

# Indian Non-Coal Mining Industry- Reforms and Future Agenda Through NMP 2019



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# Indian Mineral Industry - An Overview



# Indian Mineral Industry- An Overview (1)

## Mineral Resources

□ Concerted exploration carried out in the post-independence period has established large resources of minerals.



□ As a result, the mineral base has increased from 34 to 95 minerals.



□ National Mineral Inventory with UNFC compliant for about 70 minerals is being maintained by IBM



# Indian Non-Coal Mineral Industry- An Overview (2)

## Number of Mining Leases

❑ 3,314 mining leases exist as on 31<sup>st</sup> March 2021 covering an area of 3,06,398.76 Ha.

(excluding coal, lignite, petroleum, natural gas, atomic minerals and minor minerals)

❑ This is just 0.09 % of the total geo-graphical area of the country.

❑ These mining leases granted covering 38 minerals spread over 23 Indian States/Union Territories.

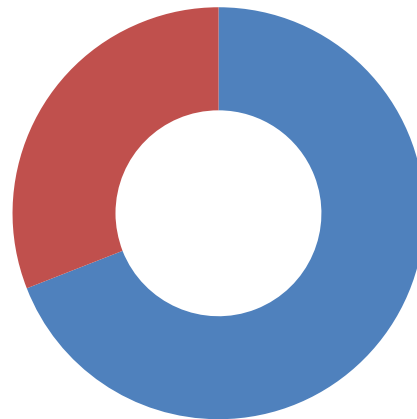


# Indian Non-Coal Mineral Industry- An Overview (3)

## Mineral Production

- ❑ The total value of mineral production in 2021-22 (excluding atomic and fuel minerals) was estimated of the order of Rs.1,90,389 crore.
- ❑ Value of metallic minerals constitutes 55.2 %
- ❑ Value of non-metallic including minor minerals constitutes 44.8 %

Non-Metallic  
Minerals



Metallic  
Minerals



# India's Ranking in world Production (2019)

## Indian Non-Coal Mineral Industry- An Overview (4)

2

Crude Steel

3

Chromite and Aluminium (Primary)

4

Iron ore, Zinc (Slab) & Lead (Refined)

5

Bauxite

7

Manganese ore

13

Copper (Refined)

16

Apatite and Rock Phosphate

17

Magnesite

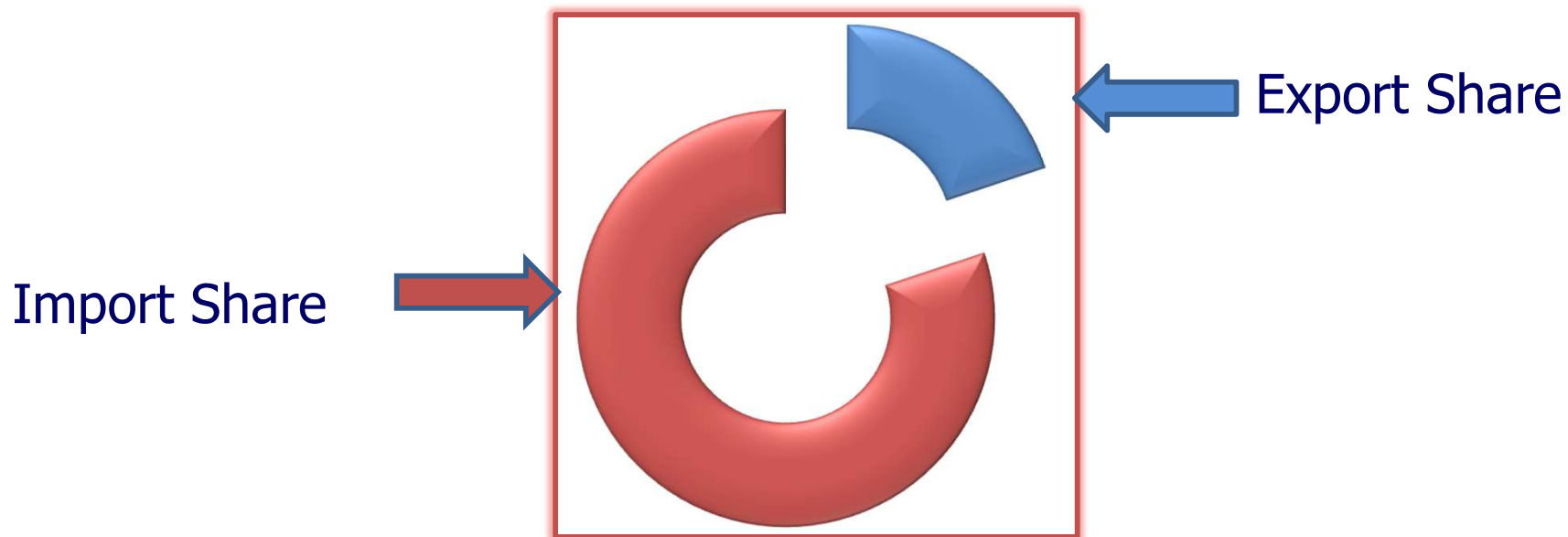
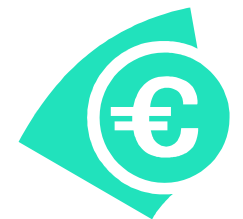
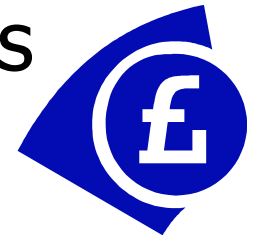


