



Knowledge Conclave

Is Sustainable Mining Possible?



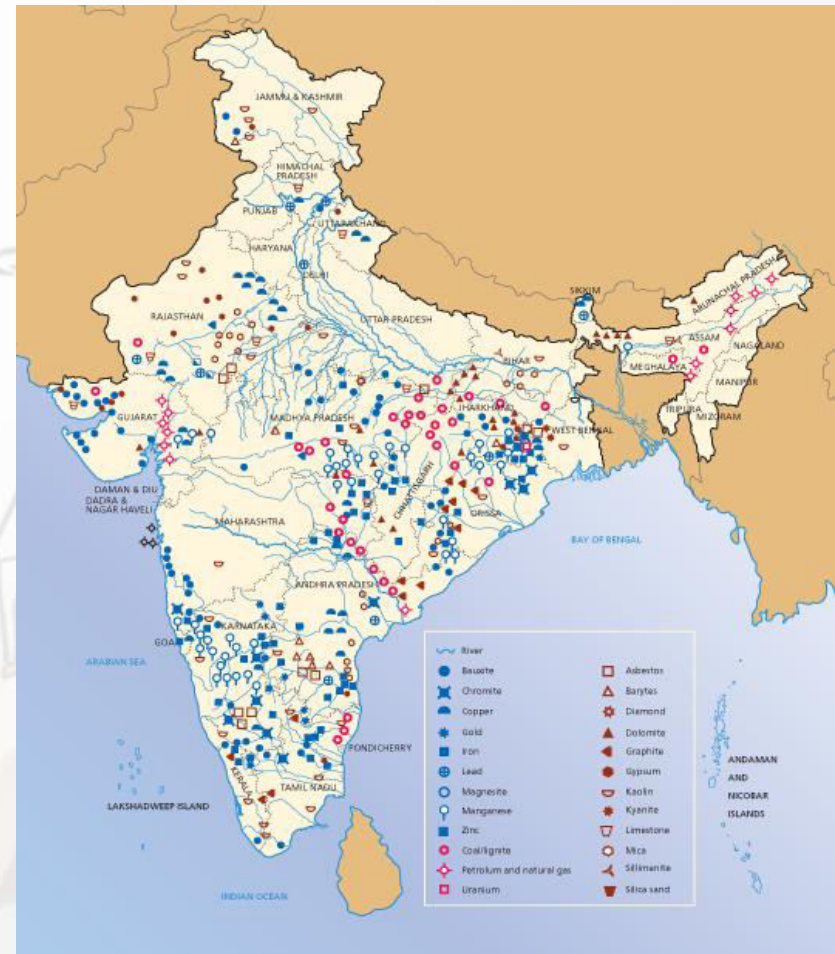
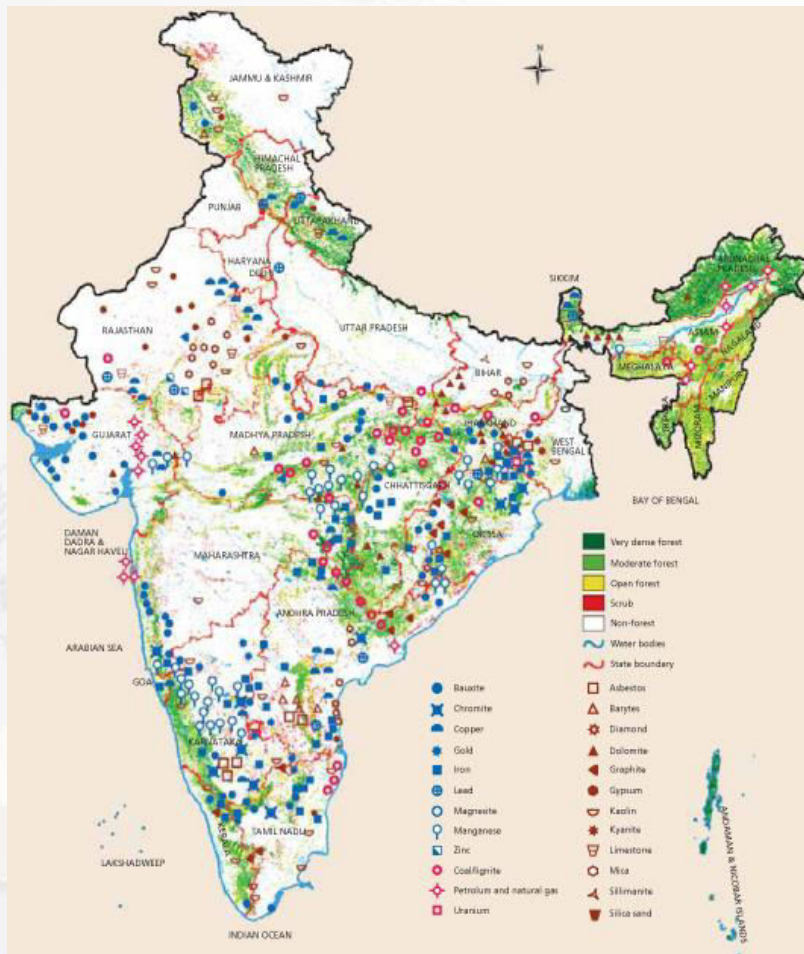
Srestha Banerjee

