. Regularly evaluating progress, monitoring actions, tracking milestones, and making necessary adjustments are important.

By following these steps, individuals can effectively set and work towards achieving their goals, ultimately leading to career success and personal fulfilment (Powell, 1995; Khera, 2018).

3.4 Action Planning

Having a plan of action is vital to achieving your career goals. It helps you identify specific steps you need to take, and it keeps you focused and motivated.

A plan of action should identify necessary resources such as education, training, certifications, and networking opportunities. Mining engineers can enrol in courses or programs, attend industry events, or seek mentorship from professionals in their desired field. However, it is also important to remain flexible and adaptable in the plan of action, allowing for adjustments as progress is made on the career journey.

3.5 Implementation

The fifth step is to implement the plan by identifying milestones, creating a timeline, and taking necessary steps to achieve the desired goals. In the mining industry, junior engineers can pursue certifications such as Second Class and First-Class Mines Manager to advance their careers. The action plan should outline the steps needed to achieve long-term career goals. Pursuing higher education or specialised training, seeking mentorship, and creating a professional

profile on platforms like LinkedIn or ResearchGate are also beneficial actions that can enhance professional networks and visibility.

3.6 Review and Re-evaluation

The last step in the career planning involves regular assessment of progress, identification of challenges, revision of goals, and action plans as necessary. This evaluation process enables individuals to make the required adjustments to their plans, stay on course, and make well-informed decisions regarding the next steps in their careers. Career planning is an ongoing process, and revising the plan of action and implementation strategies is essential as your goals, interests, qualification, and the job market change over time.

4.0 CAREER PLANNING PROCESS: A PERSONAL JOURNEY

The previous sections explored the significance of career planning, along with various strategies and steps involved in the process. This section discusses how I implemented these steps and strategies in my own personal journey.

4.1 My Journey into Mining Engineering

My journey into mining engineering began with a decision to pursue a degree in the field. Although I did not conduct a self-assessment or consult career counsellors, my decision was influenced by a genuine personal interest in mining engineering and the promising career prospects it offered.

I studied mining engineering from 1973 to 1979 at the prestigious Peoples Friendship University in Moscow, USSR. The program offered extensive knowledge and rigorous training in underground coal mines as well as surface and underground iron ore mines in Ukraine.

During my final year of studies, I presented a paper at a workshop organised by our mining engineering department. My paper was well-received and was recognised as the best among the papers presented. This recognition boosted my confidence and affirmed my abilities.

To further strengthen my research skills, I decided to concentrate my Master's thesis on optimising mine transport for a large iron ore pit mine in Ukraine, using the FORTRAN programming language. My thesis was recognised as the best in the mining department and the second-best in the entire engineering faculty of our university. The acknowledgement and appreciation bestowed upon me by my professors further fuelled my passion for pursuing a research career.

4.2 Embarking on a Mining Engineering Career

After obtaining my Master's degree in Mining Engineering from the former USSR in July 1979, I returned to Nepal. However, no opportunities were available to pursue a

career in mining research. I sought guidance from senior mining engineers and geologists, and was able to secure a temporary position as a mining engineer in August 1979 at the Department of Mines and Geology (DMG) in Kathmandu (www.dmgnepal.gov.np). Subsequently, I obtained a permanent position after successfully clearing the Public Service Commission.

My short-term goals at DMG were to familiarise myself with its ongoing and planned mineral exploration projects. I actively participated in a detailed exploration of the Bamangaon polymetallic prospect in Dadeldhura, Nepal. Over the course of three field seasons, each spanning 3 to 5 months, we conducted a variety of geological, geochemical, and geophysical investigations. To enhance my knowledge, I studied books and reports on mineral exploration and feasibility studies. In addition, I engaged in extensive discussions with geologists at the site to better understand the mineral exploration techniques.

While working at DMG, I was deputed for a three-month UNDP-sponsored training in coal mining in the USSR. The program included lectures, visits to coal mines, research institutes, and mine planning institutes. Upon completion of the training, I returned to DMG and began exploring job opportunities to pursue a research career in mining engineering.

Upon reflecting on my career path at DMG, I acknowledge that while the research career path was not available, my experience in mineral exploration provided a stepping stone to future opportunities. With a positive attitude, open-mindedness, and continuous skill development, I gained valuable experience that facilitated a smooth transition into new career paths aligned with my long-term goals.

4.3 Turning Point in Mining Research Career

I applied for a Research Associate position at the Central Mining Research Station (CMRS) in Dhanbad, India, which is now known as the Central Mining and Fuel Research Institute (<https://cimfr.nic.in/>). Despite challenges of adapting to a new work environment and managing work-life balance, I accepted the offer with the hope of achieving job satisfaction, personal growth, and professional development, and joined CMRS in February 1984.

CMRS had several specialised departments in mining engineering. Among the available options, I chose to join the blasting department due to its crucial role in mining operations and construction projects. This marked the beginning of my career in blasting research.

In my role as a Research Associate at CMRS, I expanded my skills and knowledge in blasting techniques, blast monitoring equipment, and blast analysis software. It was crucial to

stay up-to-date with the latest advancements in blasting technology to contribute effectively to mining research and consultancy services. Additionally, I conducted field investigations to achieve desirable blast results at different surface and underground mines, and tunnelling projects.

I actively built relationships with colleagues at CMRS, professionals from the mining industry, and academic institutes. This helped me to further broaden my understanding of the field and confirmed that my chosen career path aligned with my interests and long-term goals.

By interacting with senior scientists at CMRS, I discovered that key traits and skills such as hard work, dedication, a genuine pursuit of knowledge, creative and critical thinking, and effective communication were instrumental to their success. I aspired to develop and embody these traits throughout my own career.

It was a moment of joy and accomplishment when I secured a permanent position as Scientist-C at CMRS in January 1986. Based on my contributions in research and consultancy projects at CMRS, I produced several reports and published papers in journals. I also gained experience and skills in leading technical teams and successfully executing projects.

The transition from mineral exploration to mining research was a turning point in my career. It provided me with new learning and exciting opportunities, allowing me to grow, and advance my expertise.

4.4 Career Advancement in Research

After tirelessly working six years at CMRS, I was offered a leadership position as the Head of the Rock Blasting Department at the newly established National Institute of Rock Mechanics (NIRM) (<https://www.nirm.in/>) in Kolar Gold Fields, India. I carefully considered the long-term strategic implications of this career move. Accepting the offer meant relocating to a different city, stepping out of my comfort zone, and committing myself to excel in the new position. However, with full conviction that this opportunity would pave the way for personal and professional growth, I joined NIRM in March 1990.

As the Head of the Blasting Department, my responsibilities included developing, grooming, leading and managing a technical team; developing and implementing projects; managing project timelines and budgets; and managing both internal and external stakeholders of the institute. To successfully fulfil my responsibilities, we focused on team work, set clear goals, established quality control measures, developed professional networks, and constantly sought ways to improve department performance.

At NIRM, my immediate goals included expanding knowledge and skills by attending conferences, workshops, and training programs, building a strong professional network, and cultivating positive client relationships. My long-term goal was to earn a PhD by enrolling as an external research candidate at an esteemed university. Additionally, I aimed to establish myself as a prominent figure in the field, advancing the science of blasting, and promoting safe and sustainable practices.

Balancing departmental work, additional responsibilities from the institute, and my PhD studies posed significant challenges that had an impact on my well-being. However, through perseverance and determination, I managed to overcome these obstacles. During my PhD journey, I actively sought feedback on my draft thesis from two esteemed blasting experts in my international network. Their invaluable suggestions significantly improved the quality of my thesis, ultimately leading to the successful completion of my PhD from Mangalore University in 1997. At NIRM, I was rewarded for my dedication and achievements with two well-deserved promotions, attaining the highest technical position within the institute.

We evaluated performance based on completed projects, publications, and revenue generated from grants and contracts. Our commitment to continuous improvement led us to actively seek feedback from clients and embrace new technologies. During my 18-year tenure as the Head of Blasting at NIRM, we accomplished significant milestones, including the successful completion of four major research projects, four in-house projects, and over 80 consultancy projects. Moreover, we published numerous papers and presented our findings at various conferences.

4.5 Leading Technical Coordination and Project Management

In April 2008, the Director of our institute established a Technical Coordination and Project Management Department (TCPMD) to ensure the smooth functioning of research and consultancy projects, and offered me to lead this new department. Considering that transitioning from engineering to management at the senior level is common (Souder, 1983), I accepted the opportunity to head TCPMD, despite the emotional challenge of leaving the Rock Blasting Department and embracing a new role.

New department, new role, and of course, new goals! At TCPMD, my goals were to identify critical areas for improvement, implement effective project management processes, and promote innovation. We placed a high priority on delivering quality services through training programs, stringent quality control measures, building trust with clients, and encouraging scientists to disseminate research findings.

Under my leadership, TCPMD played a crucial role in overseeing the technical and managerial aspects of research and sponsored projects, from proposal stage to successful completion. We encountered several challenges such as balancing priorities, effective communication with stakeholders, and conflict resolution. To effectively address the challenges of multitasking, I adopted proven time management techniques (Covey, 1989), which involved prioritising activities, organising them based on importance, and executing tasks accordingly.

To foster collaboration and continuous improvement, TCPMD coordinated forums for scientists to present work, discuss solutions, and identify required resources. As a senior member of NIRM, I actively participated in strategic planning, resource management, stakeholder management, training programs, and quality assurance.

The institute not only recognised my significant contributions but also extended my services for two more years, beyond the superannuation age of 60, which I accepted gratefully.