# Indian Mineral Industry- An Overview (5)

## Exim Trend

□ The total value of exports of ores & minerals during 2020-21 was **Rs. 1,96,653 crore.**

□ The total value of imports of ores & minerals during 2020-21 was **Rs. 7,91,30 crore.**





# Policy Initiatives in non-coal Mineral Sector







# Policy Initiatives in non-Coal Mineral Sector (1)

- ❑ **1991-** Wide-ranging programme of economic reforms.
  - ❑ **March 1993-** First Independent National Mineral Policy
  - ❑ **September 2005-** High Level Committee (HLC) set up to review National Mineral Policy 1993 and to recommend possible amendments in the legislative measures.
  - ❑ **March 2008-** The Government adopted the new National Mineral Policy 2008
  - ❑ **August 2017** - Backdrop of a long phase of policy gaps and judicial interventions across the mineral and resources sector
  - ❑ **February 2019-** National Mineral Policy 2019 pronounced
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# Policy Initiatives in non-Coal Mineral Sector (2)

## Important Provisions of National Mineral Policy 2019 (1)

- Introduction of Right of First Refusal for RP/PL holders
  - Encouraging the private sector to take up exploration.
  - Auctioning in virgin areas for composite RP cum PL cum ML on revenue share basis
  - Encouragement of merger and acquisition of mining entities
  - Transfer of mining leases and creation of dedicated mineral corridors to boost private sector mining areas.
  - To grant status of industry to mining activity to boost financing of mining for private sector and for acquisitions of mineral assets in other countries by private sector.
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# Policy Initiatives in non-Coal Mineral Sector (2)

## Important Provisions of National Mineral Policy 2019 (2)

- It also mentions that Long-term import-export policy for mineral will help private sector in better planning and stability in business.
  - Rationalize reserved areas given to PSUs which have not been used and to put these areas to auction, which will give more opportunity to private sector for participation.
  - The Policy also mentions to make efforts to harmonize taxes, levies & royalty with world benchmarks to help private sector
-



**Important Measures taken**

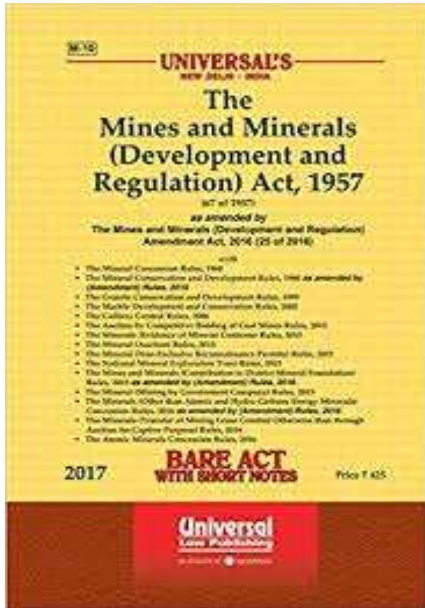
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# Major Policy Initiatives (1)

- “Mines & Minerals (Development & Regulation) Amendment Act, 2015” designed to put in place mechanism for:
  - ✓ Improved transparency in the allocation of mineral resources;
  - ✓ Obtaining for the government its fair share of the value of such resources;
  - ✓ Attracting private investment and the latest technology;
  - ✓ Eliminating delay in administration, so as to enable expeditious and optimum development of the mineral resources of the country.



# Major Policy Initiatives (2)



## MMDR Amendment Act 2015-Major objectives

- e-Auctions mandated for the grant of mineral concessions
- All new leases would be granted for 50 years and need of renewals and prior approvals removed for ease of doing business
- Provision for establishment of District Mineral Foundation (DMF)
- Penal provisions made extremely stringent to deter illegal mining activities.
- Provision for constitution of special courts by the State Govt.
- Provision for National Mineral Exploration Trust (NMET)

# Major Policy Initiatives (3)

## MMDR Amendment Act 2016

- To provide for transfer of captive mining leases granted other than through auction in order to facilitate legitimate business transactions.
- The amendment also redefined 'leased area' in order to expand its scope.