India's mineral wealth

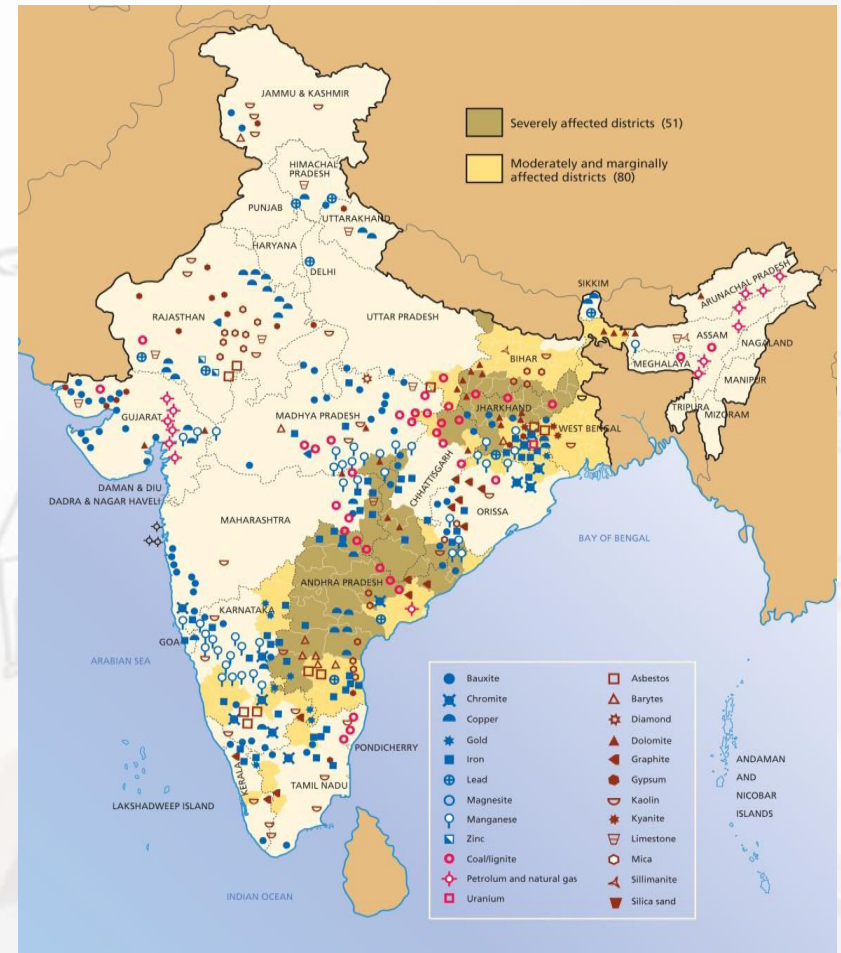
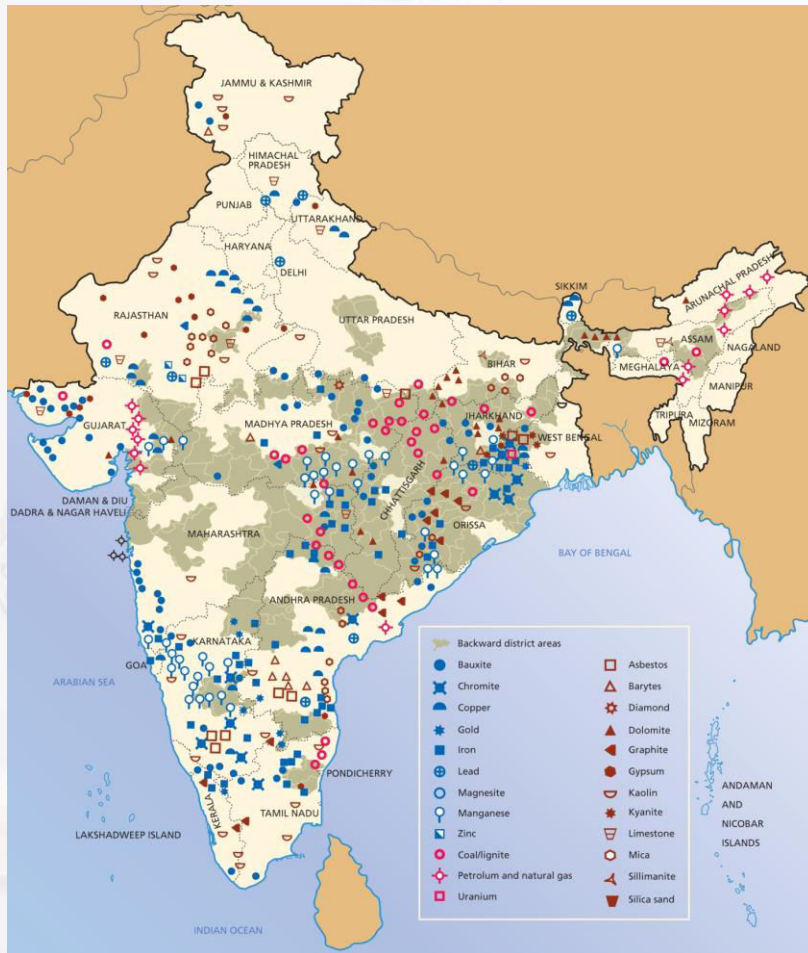
- Over 20,000 mineral deposits.
- 11,104 mining leases, covering 4,98,249 hectare in 23 states (as of March 2013). This is excluding atomic and minor minerals.
- World standing- Fuel- 3rd in coal and lignite; Metallic- 3rd in chromite, 5th in iron ore, 6th in bauxite; Industrial- 2nd in barytes/ talc.
- Mining sector contributes 2.11% to GDP, **but essential part of most development sectors.**

Wealth but at what COST?

A fatal overlap



A fatal overlap



The regulatory system in place

Institutions

Central

- Ministry of Mines, Indian Bureau of Mines
- Ministry of Coal, Coal controller and Nominated authority
- Ministry of Environment, Forest and Climate Change
- Ministry of Tribal Affairs
- Ministry of Labor- Director General of Mines and Safety

State

- (State) Department of Mines
- State environmental and forest authorities
- State Pollution Control Boards

The regulatory system in place

Laws and regulations

For concessions/ clearances/ permits

- Mines and Mineral (Development and Regulation) Act, 1957, and as amended in 2015- **mineral concessions**
- Environment (Protection) Act, 1986-EIA Notification, 2006 (and subsequent amendments)- **Environmental Clearance**
- Forest Conservation Act, 1980- **Forest Clearance**
- Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, **1981- Consent to Establish and Consent to Operate**
- Rules such as Mineral Concession Rules (Central and State); Mineral Conservation and Development Rules etc.