4.6 Transition to Academic Career

Six months before my retirement from NIRM, I received an exciting offer to become a Professor of Mining Engineering at the Goa College of Engineering (GEC), under the Government of Goa (www.gec.ac.in). Since I was retiring from the Government of India, this appointment required the special approval of none other than the Prime Minister of Goa. I eagerly joined the college in February 2013, as it perfectly aligned with my extensive experience and career aspirations.

The Department of Mining Engineering at GEC had a vision to provide high-quality education to mining engineering students. Generously sponsored by Vedanta, a multinational mining company, the department was being established with all the necessary resources.

During my tenure at GEC, I worked hard to make the mining department one of the best in the field of education. My diverse background in mineral exploration, mining research, and project management has provided me with a robust foundation of knowledge and expertise in the field. This allowed me to teach mining engineering courses effectively, using practical examples to enhance the learning experience. In addition, I used my industry connections to organise training programs for students, and assist them in securing job placements.

My time at GEC spanned until December 2017. Reflecting upon my five-year academic journey, I find it to be incredibly rewarding, both on a personal and professional level.

4.7 Post-Retirement Career Plan

After a fulfilling career, I am passionate about giving back to the community. In my post-retirement career, I volunteer to provide guidance to PhD scholars and Master's students, and review and edit scholarly submissions in my field.

I have authored and published articles in journals on a variety of topics, such as "Analysis of Vision Statements," "Selection of a Research Topic," "Writing Scientific and Technical Papers," and "The Peer Review Process."

I am confident that my prior professional experiences have equipped me well for this exciting journey. I am thrilled to use my knowledge and experience to make a significant difference in the community.

5.0 CONCLUSIONS

Career planning plays a vital role in the professional development and achievement of goals for early career mining engineers. The effective approach of self-directed career planning empowers engineers to understand their strengths, explore different career paths, set goals, create a plan, implement it, and regularly review their progress. This approach enables engineers to navigate their personal and professional growth, ensuring long-term success. By embracing careful planning and unwavering commitment, aspiring engineers can turn their dream careers into reality.

The author's inspiring career journey serves as a testament to the effectiveness of self-directed career planning. From mineral exploration and blasting research to project management and ultimately becoming a professor in mining engineering, the author's trajectory reflects consistent growth and significant contributions. These achievements are a result of the author's continuous effort to enhance technical and managerial skills, combined with a positive attitude. Even during retirement, the author generously shares knowledge and supports the younger generation in the fields of mining engineering and geology.

6.0 ACKNOWLEDGEMENT

Although this paper describes my personal journey, I would like to express my sincere gratitude to the colleagues across four different organisations who played a vital role in my success. I would also like to extend my appreciation to the heads of all four organisations for providing me with employment opportunities. The unwavering support of my family has played an invaluable role in shaping my personal career journey. Their support has served as the bedrock for my accomplishments and reinforced my determination to succeed. I am grateful for their love and encouragement, which have helped me to reach my full potential in my career.

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PROPOSED EXPLORATION STRATEGY FOR THE LIGNITE DEPOSITS OF RAJASTHAN: AN ENDEAVOR TO ADDRESS THE ISSUE OF NON-UPGRADATION OF RESOURCES

Bijoy Ashish Sen

Abstract

In this paper, a lignite exploration strategy duly incorporating a proposed lignite block categorization scheme, has been suggested that will ensure timely resource upgradation for the lignite blocks of Rajasthan leading to resource exploitation. The said strategy has been proposed keeping in mind the miserable scenario pertaining to non-upgradation of lignite resources of Rajasthan in the higher UNFC categories post 2010.

1.0 INTRODUCTION

A resource of only 1.51 Mt has been upgraded from Indicated (332) to Measured (331) category for the period spanning for 12 FYs from 2010 to 2022, pertaining to the lignite resources of Rajasthan, with no resources being upgraded from Inferred (333) to Indicated (332) (Inventory of geological resources of Indian Lignite, FY 2010 to 2022). This miserable scenario of non-upgradation of lignite resources of Rajasthan into the higher UNFC categories and also of augmentation of lignite resources in the highest category of Measured, post 2010 (Sen and Jodha, 2023), warrants for formulation of an exploration policy for lignite in Rajasthan that will assure mandatory upgradation of resources to the higher UNFC categories. As an integral component of this policy, an ideal exploration strategy should be in effect that in turn would be based on an evolved block categorization scheme for lignite.

As an integral component of this policy, an ideal exploration strategy should be in effect that in turn would be based on an evolved block categorization scheme for lignite. The proposed scheme is detailed below.

2.0 Lignite block categorization scheme

A categorization scheme duly emphasizing on the resource augmentation and upgradation aspects, is being proposed for the blocks in which lignite exploration is undertaken. The salient aspects of the proposed classification scheme are presented below.

1. A code is being proposed with combination of 0, 1, A, B, C, a, b and c, and with the following connotations:

0: no resource has been augmented

1: resources have been augmented

A: resource stands augmented in a single category only in a single FY

B: resource has been augmented in multiple but same FY for all categories in which resource

is augmented. This code will also be used if augmentation is in multiple depth ranges and in a single category only.

C: resource has been augmented in multiple but different FY for different categories in which resources is augmented

a: resource has been augmented in a single depth range.

b: resource has been augmented in multiple but same depth ranges for all categories in which resource is augmented. This code will be in use only if the resource is augmented in multiple FYs. This code will also be used if augmentation is in multiple depth ranges and in a single category only.

c: resource has been augmented in multiple but different depth ranges for different categories in which resources are augmented. This code will be in use only if the resource is augmented in multiple FYs.

2. If the first digit from right is 1 then the resource stands augmented in **Inferred/ Reconnaissance** category of resource as per UNFC. Accordingly the middle digit will pertain to **Indicated** category of resource as per UNFC, while the last digit at left will pertain to **Measured** category of resource as per UNFC. If no resource is augmented in any of the categories, then accordingly 0 will be mentioned in place of 1. If a resource is augmented in multiple categories for a single block, then accordingly 1 will be mentioned for all of these categories.

3. This set of 3 digits, as mentioned above, is to be placed within parentheses.

4. Letter **A, B** or **C**, specified for FY, is to be mentioned after the parentheses followed by letter **a, b** or **c**, specified for depth range, as the case may be.

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5. If there is upgradation of resource, then the following codes will be used after the closure of the parentheses and before mentioning of codes for FY, i.e., A, B, or C:
 - I. 1: Upgradation of resource from Inferred (G3) to indicated (G2)
 - II. 2: Upgradation of resource from Indicated (G2) to Measured (G1)
 - III. 3: Upgradation of resource from Inferred (G3) to Measured (G1)
6. This categorization scheme will not consider any block where no resource has been augmented in either of the categories of UNFC.
7. This is a dynamic scheme in which the blocks will get categorized in modified categories during the entire course of the allotted lease period with progressive augmentation/upgradation of resources.
8. If there is an upgrade in multiple categories, multiple codes will be accordingly applicable.

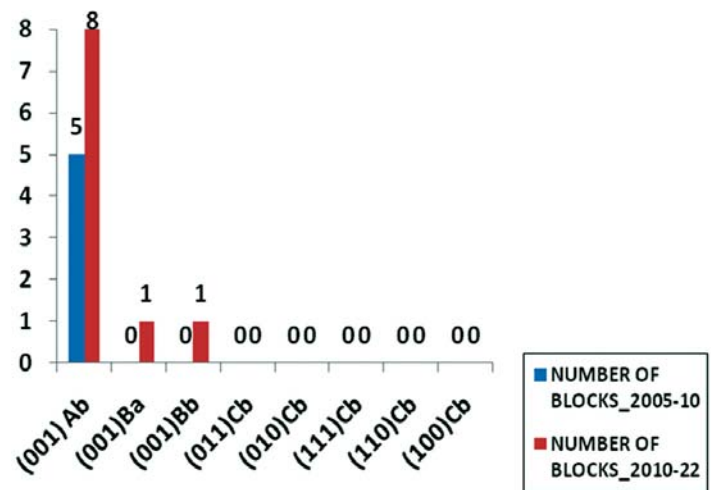
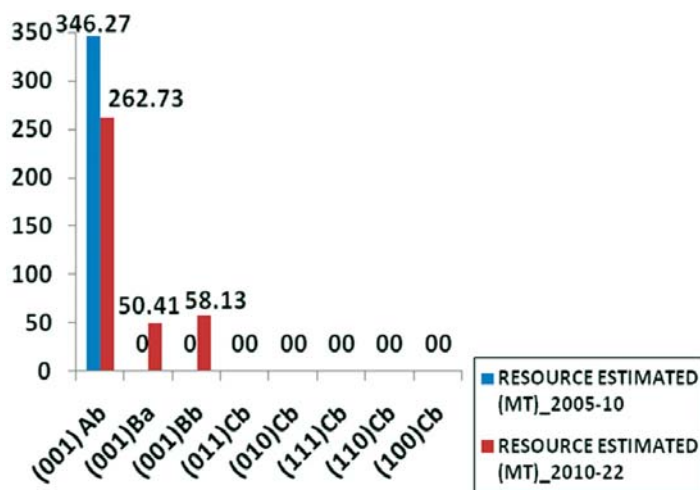
For an example, let us suppose that in an exploration block resource has been augmented in all the three UNFC categories namely Measured, Indicated and Inferred, in multiple FYs but in the same FYs for all categories and in multiple depth ranges but different ones for different categories. In the same block, there has been upgradation of resources from Inferred to Indicated as well as Indicated to Measured, i.e., upgradation in multiple categories have been accomplished. In this case, the pertinent code will be: **(111)12Bc**.