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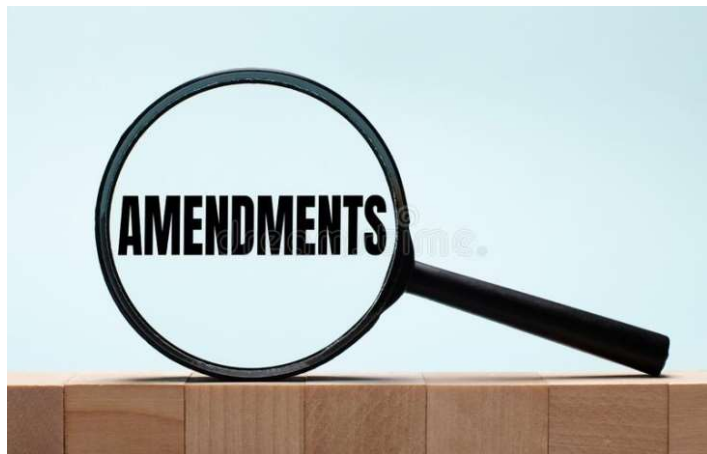
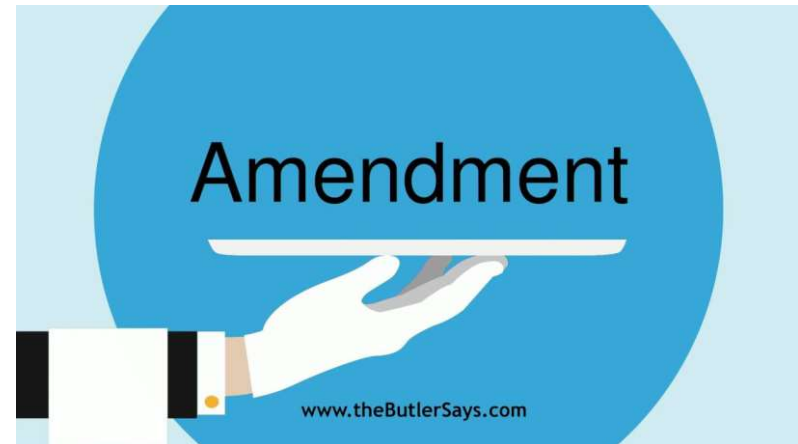
## Mineral Laws (Amendment) Act, 2020.

- 334 leases were expired in March 2020.
- It facilitated seamless transfer of all valid rights, approvals, clearances, licenses and the like for a period of two years to a new lessee in case of minerals other than coal, lignite and atomic minerals.

# Major Policy Initiatives (4)

## MMDR Amendment Act 2021

- ✓ Removed the distinction between captive and merchant mines. Now all captive mines allowed to sell up to 50% of the minerals produced during the year after meeting the requirement of attached plant.
- ✓ All future auctions will be without any end use restrictions.



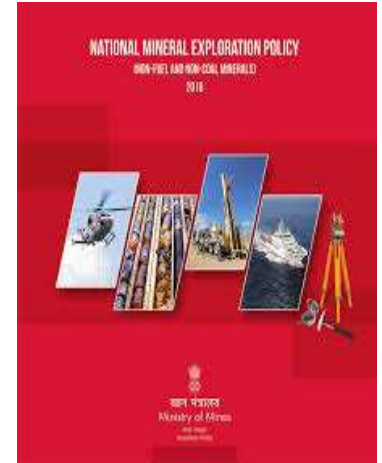
- ✓ Further resolved the pending cases under section 10A(2)(b) by bringing them under new auction regime.
- ✓ Substituted the 'mining operations' with 'production and dispatch'.
- ✓ Re-allocation of non-producing blocks reserved for Government companies can be bought into production now.
- ✓ Further it has been allowed transfer of all mineral concession without any charges.



# Major Policy Initiatives (5)

## National Mineral Exploration Policy 2016

- ❖ To permit private agencies to carry out exploration work in identified block/areas
- ❖ Right to certain share in the revenue accruing to State Government throughout the lease period, with transferable rights.
- ❖ The revenue percentage/amount will be paid by the successful bidders to the concerned exploring agency
- ❖ To work out normative cost of exploration for different kinds of minerals so that the exploration agencies could be compensated, in case they do not discover any mineable reserves in their respective areas.



# Major Policy Initiatives (6)

## Framework of Sustainable Development (SDF)

As part of roll out of SDF, the Ministry of Mines through Indian Bureau of Mines has brought out a concept of Star Rating Evaluation of mines.