Displacement and rehabilitation

- Forest Rights Act, 2006
- Panchayats (Extension to Scheduled Areas) Act, 1996
- The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013
- Coal Bearing Areas (Acquisition and Development) Act, 1957

What is the upshot?

Protection or Exploitation?

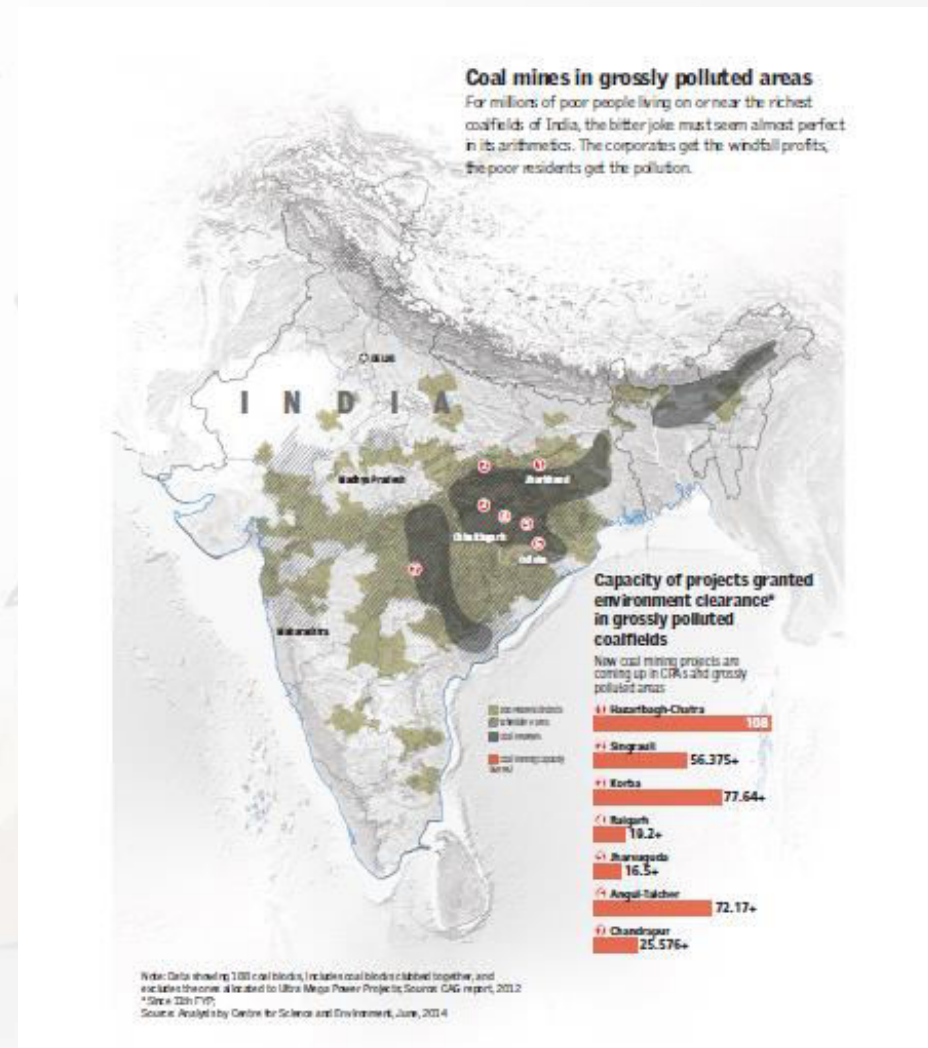
Growth or Development?