3.0 Most desired and ideal codes for the lignite blocks

As revealed from the aforesaid discussions, the most desired codes for systematic exploration in which the blocks should ideally get categorized progressively, will be **(001)Ab**, **(001)Bb**, **(011)1Cb**, **(010)1Cb**, **(111)12Cb**, **(110)12Cb**, and **(100)12Cb**.

Let us have a glance at the current resource position pertaining to the aforesaid codes:

CODE	2005-10		2010-22	
	RESOURCE ESTIMATED (MT)	NUMBER OF BLOCKS IN WHICH RESOURCE ESTIMATED	RESOURCE ESTIMATED (MT)	NUMBER OF BLOCKS IN WHICH RESOURCE ESTIMATED
(001) Ab	346.27	5	262.73	8
(001)Ba	0	0	50.41	1
(001)Bb	0	0	58.13	1
(011)Cb	0	0	0	0
(010)Cb	--	--	--	--
(111)Cb	0	0	0	0
(110)Cb	0	0	0	0
(100)Cb	--	--	--	--



Hence, it is evident that resource has been augmented only for the code **(001)Ab**, with no resource augmentation for the rest of the **06 desired codes**.

4.0 Non-permitted code combinations

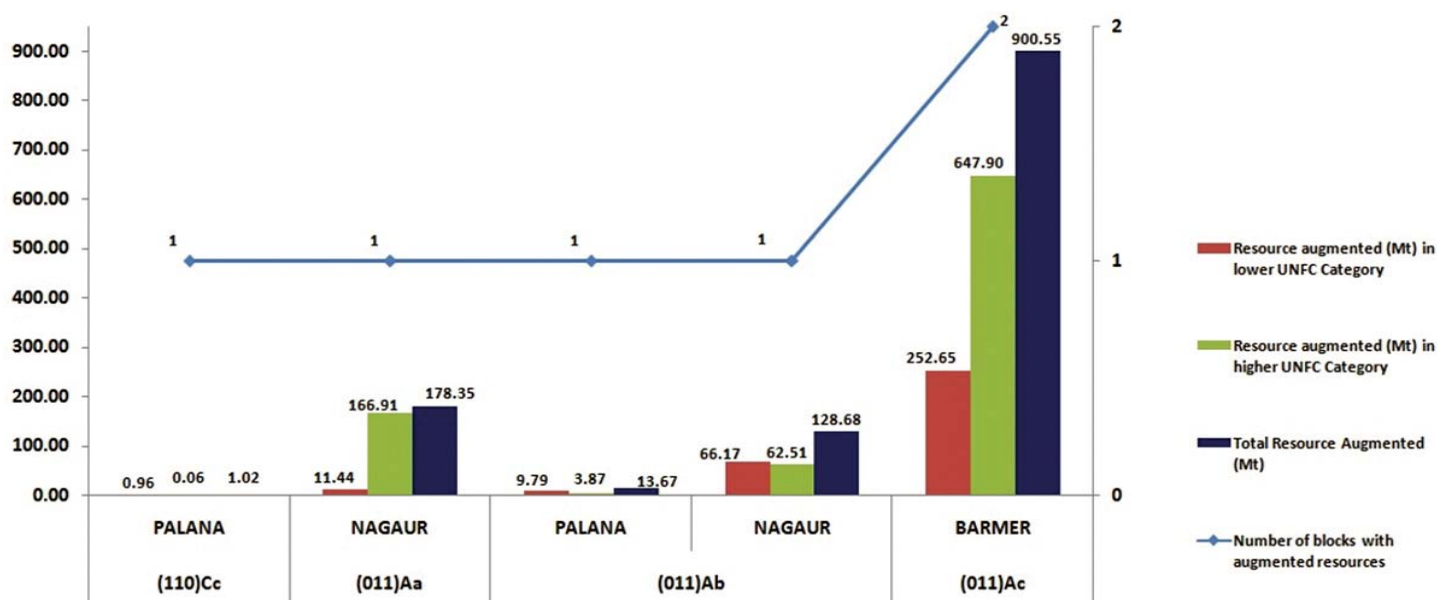
- Any block with code involving **(000)** is not permitted since blocks with no resource augmented in either of the UNFC categories are being proposed to be kept out of this categorization scheme.
- (100)Aa, (100)Ab, (100)Ba and (100)Bb** : It should be ensured that no blocks are categorized by these codes since resources are not supposed to be augmented directly in the Measured category (highest category) without any resource augmentation in the lower categories. However in Hadla and Kenya-ki-basti & S. of Bhane-ka-gaon blocks of Palana basin, resource augmentation of **19.44 MT** and **0.06 MT** respectively has been augmented as per criteria (100)Aa in FY 2005-06 and FY 2011-12 respectively.
- (101)Aa, (101)Ab, (101)Ac, (101)Ba, (101)Bb, (101)Bc, (101)Ca, (101)Cb and (101)Cc**: Categorization of the exploration blocks in the mentioned codes are to be avoided since augmentation of resource in Inferred (G3) and Measured (G1) categories without augmentation in the intermediate Indicated (G2) category, is not ideal, scientific and systematic one. It is of contentment to note that none of the blocks explored for lignite in Rajasthan, gets categorized in any of these categories.

5.0 Alarming issues – The issues of concern

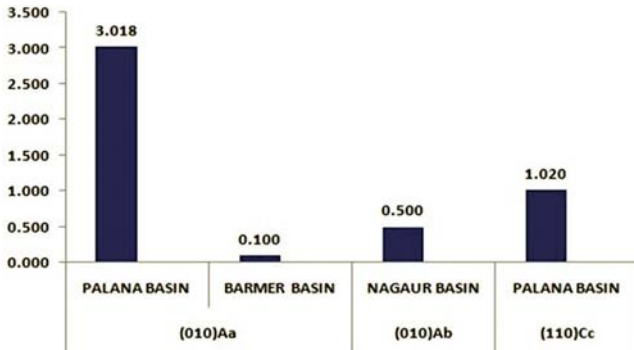
If the blocks in which resource has been augmented till 2020-22, are classified as per the aforesaid scheme, then the following issues of concern come to the fore (Data

source: Inventory of geological resources of Indian Lignite published by GSI, 2010-11 to 2021-22):

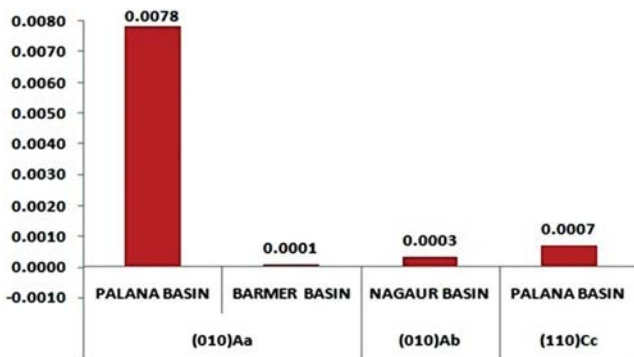
- No resource has been augmented in the last 12 years as per Augmentation criteria **(110)Aa, (110)Ab, (110)Ac, (110)Ba, (110)Bb, (110)Bc, (110)Ca, (110)Cb, (011)Ba, (011)Bb, (011)Bc, (011)Ca** and **(011)Cb**. Though there has been augmentation in multiple categories for a single block as per augmentation criteria **(110)Cc, (011)Aa, (011)Ab** and **(011)Ac** (refer figure below), interestingly upgradation of resources has been at bare minimum. It seems that exploration in a higher category was undertaken directly without planned and systematic exploration in a lower category. Hence, it is evident that concrete planning for exploration is wanted during the course of which the issue concerning upgradation of resources is to be paid required attention.
- A very meager resource has been augmented in only **01 block** in multiple FY under criteria **(110)Cc** (only **1.02 Mt** resource augmented). No resource augmentation under criteria **(010)Ba, (010)Bb, (110)Ba, (110)Bb, (110)Bc, (110)Ca, (110)Cb, (011)Ba, (011)Bb, (011)Bc, (011)Ca, (011)Cb** and **(011)Cc**, has been achieved. Only resources of **50.41** and **58.13 Mt** have been augmented in **01 blocks each** pertaining to criteria **(001)Ba** and **(001)Bb**, respectively. From this it can well be ascertained that exploration is being carried out without any concrete Long Term plans and exploration blocks that are allocated are possibly of small area with little or no scope for exploration beyond the first year. It also raises questions on the monitoring of activities of exploration in multiple FYs, by the lease granting authority since lease for exploration is granted for a minimum period of 05 years.



3. As is evident from the data concerning resource augmented per block pertaining to criteria **(010)Aa**, **(010)Ab** and **(110)Cc**, blocks that were allocated augmented very low resources per block for the period 2010-2022 (refer the figure below).



Moreover, the percentage share of the total resources augmented concerning the said categories for the period under consideration, was also negligible as is reflected vide the figure below.



4. It has been so observed from the resource inventory data that there has been reduction in resources pertaining to Proved/Measured category from that of preceding FYs in **05 blocks** in FY **2005-06** and in **01 block** in FY **2008-09**. This matter warrants to be looked into.

Hence, a broad assessment of the potentiality of the blocks earmarked for allocation is to be undertaken by adoption of appropriate and suitable methodology before allocation of these blocks for exploration.