Design and Development of Star Rating Templates



# Rule 35 of MCDR 2017

## "Chapter V-Sustainable Mining "



To monitor mining & allied activities as per IBM notified templates

Submission of online Self Assessment report before 1<sup>st</sup> July for previous year



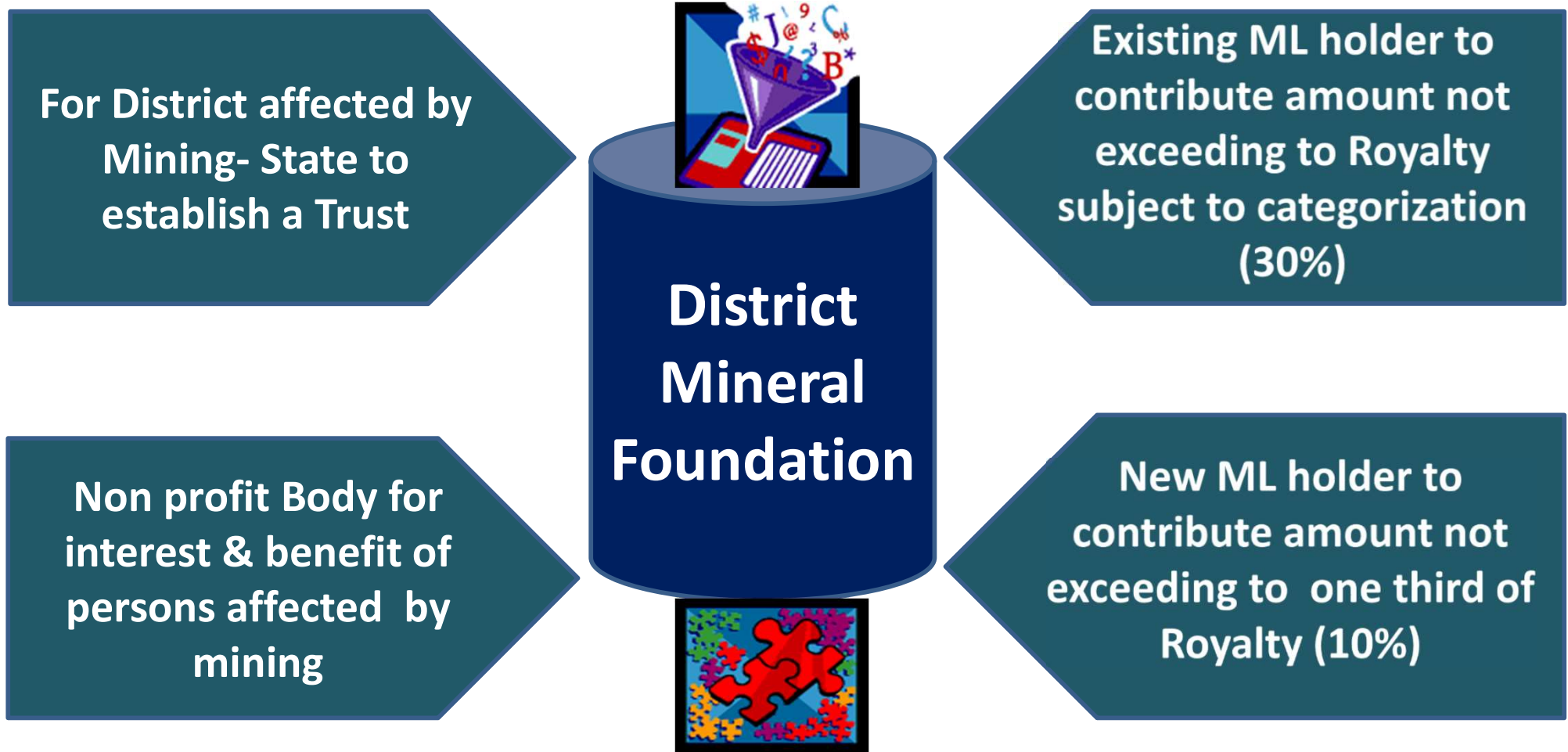
Digital Images of mining Lease area (DEM and Orthomosaic images from Drone Survey/Geo-referenced Ortho-rectified Multispectral satellite image of lease area)