6.0 Ideal exploration strategy for lignite in Rajasthan

An ideal exploration strategy based on the discussed block categorization scheme has been envisioned keeping in mind the following:

- a. The blocks that are allocated to stakeholders have been explored in the G4 (Reconnaissance) stage.
- b. The blocks will be allocated for prospecting for a maximum period of 05 years as per MMDR Act.

The proposed year wise planning, which will affect the strategy under discussion, is presented below:

- I. First year: Exploration should commence from the Inferred stage and accordingly the block will be categorized as **(001)Aa** or **(001)Ab**, as the case may be, if resource is generated.
- II. Second year: Exploration may continue in the Inferred stage only with the block classified in the category **(001)Bb** if resource is generated, considering exploration will be carried out in the deeper depth range only in the second year. Otherwise, exploration in Indicated stage can commence in second year and if resource generated, the block will be placed in the category **(011)1Cb** or in **(010)1Cb** if entire Inferred resource generated is upgraded to Indicated category. If exploration in *higher* UNFC category is not worthy in this block nor exploration in the Inferred category continues in the second year, the report is to be finalized and subsequently submitted.
- III. Third year: Exploration may continue in the Indicated stage only with the block classified in the category **(011)1Cb** and also as **(010)1Cb** if the entire Inferred resource generated stands upgraded to the Indicated category. Otherwise, exploration in the Measured stage can commence in the third year and if resource generated, the block will be categorized in the category **(111)12Cb** or in **(110)12Cb** or in **(100)12Cb** if the entire resource is upgraded to the Measured category. If exploration in higher UNFC category is not found to be worthy in this block nor exploration in the Indicated category continues in the third year, the report is to be finalized and subsequently submitted.
- IV. Fourth year: Exploration may continue in the Measured stage only with the block classified in the category **(111)12Cb** or **(110)12Cb** or **(100)12Cb**, if resource is generated. Otherwise, exploration to be concluded in the block and report to be finalized.
- V. Fifth year: Exploration may also continue in the Measured stage only if exploration is not completed by fourth year, with the block classified in the category **(111)12Cb**, if resource is generated. Otherwise, exploration to be concluded for the block and report to be finalized.
- VI. After each year, the results of the exploration carried out so far is to be assessed critically and a **Go-No Go** decision is to be taken concerning whether exploration will continue in the subsequent year. The assessment may preferably be carried out by a cabinet approved committee after the norms for assessment are formulated by a committee of professional experts.
- VII. After each year of exploration, an interim report and a final report if exploration is terminated mid-way after the first, second or third year is to be mandatorily submitted by the exploration agency.
- VIII. If so felt by the competent authority (here the cabinet approved committee), midyear assessment (preferably



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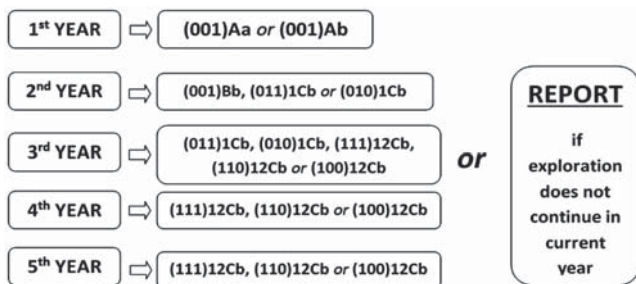
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-  Enhancing slope stability by Control Blast Designing & Depressurization.

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half yearly) may also be made and a decision for continuation of exploration in the block, be taken accordingly.

- IX. The cabinet approved committee should be empowered to recommend for extension of any project beyond five year term and pertinent provisions of law may also be considered for amendment for the purpose.

The schematic representation of the aforesaid planning is given below:



7.0 Conclusion

The period spanning from 2010 to 2022 has been intensely gloomy as far as both resource upgradation and augmentation in Measured/Proved category regarding lignite resources of Rajasthan, is concerned. The exploration strategy that has been planned based on the above

discussed block categorization scheme, is directed towards ensuring systematic and time bound exploration and resource augmentation along with mandatory upgradation of resources for potential blocks. It is so designed that timely and obligatory resource upgradation for blocks with potentiality and where resource upgradation is worthy, is guaranteed. With the ever increasing demand for power in the state of Rajasthan, exploitation of the Lignite resources of the state are of utmost significance and hence, a concrete and scientific exploration strategy that will ensure systematic exploration as detailed in this paper leading towards resource exploitation, is of utmost necessity. In order to bring back the vibrancy pertaining to resource upgradation that was evident during the pre 2010 era, a Lignite exploration policy duly incorporating the strategy detailed above is desired for immediate implementation. In the wake of implementation of Coal Block Allocation Rules, 2017, time is ripe for the Ministry of Coal to implement such a policy and ensure its mandatory adherence by the lease allottees, at the earliest.

8.0 References

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2. Inventory of geological resources of Indian lignite, published by Geological Survey of India, 2004-05 to 2021-22.

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MEAI NEWS

BELGAUM CHAPTER

Annual General Meeting held on June 25, 2023

We are pleased to inform you that, AGM of the Chapter was held on 25th June, 2023 at Belgaum Club Conference room at 11.30 AM. Over 40 regular members and around 22 new members, who have opted to enroll as life members, attended the meeting. Agenda of the meeting was as follows:

1. Presentation of Accounts of the year 2022-2023
2. Election of New Body for the term 2023-2025
3. Felicitation of Retired members of MEAI
4. Welcome of New members who submitted their application for membership
5. Planned Activities for the year 2023-2024

Secretary of the Chapter invited the members with a warm welcome to the Chairman and to all Hon. Members. He presented the agenda of the meeting and requested the Chairman to conduct the proceedings.

Dr. Purandara, Chairman of the Chapter, in his opening remarks conveyed his greetings to one and all. He also read out and explained the activities of MEAI held during 2022-23. He has specifically stressed the activities of the Belgaum Chapter conducted during the year 2022-23. He listed out the achievements of the Chapter, particularly with regard to reach out programs of MEAI activities. All members appreciated the activities and congratulated the team for their sincere efforts.

Further, the Chairman asked the Secretary to present the accounts for the year 2022-2023. Accordingly, Mr. Amit, Secretary, presented the accounts and circulated the accounts for the comments by Hon. Members. The house unanimously passed the audited accounts.

Later, the Chairman announced the election of Office bearers and Executive Committee for the period 2023-25. The Chairman requested Shri. D. A Hiremath, past Chairman of the Chapter and a Council member of MEAI to conduct the election of Chairman, Vice Chairman, Secretary etc.

Shri D A Hiremath briefed the Hon. Members about the need for an active Committee and showed his extreme happiness on the work carried out by the previous Committee headed by Dr. Purandara. Therefore, he proposed the name of Dr. Purandara as the Chairman for the next term, which was seconded by Shri S R Hegde. All members unanimously elected Dr. Purandara a Chairman for one more term. Members proposed the name of Dr. A R Kulkarni, Head, Dept. of Env. Management, Sahu Institute of Management as Vice-Chairman. Mr. Rachappa suggested the name

of Shri Murthy as Vice Chairman II, as our Chapter is widely distributed in Bagalkot and other neighboring areas. The name of Mr. Amit Ghooli was proposed by Shri D S Malkai, a senior member of MEAI and past Chairman. This was seconded by Prof. Nadagouda. Apart from that, Dr. Shivanand Chougule, Principal (retired), Karnataka Science College, Dharwad was elected as Joint Secretary and Mr. Praveen Kumar, Geologist, Dept. of Mines and Geology, Belagavi as Treasurer.

The following are the elected Office bearers and Executive Committee of the Belgaum Chapter:

1. Chairman: Dr. Purandara Bekal, Scientist G (retd), NIH, MoJS, Govt. of India.
2. Vice Chairman: 1. Dr. A R Kulkarni, Head, Dept. of Env. Management, Kolhapur (2) Mr. Murthy, HR Mines, Bagalkote
3. Secretary: Mr. Amit Ghooli, Mining Engineer, HR Mines, Bagalkot
4. Joint Secretary: Prof. S C Chougule, Principal (Retired), Karnataka Science College, Dharwad
5. Treasurer: Mr. Praveen Kumar, Geologist, dept. of Mines and Geology, Belgaum

The Executive Committee comprised of all past Chairmen, Secretary and Council members along with following newly elected members.

1. Prof. B V Nadagouda, Retd. Prof. Karnataka University, Dharwar
2. Mr. Prakash, HR Mines, Bagalkot
3. Mr. C M Sudi, Retd. Sr. Geologist, Dharwar
4. Mr. Sagar Waghmare, SP Consultants, Belagavi
5. Dr. Abhilash R, Scientist, NIH, Belagavi

The Chairman greeted the New Executive Committee with a flower (more than 15 members comprising of Geologists, Mining and Civil Engineers).

BELLARY-HOSPET CHAPTER

MINUTES OF EC MEETING held on 27-06-2023 AT MGVTTC SANDUR AT 5.00PM

Following Members attended the Meeting:

1. Shri. K. Madhusudhana : President MEAI
2. Shri, K. Prabhakara Reddy : Chairman
3. Shri. S.H.M. Mallikarjun : Secretary
4. Shri. A. Sreekantha Reddy : Treasurer
5. Shri. G. Laxminarayana : DC Member
6. Shri. Yoganand TL : DC Member

7. Shri. Chandrashekar Halli : DC Member
8. Shri. Gopal Joshi : EC Member
9. Shri. J. Sreekanth : DC Member
10. Shri. K. Krishnudu : EC Member
11. Shri. Nandakumar : EC Member
12. Shri. P.V. Rao : DC Member
13. Shri. T. Vinay Kumar : DC Member
14. Shri. Jitendra Reddy : DC Member
15. Shri. Ravindra S. : DC Member

Following points were transacted during the Meeting:

1. Shri. Mallikarjun SHM, the Secretary, warmly welcomed the members and expressed his satisfaction over the active participation of all member of the Chapter.
2. President Shri. K. Madhusudhana expressed his happiness on the performance of the Chapter and appreciated all the members for being active in all the activities of the Chapter and making the Chapter most active among all the Chapters in India.
3. He emphasized on the successful Training to the Mine employees and Students on First Aid for the past 10 batches and told the Chapter has taken initiative to start the trainings at the right time and many of the candidates are really benefitted.
4. The President appealed to the members to increase membership through enrolling new professionals employed in NMDC, JSW, MSPL, and other Mines in the sector before the month of July 2023.
5. The Chairman Shri. K. Prabhakar Reddy congratulated all the members for cooperating to the work done by the Chapter. He expressed his happiness on collective effort of all members and the support the Mining companies in the region. He recollected the poor financial status of the BH Chapter when he took over the charge as the Secretary 6 years back.
The Chairman has presented the financial status of the Chapter to members of the meeting, which is very good among all the Chapters of MEA. He told this is because of the collective effort of all member of the chapter only and the credit goes to all the members of the Chapter. At the same time, he wished to have own building for the Chapter activities in near future. He told that the BH Chapter got the Best Chapter Award and invited to apply for the personal awards of the upcoming MEAI award event.
6. The Treasurer Shri. Srikantha Reddy presented Financial audit report for the year 2022-23 and members discussed about the audit.
7. On behalf of all the members Shri. Gopal Joshi approved the audit report and seconded by Shri. P.V Rao.

8. The President informed the forum that, a Training program “MEAI On Site Training” (MOST) will be conducted at the mine site of SMIORE Deogiri on 14th & 15th July 2023. Maximum of 30 members can enroll in a batch & Subscription fees will be Rs 30,000- per candidates. Speakers Mr Deepak Vidyarthi, Mr Vijay Singh & Mr Rajshekhar are chosen as the faculties for the training. He invited all the mines to nominate 1 or 2 candidates for this training.
9. Chairman told to all the members that the term of the present BH Chapter Executive body will be complete by this month end. The Forum proposed the New Executive body for the Chapter consisting of:
 - a) Chairman: Shri. Mallikarjun SHM, JSW Ltd
 - b) Vice Chairman: Shri. Shridhar Hegde, SMIORE
 - c) Secretary: Shri. J. Shrikanth, ZTC
 - d) Jt. Secretary: Shri. Pramod Ritti, BKG
 - e) Treasurer: Shri. P.V. Rao, MSPL
 Other Executive & Development Committee Members will be proposed in the next EC meeting including Geologists, Electrical & Mechanical Engineers employed in the region.
10. There was presentation by Mr. Mruthyunjaya from TeRRE – ARMee, Bangaluru, on application of civil engineering in mining for retaining, erosion control etc.

Meeting ended with vote of thanks proposed by Shri. Chandrashekar Halli, DGM, MGVTC, Sandur.



Gathering of Members for Meeting



Presentation by Mr. Mruthyunjaya, M/s TeRRE – ARMee, Bangaluru

JABALPUR CHAPTER

One-day workshop On Present Mining Scenario on 24-06-23 @Hotel Arindam Katni

The session witnessed an impressive turnout with a diverse audience comprising mining experts, professionals, representatives from mining companies, and esteemed guests. The event garnered significant attention from industry stakeholders, emphasizing its importance in addressing key challenges and exploring emerging trends in the mining sector.



Group photograph of the members present

Guests of Honour: Shri K. Madhusudhan, National Chapter President MEAI and Shri Pukhraj Neniwal, IBM RCOM Jabalpur Chapter.

The Technical Session on Present Mining Scenario witnessed a series of engaging activities and presentations, ensuring an enriching experience for all attendees. Here is a detailed overview of the event progress:

The event commenced with the ceremonial lighting of the lamp by Chapter Chairman Shri Pukhraj Neniwal, Secretary Shri Pratyendra Upadhyay and other eminent dignitaries from the mining industry, symbolizing the beginning of the session and invoking auspiciousness.



A warm welcome was extended to all the dignitaries present, accompanied by the presentation of flower bouquets as a gesture of honour and respect.



Shri Pratyendra Upadhyay, Secretary of Jabalpur Chapter, delivered a hearty welcome address, expressing gratitude to all participants and setting the stage for an insightful session.



Shri Pukhraj Neniwal, in his speech, shared valuable insights and thoughts on the significance of the event, highlighting the importance of knowledge sharing and collaboration in the mining industry.

A refreshing breakfast break was provided, allowing participants to network, interact, and recharge before the technical presentations.

Technical Presentations

The session continued with a series of informative presentations by industry experts on various topics related to the present mining scenario. The order of presentations was followed as mentioned in the initial program.

The session featured eight informative presentations by experts in their respective fields. The topics covered a wide range of subjects related to environmental clearances, auction blocks, digitization in mining industries, groundwater

clearances, forest clearances, advancements in Heavy Earth Moving Machinery (HEMM), exploration techniques, and illumination.

1. **Procedure for Environmental Clearances by M/s JM EnviroNet:** M/s JM EnviroNet provided valuable insights into the procedures and regulations associated with obtaining environmental clearances in mining activities. The presentation emphasized the significance of sustainable practices and highlighted the importance of environmental stewardship in the mining industry.
2. **Auction Block Overview - M/s. UltraTech by Shri Kapil Kher:** M/s UltraTech delivered an enlightening presentation on the auction block process. They shared valuable information on the intricacies of block auctions, providing attendees with a comprehensive understanding of this critical aspect of the mining industry.
3. **Digitization in Mining Industries by M/s Minocular, Shri Puru Agarwal:** The session by M/s Minocular focused on the digitization initiatives in the mining industry. The presentation highlighted the potential of digital technologies to enhance operational efficiency, improve safety measures, and optimize resource utilization in mining operations.
4. **Procedure for Obtaining Ground Water Clearance by Shri Durjoy Chakraborty:** Shri Durjoy Chakraborty shared his expertise on obtaining ground water clearances in mining activities. He provided valuable insights into the regulatory procedures and highlighted the importance of responsible water management practices in the mining sector and also the recent amendments.
5. **Latest Developments in HEMM by M/s GMMCO:** M/s GMMCO showcased the latest advancements in Heavy Earth Moving Machinery (HEMM). Their presentation demonstrated how technological innovations can significantly enhance productivity, safety, and operational efficiency in mining operations.
6. **Advanced Techniques in Exploration by M/s Engeotech:** M/s Engeotech introduced advanced exploration techniques, providing attendees with insights into modern methodologies and tools used in the mining industry. The session emphasized the need to adopt innovative approaches for successful exploration outcomes.
7. **Presentation on Illumination by M/s. Sigma Lights:** M/s Sigma Lights delivered a captivating presentation on illumination in mining operations. They highlighted the crucial role of effective lighting systems in ensuring worker safety, increasing productivity, and optimizing operational conditions in mines.

After the completion of two presentations, a sumptuous lunch was served, offering participants an opportunity to network, discuss ideas, and further enrich their understanding of the subject matter.

Conclusion

The Technical Session on Present Mining Scenario provided a valuable platform for knowledge exchange and networking among industry professionals. The presentations delivered by experts in their respective fields shed light on critical aspects of the mining industry, fostering a deeper understanding of environmental regulations, technological advancements, and best practices.

Welcome to Shri K. Madhusudhana, National Chapter President MEAI

Shri K. Madhusudhana was welcomed to the event with warmth and respect, acknowledging his esteemed presence.





Shri Pukhraj Neniwal, in his welcome speech, took the opportunity to express his deep gratitude to the distinguished guest Shri K. Madhusudhana, for gracing the occasion with his esteemed presence. He acknowledged the significance of Shri Madhusudhana's attendance and emphasized the immense respect and admiration the entire team had for him.

With utmost sincerity, Shri Neniwal expressed his appreciation for Shri Madhusudhana's unwavering commitment and dedication. He recounted the challenging circumstances Shri Madhusudhana encountered, including the cancellation of his flight, which necessitated a long journey by train and road. Despite the arduous travel, Shri Madhusudhana's determination to be present at the event was truly remarkable and inspiring.

Shri Neniwal conveyed his unwavering dedication to the growth and development of the Jabalpur Chapter, highlighting the team's relentless pursuit of knowledge and innovation. He shared his vision of fostering a strong network of professionals, facilitating collaboration, and promoting the exchange of ideas to propel the industry forward.

With conviction and determination, Shri Neniwal assured Shri Madhusudhana and the entire audience that under his leadership, the Jabalpur Chapter would reach new heights. He reiterated the team's resolve to leave no stone unturned in making the chapter a shining example of success, unity, and progress.

In summary, Shri Pukhraj Neniwal's welcome speech not only expressed gratitude but also displayed his commitment to transform the Jabalpur Chapter into a grand success. He shared his vision of fostering collaboration and innovation, assuring every one of the team's relentless efforts to create a thriving platform. With passion and determination, Shri Neniwal promised to lead the Chapter to new heights and emphasized their unwavering dedication towards achieving excellence.

Address by Shri K. Madhusudhana National Chapter President MEAI

In his address, Shri K. Madhusudhana provided valuable insights and perspectives on the current mining scenario.