Confirmation by IBM

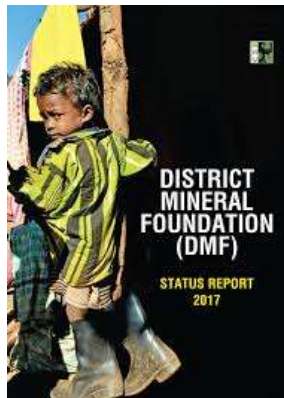
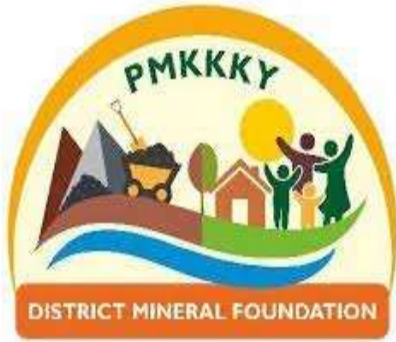


At least 3 star within a period of 4 years from date of commencement of mining/MCDR 2017

## District Mineral Foundation Section 9B of MMDR Act



## Major Policy Initiatives (8)

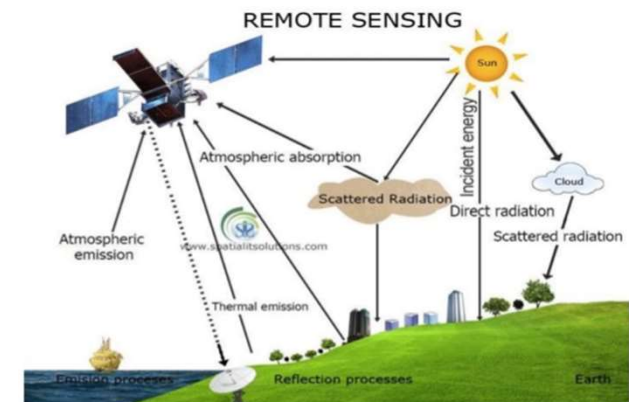
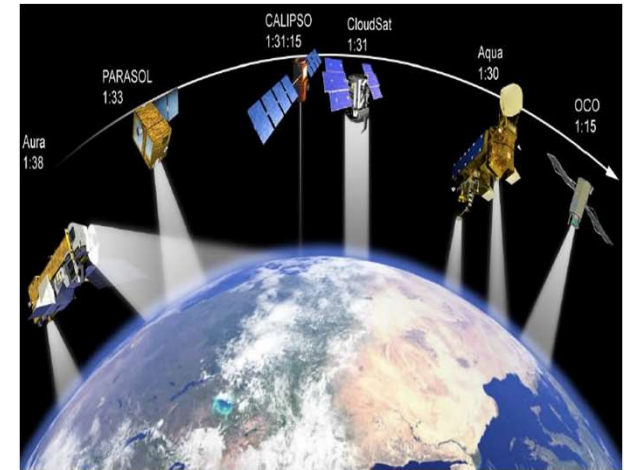


### District Mineral Foundation Section 9B of MMDR Act

- ❖ The Government has formulated Pradhan Mantri Kshetra Kalyan Yojana (PMKKKY) to be implemented by the DMFs of the respective districts.
- ❖ The PMKKKY has mandated 60% of the funds to be utilized for High Priority Areas and balance 40% of the funds can be utilized for Infrastructure.
- ❖ So far more than Rs. 63,845 crore have been collected as cumulative accrual under DMF. (May 2022)

## Mining Surveillance System (MSS)

1. "Eyes in the Sky" - Detection & Deterrence from Illegal Mining
2. Satellite based technology with minimum human interference - transparent and unbiased recording
3. Cover remote & inaccessible areas
4. Automatic detection of mining activity in a temporal satellite image
5. Integration of information from multiple sources - satellite imagery, cadastral plan, etc.
6. Effective tool for monitoring of illegal mining- location, extent and trends
7. MIS reports