He emphasized the significance of industry collaboration, innovation, and sustainable practices for the advancement of the mining sector. Shri Madhusudhana expressed his admiration for the commendable efforts made by the Jabalpur Chapter, specifically acknowledging the contributions of Mr. Pukhraj Neniwal, Mr. Pratyendra Upadhyay, and Mr. Rajesh Choubey in revitalizing the Chapter and organizing such a prestigious seminar.

Highlighting the importance of professionals who have dedicated a significant portion of their careers to mining-related fields, Shri Madhusudhana recognized the valuable contributions of mining engineers, as well as other professionals such as electrical engineers, HEMM engineers, surveyors, and related experts. He emphasized that the seminar served as a platform for knowledge sharing among these professionals, promoting the exchange of ideas and fostering innovation within the industry.

In a significant announcement, Shri Madhusudhana revealed that MEAI membership was previously limited to agents and vice presidents. However, he announced a new inclusion, stating that Graduate Engineer Trainees (GETs) would also be granted membership. This decision was aimed at providing GETs with insights into the latest mining innovations and enabling them to shape their thinking and contribute to the industry's progress. Shri Madhusudhana emphasized that MEAI welcomes the participation and perspectives of young professionals, recognizing their potential to bring fresh ideas and contribute to the growth of the mining sector.

Overall, Shri Madhusudhana's address highlighted the importance of collaboration, innovation, and sustainable practices in the mining industry. He commended the efforts of the Jabalpur Chapter and expressed gratitude towards the professionals who dedicated their careers to the field. Furthermore, his announcement regarding the expansion of MEAI membership to include GETs exemplified the organization's commitment to nurturing young talent and promoting the exchange of knowledge and ideas within the mining community.

As a token of appreciation, all the presenters were honored with thoughtful gifts, acknowledging their contribution and expertise in their respective fields.



Rajesh Choubey, Joint Secretary of MEAI and Steering Committee member, delivered a hearty thank you speech, expressing gratitude to all the attendees, presenters, sponsors, and organizing team for their contributions towards making the event a success.

RAJASTHAN CHAPTER-UDAIPUR

Minutes of Sixth (6th) Executive Committee Meeting

The Sixth Executive Committee Meeting of the Chapter was held at Udaipur held on 1.07.2023 in the office of MEAI, Udaipur. Shri MS Paliwal, Chairman of the chapter chaired the meeting. The following members were present: -

1. Sh MS Paliwal -- In Chair
2. Sh AK Kothari -- Former President, MEAI
3. Sh Akhilesh Joshi -- Patron
4. Sh Praveen Sharma -- Vice-Chairman
5. Sh Asif M Ansari -- Secretary
6. Dr SS Rathore -- Council Member
7. Dr SK Vashisth -- Council Member & Joint Secretary
8. Sh YC Gupta -- Ex-Chairman
9. Sh MK Mehta -- Treasurer
10. Sh DP Gaur -- Executive Member
11. Sh SC Suthar -- Executive Member
12. Sh SN Mali -- Executive Member
13. Sh DD Shripath -- Permanent Invitee
14. Sh K Baregama -- Member
15. Dr Neeraj Srivastava -- Member
16. Sh SL Sukhwal -- Member

At the outset Chairman welcomed all the members present in the meeting.

1. *Sh Asif M Ansari*, Secretary started the proceedings with the permission of the Chair. The minutes of the Fifth executive committee meeting held on 07.04.2023 was readout by the secretary and confirmed by the house.
2. It was decided that HZL will arrange technical talk at Mining College for the student of third year. *Sh Praveen Sharma* will coordinate and decide the date after this silver jubilee programme.
3. One technical talk will be planed soon on hydrogeological modelling by Hitanshu Kaushal and his Team. Inauguration of website of the Chapter will be done shortly.
4. Regarding plantation program for Large Mines & Small Mines it was decided to hold programme in July 2023.
5. Provide training of First Aid examination for the candidate of Mining Mate and blaster, MEAI delegate

will approach to Sh TR Mandekar, Dy. DGMS NWZ Udaipur and Sh B Dayasagar, Director Mines safety Udaipur. Sh Ansari told that the Chapter has already applied for First Aid center at DGMS. Some more details asked by DGMS will be provided very soon. Further decided to send a reminder to DGMS and conduct course after getting permission of center at our office.

6. UIT returned our application filed in 2018 for the land allotment to our office. UIT directed to file new application in attached formats with new demand draft. So, it was decided to file an application afresh according to land allotment policy 2015.
7. A letter from Sh R K Gupta, Resident Director, PHDCCI-Rajasthan Chapter, Mob: 9829214353, Email:- rakeshkumar.gupta@phdcci.in is received in the name of Chairman, Rajasthan Chapter Udaipur regarding Rajasthan Mining Summit to be held on 14-July-2023 at Udaipur (Rajasthan).

It was decided to extend support and allow use of Logo of MEAI. It was also decided that Sh Praveen Sharma will be speaker in this Summit from MEAI and share his vast experience and vision for sustainability and promoting Green Mining.

8. The audited account was approved for putting up in the coming AGM on 05.07.2023 at 02:30 PM at Shubh Mangal Resort, Udaipur.
9. As per the point number 96 of minutes of national Council MEAI dated 26.08.2022, there is provision in by-laws to open a Student Chapter. MEAI HQ requested to open Student Chapter at Udaipur. Detailed discussion was done to open a Student Chapter at CTAE Udaipur. It was decided to send a request letter to HOD Mining Engineering Department, CTAE Udaipur regarding opening of Student Chapter.
10. Treasures Sh MK Mehta told that previously CA was charging a fee of Rs 3500 per year, where as now he is asking Rs 10,000 for a year. So it was decided that CA fee should be kept at Rs 7500 for a year. In addition to this, we also give Rs 4000 to CA of Jaipur regarding GST return.
11. Celebration of the *Silver Jubilee Year*

The Silver Jubilee function is going to be organized on 05.07.2023. *Sh Praveen*

Sharma, Organizing Secretary and Vice-Chairman, MEAI, Udaipur Chapter described the activities of Silver Jubilee Celebrations.

The meeting ended with the vote of thanks proposed by Sh Praveen Sharma.

RAJASTHAN CHAPTER-UDAIPUR

REPORT OF SILVER JUBILEE CELEBRATION

Rajasthan Chapter-Udaipur was established on 5th July 1998 and celebrated its Silver Jubilee year marking 25 years of excellence and contributions to the mining. Since then, the Chapter has been successfully functioning as a catalyst in promoting mining's goodwill communication to the target masses and facilitating solutions to mining challenges by way of arranging intellectual technical deliberations including workshops, training courses, seminars, technical visit, environmental awareness campaigns and exhibitions and also as an active contributor in formulating responsible recommendations to the government. It is a proud occasion for the Rajasthan Chapter-Udaipur to mark 25 years of its exemplary journey.



(L to R: Shri Praveen Sharma, Shri MS Paliwal, Shri Arun Misra, Shri Rajendra Bhatt, IAS, Shri SN Mathur, Shri Mahesh Mathur, Shri AK Kothari, and Shri DP Gaur

Inaugural function of the celebrations was presided over by Shri SN Mathur, Vice-President-I, MEAI. Shri Rajendra Bhatt, IAS, Divisional Commissioner, Udaipur was the Chief Guest. Shri Arun Misra, CEO, Hindustan Zinc Ltd and Shri Mahesh Mathur, ADM, Zone Udaipur DMG were the Guests of Honour. Shri AK Kothari, Former National President MEAI, Shri MS Paliwal, Chairman, MEAI-Udaipur, Shri Praveen Sharma, COO-HZL & Organizing Secretary and Shri DP Gaur, ADM-DMG, Udaipur were also on the dais. The function was started by lighting of lamp by the dignitaries.



Lighting of lamp by the dignitaries



Chairman of the Chapter Shri MS Paliwal welcomed all the guests and members and summarized the 25 year's activities of the Udaipur Chapter. The chapter has fulfilled the MEAI objectives of developing the mining industry professionals, promoting technical education

and knowledge sharing in the resources sector besides getting involved in socio-economic activities in mining areas. He gratefully acknowledged the pivotal role played by the predecessors, patrons, founder members and senior colleagues in providing vigour and energy for the professional obligations. He assured that they will continue to carry forward the work of strengthening the chapter with a sense of pride and purposefulness.



Shri Praveen Sharma COO mining, HZL and Vice Chairman of the Chapter delivered a speech and spoke on the importance of mining for the growth of civilization. Rajasthan is blessed with a number of minerals and there is a need to carry out systematic exploration

and mining to contribute to national GDP from 2% to 5%. He told that HZL is a pioneer in adopting various technologies and next phase of growth in mining will come through Artificial intelligence and this is the way of sustainable mining. He also told that MEAI Udaipur and HZL together can play a bigger role in adopting technology for sustainability of mining."



Shri AK Kothari, Former National President, MEAI presented the account of all the activities and events since the inception of the MEAI, Rajasthan Chapter-Udaipur through a power point presentation. In which it was mainly told that the chapter was formed since 1998 and this

chapter has Giving economic, social and technical support to stake holders. This chapter had given two National Presidents



and have organized many seminars, training workshops at national and international level and have made an office cum hall of its own.

While presiding over the program, National Vice President-I, MEAI of the organization Shri SN

Mathur told that the work of Rajasthan Chapter-Udaipur has been commendable and the Ahmedabad Chapter also takes inspiration from it. He appreciated the economic prosperity and sovereignty of the Udaipur chapter.