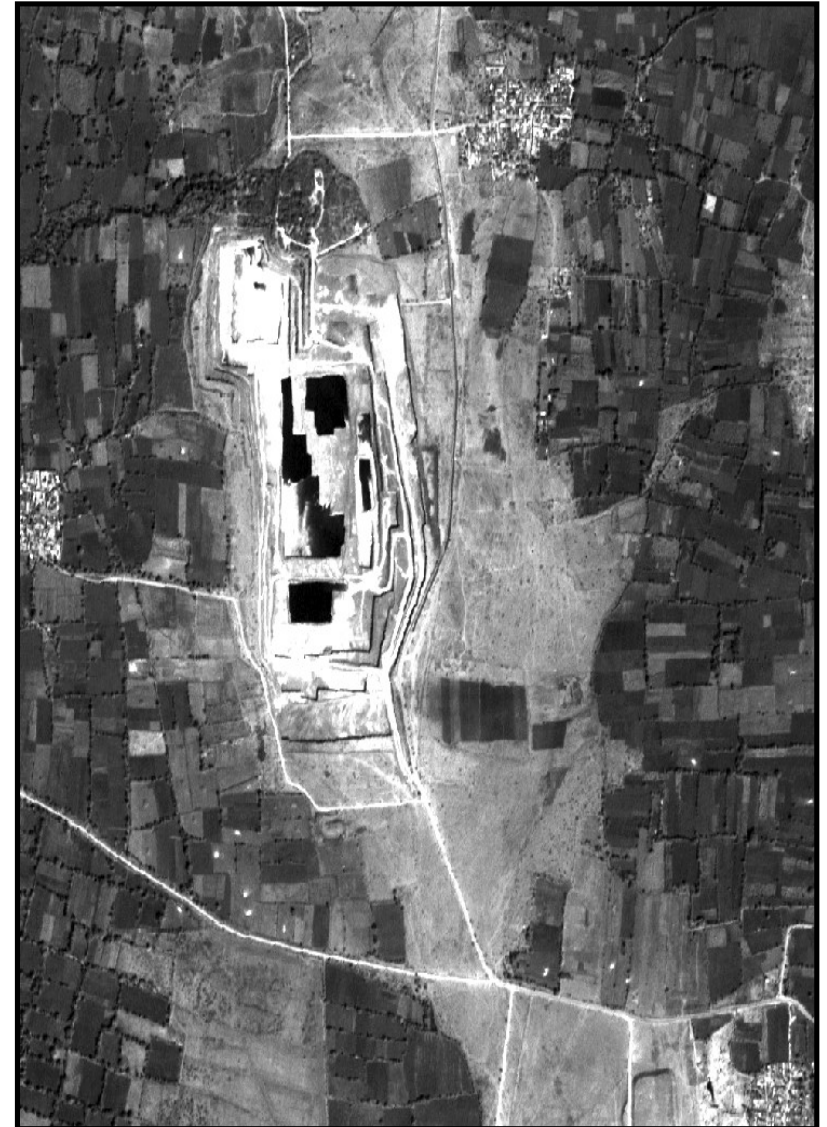
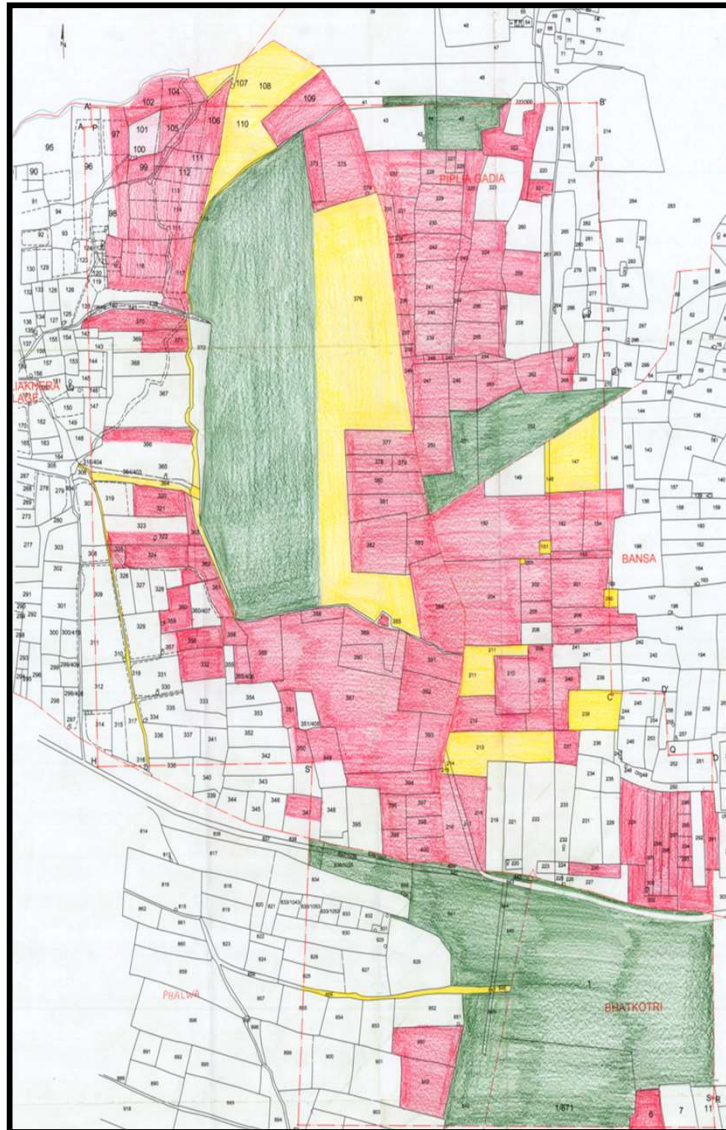
## Mining Surveillance System (MSS)-Methodology

Collection of  
Village Map

Scanning of Map

Geo-referencing of  
Scanned Map to  
Satellite data

Digitization of  
Geo-referenced  
village Map



## Use of Enhanced Space Technology

- ❑ IBM & NRSC entered a MoU for a pilot project "Sudoor Drushti" to demonstrate the feasibility of using High Resolution Satellite Imagery and Digital Elevation Model (DEM) in monitoring mining activities / changes over selected group of mines.
- ❑ As part of the project Remote Sensing Labs at Nagpur and at Hyderabad are set up.
- ❑ As a part of pilot project in Tandur area Andhra Pradesh, volume changes in a cluster of mines (6) studied for 2007- 2015 period and observed that overall volume change is +10 to 11% only.
- ❑ Technology to facilitate to monitor periodic changes of the mining areas within the mining lease boundary for a time period.

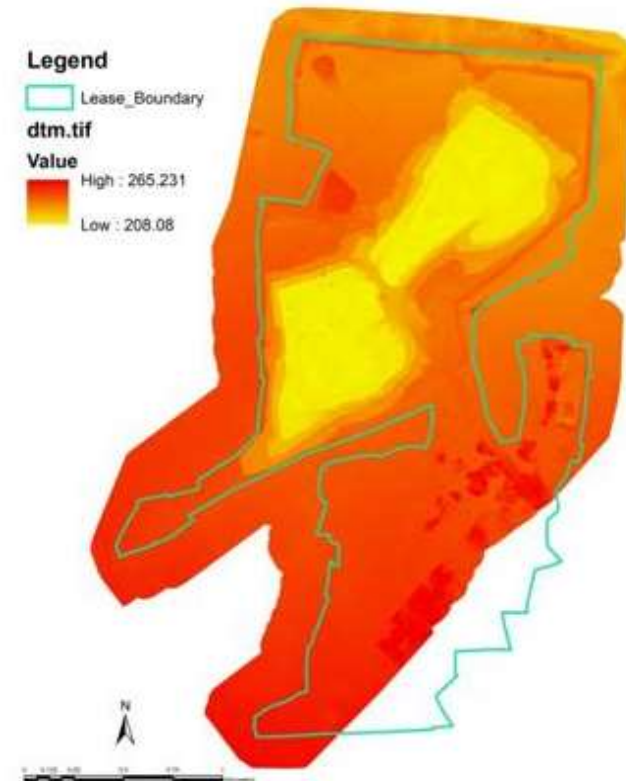




# Use of GIS and Drones Applications (1/3)



Geo-referenced orthomosaic image generated from UAV Data

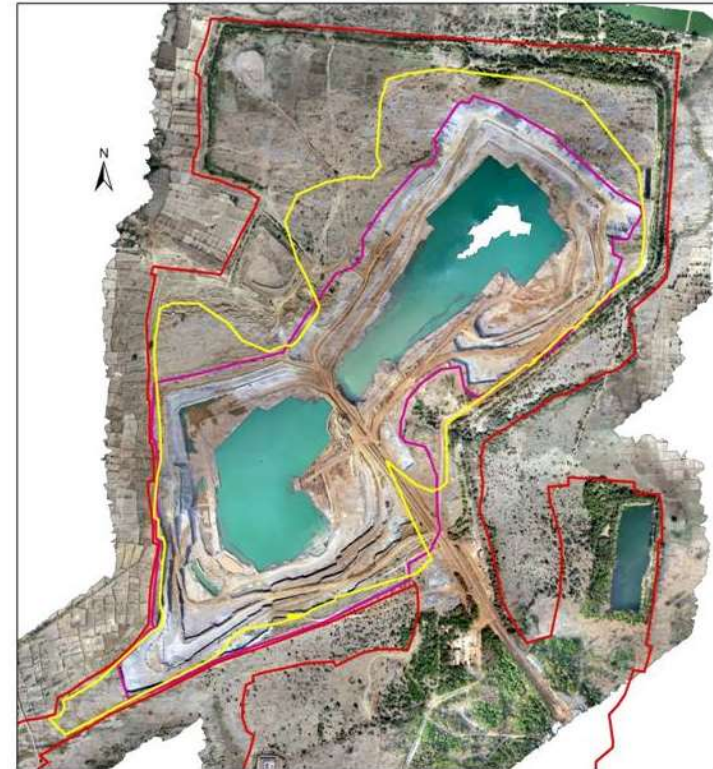


Digital Terrain Model (DTM) of study area.