While addressing Shri Mahesh Mathur, ADM, Zone Udaipur, told that the Mines Department shows positive attitude and makes rules towards the growth of the industry and is trying to remove social negativity in the public mind towards the mining industry.



A section of audience

Shri Arun Misra, Chief Executive Officer, HZL Speaking as a Guest of Honour gave examples on the practical use of Artificial Intelligence and also gave a message on its increasing utility in the coming times and highlighted how this technology can be used in the mining industry. A few years ago, the entry of women in the mining engineering field was prohibited. Later, in the year 2015, the law started giving admission to women in the Faculty of Mining Engineering. Today Hindustan Zinc Limited has about 30 women engineers working in underground mines and their contribution to the post of mining engineers is no less than that of any male mining engineer.

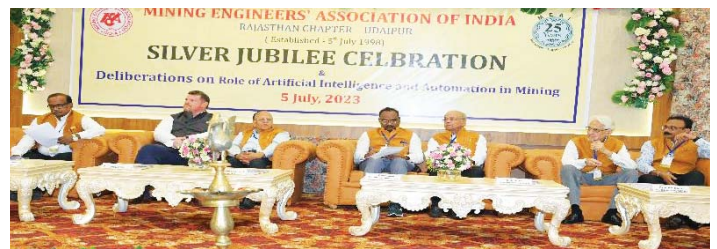


At the end Shri DP Gaur, ADM, DMG extended a vote of thanks

Technical Session Role of Artificial Intelligence and Automation in Mining



Chief Guest, Shri Rajendra Bhatt, IAS, Divisional Commissioner told that industries are helpful in employment generation but it also has to mitigate social concerns and the administration is always ready for solving any kind of problem. The mining industry should not depend so much on artificial intelligence when the need of the common man for food and clothing could not be met.



L to R: Prof GK Pradhan, Prof Luiggi Sassarini, Prof. Shushil Bhandari, Shri M Narsaiah, Shri RP Gupta, Prof BB Dhar, and Prof Anupam Bhatnagar

Prof. Sushil Bhandari, Former Professor of mining and Dean MBM Engineering College, Jodhpur told that mining activity involves multiple operations in several states. At present, digitization is being used in all the states. Digitized data is leading to cost reduction, increased productivity and transformation of mining practices. The important contribution of automation, internet of things and real time data is proving useful in mining science.



Releasing of a souvenir of Silver Jubilee by the dignitaries

Speaking on the topic Accreditation Scheme for Exploration/Prospecting Agency, (APA) and Mine Plan Preparing Agency (MPPA), Prof. BB Dhar - Former Director, Central Institute of Mining Research said that the National Board of Accreditation has been established by the Quality Council of India to provide accreditation to exploration/prospecting agencies and mine planning agencies.

Pro. Luigi, Sasarini, Italy also delivered a lecture as a subject expert. He spoke about qualification and quality of the consultants of the mine plan and exploration agencies. Further, He explained in detail which agency can play the role of a consultant.

Prof. Anupam Bhatnagar, Head of Mining Engineering, CTAE Udaipur while speaking on the topic "Role of Artificial Intelligence and Automation in Mining" told that the use of drones in mining activities would increase the efficiency as well as the use of high technology, cost reduction, good management of environmental factors, sustainable development and reduce risks.

Prof. G. K. Pradhan, Dean, Faculty of Engineering & Technology, AKS University Satna, Madhya Pradesh in his lecture said that all actions to protect environment, safe workplace, efficient use of machinery and community mineral wealth, goes deeper and deeper. Keeping in view the increasing cost of spare parts and consumables in the mines, computerization and use of modern techniques has become an urgent need.



In the technical session, Shri M Narsaiah, Secretary General, MEAI and Shri RP Gupta, Former President, MEAI were the chairpersons.



Group Photo taken on the Occasion

During cultural program, all the Chairpersons and Secretaries of Rajasthan Chapter- Udaipur since its inception 25 years ago, have been felicitated.

Sh RD Saxena
Sh AK Kothari
Sh SS Patel
Sh RP Gupta
Sh DP Gaur

Sh HK Sharma
Sh Akhilesh Joshi
Sh P C Kachhara
Sh Moti Singh Khamesra
Sh Praveen Sharma
Sh Mahesh Mathur
Sh GS Sharma
Sh AK Saxena
Sh Saifuddin Saiffee
Sh NC Bansal
Sh MS Paliwal
Sh YC Gupta
Sh Dashrath Singh
Sh DS Maru
Sh Indra Singh Surana
Sh AS Bhale Rao
Sh CL Godawat
Sh Jitendra Nath Johri
Sh Mohan Lal Sharma
Sh Jag Mohan Gupta
Sh HV Paliwal
Sh Kesava Rao KM
Sh Asif M Ansari
Sh Ram Nivas Goyal
Sh VP Uppal
Sh Om Prakash Soni
Sh AK Meghraj
Sh KCP Singh
India Lady Rescue Team
Sh Vishnu Dutt Didwania
Sh Hemraj Banitha
Dr Ranjeet Choudhuri
Sh Laxminarayan
Dr SS Rathore
Sh KP Gupta

All the life members aged 80 years and above were also honored by presenting them with felicitation letters. Female engineers (Mining) were also felicitated.



LAW CORNER

Supreme Court set aside NGT order, for not following Principles of Natural Justice.

Judgement dated 05.07.2023 in Civil Appeal No 3856/2022 (Singrauli Super Thermal Power Station Vs Ashwini Kumar Dubey & Ors) decided by a bench consisting of Hon'ble Justice B.V. Nagarathna and Hon'ble Justice Prashant Kumar Mishra.

THE ISSUE INVOLVED

An appeal was filed in Supreme Court for setting aside the order passed by the National Green Tribunal in Original Application No. 164/2018 dated 18.01.2022 as the order passed by NGT was in violation of principles of natural Justice because the appellant was not given a chance of being heard in the matter.

FACTS OF THE CASE

Ashwin kumar Dubey had filed a case before NGT, principal Bench, New Delhi for remedial action against violation of environmental norms by the Thermal Power Plants (TPP's). Several Industrial areas such as Singrauli and Sonebhadra in MP and UP are categorized as polluted industrial clusters and the applicant sought directions from NGT.

A committee was appointed by NGT and was headed by Secretaries, MoEF & CC Coal and Power, GoI and Chief Secretaries of UP and MP. The expert committee prepared a detailed report and it was found by the committee that there is resultant air, water and land pollution due to non-installation of pollution control and monitoring devices during the operation of TPP's thus damaging the public health and environment.

The committee provided certain recommendations in the report. Based on this report on 18.01.2022, without calling for any objections from the respondents, the NGT ordered that the respondents to initiate remedial measures in line with the said recommendations. The said report of the expert committee was uploaded in the website of NGT on 15.01.2022 and the appellant was not given a chance of filing their reply.

DECISION

The said decision of the NGT was challenged in the above appeal filed before the Hon'ble Supreme Court and the same is allowed. It was held that there was clear non-compliance of principles of natural justice by the NGT. NGT is a judicial body and therefore exercises adjudicatory function and that principles of natural justice are to be complied with. The report of the expert Committee as well as the recommendations have been made the basis of the directions and such an approach is improper. The procedure adopted by NGT in this case is an instant violation of principles of natural Justice.

The impugned order of NGT was set aside and it was remanded for re-construction from the stage of recommendations filed by the Expert Committee. The objections to be filled and thereafter it should be decided in accordance with law after giving reasonable opportunity to all parties.

Author: Vasudha V.H.

Corporate Legal Professional

Disclaimer: The views expressed here in this article are purely personal views of the author. Readers are cautioned to exercise discretion for use or reliance of the same.

MEJ RIDDLES

Dear Readers of MEJ,

In order to increase the readership of MEJ, which has been felt essential in the interest of our ardent members, the mineral industry professionals as well as the mining sector, the Editorial Board of MEJ has decided to hold a monthly QUIZ. The monthly QUIZ will be designed and printed in MEJ based on the content published in the previous month's MEJ. The MEJ readers will be given five objective questions with multiple choices to choose; and expect them to respond with their correct answer by email to the Editor at editormejmeai@gmail.com by 20th of the current month. If more than three members responded with the correct answers, then the three winners will be decided by draw. Each winner will be issued a certificate of merit and a nominal cash prize of Rs 500.

Encourage the EMJ readers to participate in the QUIZ in large numbers and benefit from the enhanced knowledge by reading the Journal from the first to last page.

Questions based on July 2023 issue

- 1. The MEAI AGM 2023 will be held at**
(a) Ahmedabad (b) Jaipur
(c) Udaipur (d) Jodhpur
- 2. Who is the President elect of MEAI for the term 2023-2025?**
(a) Mr K Madhusudhana (b) Mr T Victor
(c) Mr SK Mathur (d) Mr Arun Kumar Kothari
- 3. What was the electric vehicle market size in India in 2021?**
(a) US\$ 3.21 Bn (b) US\$ 1.45 Bn
(c) US\$ 2.87 Bn (d) US\$ 1.96 Bn
- 4. In which year India's first lithium deposit was discovered in Karnataka?**
(a) 2023 (b) 2022
(c) 2021 (d) 2020
- 5. Which PSU did the Supreme Court of India tell that Competition Act is applicable?**
(a) SAIL (b) Hindustan Copper Ltd
(c) Coal India Ltd (d) NMDC Limited

WINNERS OF RIDDLES PUBLISHED IN THE MEJ JULY 2023 ISSUE

Congratulations to proud winners

Dr Pradeep Kumar Jain

Chief Mineral Economist, IBM (Retd.) and Consultant, EMail: pkjain3661@gmail.com

Mr Satish Kumar Agrawal

Mining Engineer, E-mail: satish.ag47@gmail.com

Dr. Ashok Kumar, Assistant Professor

Department of Mining Engineering, IIT(ISM), Dhanbad, E-mail: ashok.bhu.min09@gmail.com

To receive the cash prize of Rs 500, the winners may please contact the Secretary General, MEAI on email at meai1957@gmail.com or Mob. 9177045204.

CONFERENCES, SEMINARS, WORKSHOPS ETC.

INDIA

22-25 Aug 2023: Understanding and Assessing Slope Stability in Open Pit Mines. Hotel Westin, Rajarhat, Kolkata. For details contact Dr Manoj Verma, Rock Engineering Expert at manoj@mverman.com.

25-27 Aug 2023: International Seminar on Vision – Mining 2047. Location: Ahmedabad. For details, contact Email - meai@ahmedabad@gmail.com

11-15 Sep 2023: Short Term Course on Assessment of Spontaneous Heating Liability of Coals and their Prevention. Rourkela. Organised by the Department of Mining Engineering, National Institute of Technology, Rourkela. Contact Prof Devidas S Nimaje, Phone: 06612462604, 9437943121. Email: snimaje@nitrrkl.ac.in.

6-7 Oct 2023: International Seminar on Minerals: A Resource for Energy and Food Security. Jaipur. For details, Contact – Mr Anil Mathur on Mob 9414119227, E-mail: chairman.jaipur@meai.org & meaijpr2010@gmail.com

6-9 Nov 2023: International Mining, Equipment & Minerals Exhibition (IME 2023). Eco Park, Rajarhat, Kolkata, India. Organised by The Mining, Geological & Metallurgical Institute of India (MGMI). Contact Email ID: miningexpo@tafcon.in

ABROAD

16-17 Aug 2023: International Conference on Mine Mechanization and Mining Policies (ICMMP 2023). Tokyo, Japan. Website URL: <https://waset.org/mine-mechanization-and-mining-policies-conference-in-august-2023-in-tokyo>; Contact URL: <https://waset.org>

25 - 28 Oct 2023: China Coal & Mining Expo 2023. China's 20th International Technology Exchange & Equipment Exhibition on coal and mining is the largest international coal and mining exhibition in Asia. New China International Exhibition Center (NCIEC), 88 Yuxiang Road, Tianzhu Airport Industrial Zone, Shun Yi District, Beijing, China

31 Oct - 2 Nov 2023: International Mining and Resources Conference (IMARC). Sydney, Australia. Contact: connect@imarcglobal.com. Phone: Australia: +61 (0) 3 9008 5946

8-9 Nov 2023: International Conference on Underground Mining Methods and Technologies ICUMMT 2023. Istanbul, Turkey. Website URL: <https://waset.org/underground-mining-methods-and-technologies-conference-in-november-2023-in-istanbul>

15-16 Nov 2023: International Conference on Design Methods in Underground Mining ICDMUM 2023. Jeddah, Saudi Arabia. Website URL: <https://waset.org/design-methods-in-underground-mining-conference-in-november-2023-in-jeddah>

01-02 Dec 2023: International Conference on Design Methods in Underground Mining ICDMUM. Auckland, New Zealand. Website URL: <https://waset.org/design-methods-in-underground-mining-conference-in-december-2023-in-auckland>.

11-12 Jan 2024: International Conference on Mineral Processing and Mining ICMPM 2024. Singapore. Organised by World Academy of Science, Engineering and Technology. Website URL: <https://waset.org/mineral-processing-and-mining-conference-in-january-2024-in-singapore>

8-9 Feb 2024: International Conference on Web Mining, Information and Knowledge Extraction (ICWMIKE 2024). Lisbon, Portugal. Website URL: <https://waset.org/web-mining-information-and-knowledge-extraction-conference-in-february-2024-in-lisbon>; Contact URL: <https://waset.org>

18-19 Feb 2024: International Conference on Bauxite Mining and Alumina Refining ICBMAR 2024. Jeddah, Saudi Arabia. Website URL: <https://waset.org/bauxite-mining-and-alumina-refining-conference-in-february-2024-in-jeddah>

4-5 Mar 2024: International Conference on Mining Intelligence ICMI 2024. Rio de Janeiro, Brazil. Website URL: <https://waset.org/mining-intelligence-conference-in-march-2024-in-rio-de-janeiro>

22-23 Apr 2024: International Conference on Recent Developments in Mining Technologies ICRDMT 2024. London, United Kingdom. Website URL: <https://waset.org/recent-developments-in-mining-technologies-conference-in-april-2024-in-london>

7-9 May 2024: International Mining Geology 2024 (IMG 2024). Perth Convention and Exhibition Centre, Australia. For details, contact conference@ausimm.com

17-18 May 2024: International Conference on Surface Mining and Land Reclamation ICSMLR 2024. Sydney, Australia. Website URL: <https://waset.org/surface-mining-and-land-reclamation-conference-in-may-2024-in-sydney>

17-19 Jun 2024: Molten 2024. Brisbane, Australia and Online. Contact AusIMM. T: 1800 657 985 or +61 3 9658 6100 (if overseas)

22-23 Jul 2024: International Conference on Green Coal Mining Techniques and Waste Disposal ICGCMTWD 2024. Berlin, Germany. Website URL: <https://waset.org/green-coal-mining-techniques-and-waste-disposal-conference-in-july-2024-in-berlin>

16-17 Aug 2024: International Conference on Mine Mechanization and Mining Policies ICMMP 2024. Tokyo, Japan. Website URL: <https://waset.org/mine-mechanization-and-mining-policies-conference-in-august-2024-in-tokyo>

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Email your entries to:
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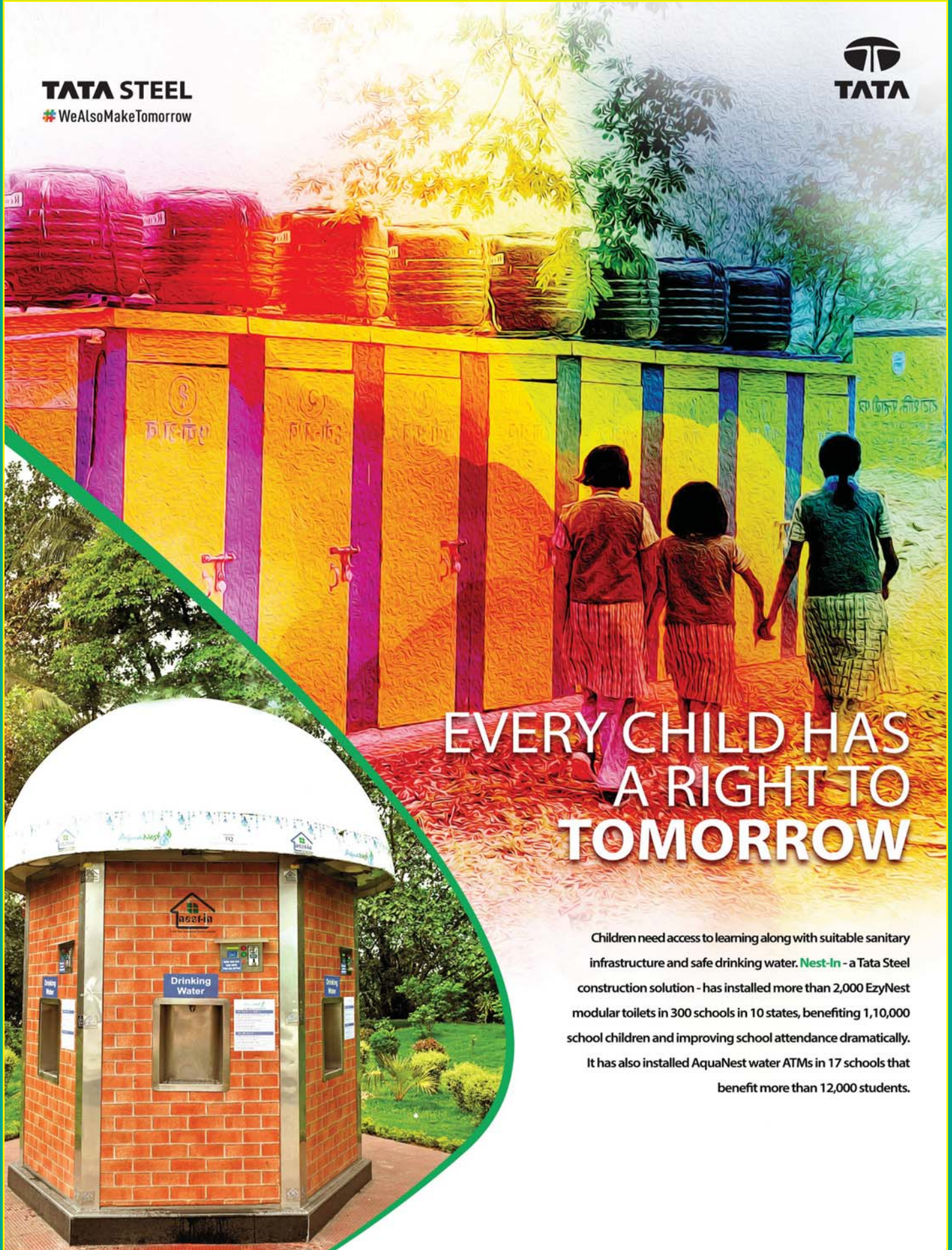
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Conference Coordinator:

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