## Use of GIS and Drones Applications (2/3)

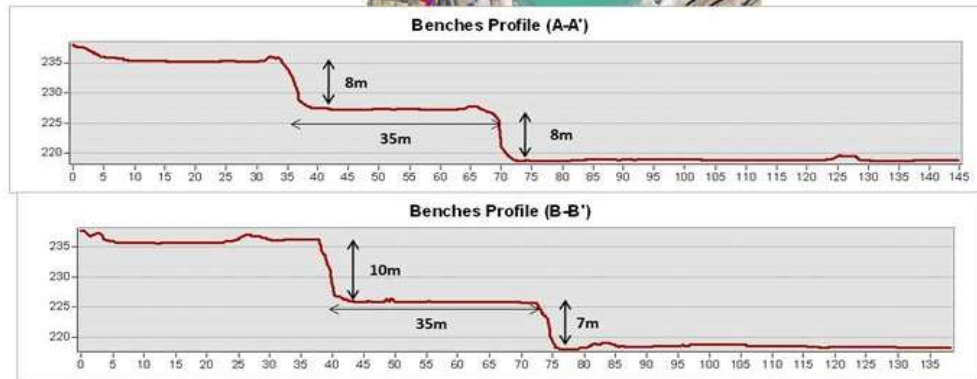


View of mine pit from combination of orthoimage and DTM data



Orthomosaic image showing lease boundary UPL from Mining Plan actual pit limit

# Use of GIS and Drones Applications (3/3)



Benches Profile.



Dump Profile.



# Future Agenda



# Future Agenda and Challenges (1)

## Global Exploration Budget 2017\*

Country	% of Global Exploration Budget	Country	% of Global Exploration Budget
Canada	14%	West Africa	5%
Australia	13%	East Africa	2%
United States	7%	DR Congo	2%
Mexico	6%	South Africa	4%
Peru	6%	Russia	5%
Chile	6%	China	6%
Latin America (Rest)	6%	Pacific/South East Asia	5%
Brazil	4%	Former Soviet Union	1%
Europe	5%	Others (including India)	3%

\*Worldwide Mining Exploration Trends 2017, S&P Market Intelligence Data



# Future Agenda and Challenges (2)

## Exploration Priorities in India

- ❑ In India most of current exploration is on coal, iron ore, and surficial mineral.
- ❑ Largest proposal of global exploration spends are in gold, base metals and diamonds.
- ❑ Setting up of National Mineral Exploration Trust (NMET).
- ❑ NMET supports regional and detailed mineral exploration in the country and other activities.
- ❑ So far Rs. 2772.32 Crore have been collected (May 2021) under NMET



## PRIORITIES

- 1.
- 2.
- 3.



# Future Agenda and Challenges (3)

## Mining Tenement System

- ❑ The Mining Tenement System (MTS) is a Digital Repository of entire Life Cycle analysis of each Mining Concession granted for major Minerals excluding Coal, Fuel and minor minerals.
- ❑ This includes automation of all the processes and approvals at various levels of governance thereby mapping all the activities from identification of potential mineral bearing areas to even post closure of mining activity
- ❑ Enabling real-time transfer of electronic data and files, with Geographical Information System (GIS) interface.



# Mining Tenement System (MTS)

## Phase-1

Registration

Online Return

Mobile App for  
Return

Mining Plan

PMKKY

Ore Accounting  
System

## Phase-2

Grant of Concessions

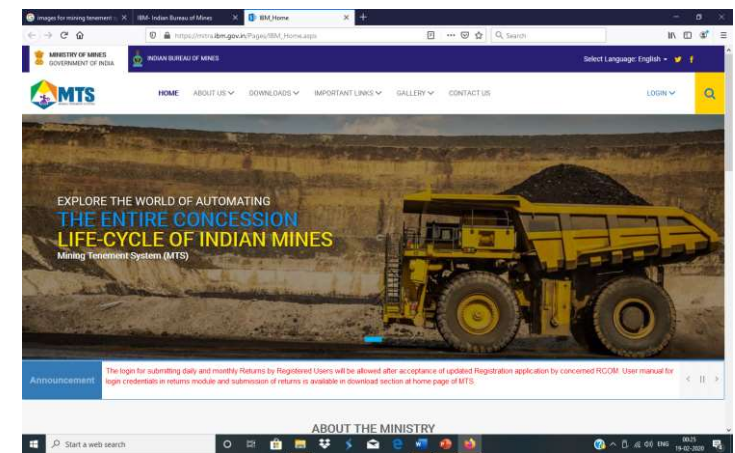
Concession  
management &  
inspections

Transformation of IBM  
databases

GIS Platform

Revision

Star Rating of Mines



The system has been primarily conceptualized to transform the functioning of Indian Bureau of Mines for **efficient, effective and transparent delivery** with a provision to bring on-board the State Mining Departments of States all across country.



# Conclusions



*It is hoped that with the policy initiatives taken so far and contemplated policy reforms, the Indian Mineral Sector will further prosper to contribute significantly for the economic development of the nation.*