Minerals and forests

- In top mining states, forest cover on an average three times higher than national average.
- Mining accounts for about **20%** of the total forest land diversion for various development projects.
- Since 1981 (enactment of FCA), **about 188,495 hectares** of forest land have been diverted (till Nov 2015).
- Coal alone accounts for more than 57% forest land diverted for mining.
- Mining allowed in rich forest habitats- eg. Hasdeo Arhand coalfields of Chhattisgarh, Saranda forests of Jharkhand.

A license to pollute

- Environmental management in Indian mines poor.
- Mining operations and waste dumps - major sources of air and water pollution (water especially during rainy season).
- Mineral transportation - major source of air pollution – Keonjhar, Bellary.
- Coal mining areas have high levels of pollution; MoEF in 2010 identified most coal mining districts as **critically polluted areas (CPAs)**.



A license to pollute

- Surface and ground water pollution; ground water depletion, degradation of catchment areas.
- Mine water and effluent discharge from coal washeries major sources in coal mining areas.
- Mine water discharge contains high concentrations of heavy metals- iron, manganese and nitrate; discharges from coal washeries are high in total suspended solids (TSS), total dissolved solids (TDS), oil and grease, iron etc.
- Runoff and leaching from waste dumps- Sukinda Valley of Odisha reels from hexavalent chromium pollution; 10 times higher than the WHO permissible limits (0.05m/L) even detects SPCB.



Mine closure: an open secret

- No detailed inventory of abandoned mines. As per a 2010 estimates of the IBM, there are 297 abandoned mines of major minerals.
- More than 240 abandoned coal mines.
- Abandoned mines of minor minerals in thousands.
- Poor monitoring and inspection; very weak financial mechanism
- For major minerals (excluding coal) financial assurance for mine closure is Rs 25,000 per hectare for category A mines (mine leases equal to or above 50 ha) and Rs 15,000 for category B mines (between five and 50 ha). For coal- Rs 6 lakh per hectare for opencast; for underground Rs 1 lakh per hectare.
- Average financial assurance in states like Montana, South Dakota, New Mexico in the USA is more than **Rs 16 lakh per hectare** (as per 2003 \$ rates).

Violations

- Poor quality of EIA reports/ forest assessments, projects cleared nearly as gospel of truth.
- Public consultations flouted.
- Forest Rights goes unrecognized.
- Clearance conditions- compliance status abysmal, regional offices of MoEFCC barely has the capacity and resources.
- Under Air and Water Act.
- Of mining plans, schemes of mining and mine closure plans under MCDR Rules (only major minerals)- more than 80% violations observed by IBM.

Minors with major impacts

- Haphazard and unscientific mining, cumulative impact very significant. However, **NO assessment required until now.**
- Geological Survey of India (GSI) has enlisted a series of ecological impacts related to riverbed sand mining- alteration of in-stream/river floral and faunal habitat caused by increase in river gradient, suspended load, sediment deposition, increase in turbidity and change in temperature, etc.
- Change in vegetation cover in the banks, worsening the problem of erosion, increasing run-off, and lowering the groundwater table in floodplain area.



Scam zone, who benefits?

'Jharkhand lost Rs 14,000 cr worth natural

Justice Shah report blames political rift, corporate-babu nexus for loot

Dalip Singh

NEW DELHI, DHNS: Rift among United Progressive Alliance (UPA) ministers and nexus between private players and babus have resulted

the MB Shah Commission, tabled in Parliament in the last session but failed to reach the public, said 18 out of 42 mining leases to private players

phoned off should be recovered from the lease holders. The government is said to be looking into the findings.

Citing examples of alleged favouritism between players

wipe out thick forest.

He backed his findings with two letters written by ministers

against

CAG rips govt's bauxite mining leases

To Jindal, Ras Al Khaimah For A Paltry Sum Of ₹258 Cr

Mines Worth ₹11,400 Cr Given

PRECIOUS

Hyderabad: In a report submitted to the Telangana De- waries to the government, which is planning to reopen bauxite mining in Visakhapatnam district, the Comptroller

CAG says it compares an Al Khaimah mineral valley

and aluminium refin- and smelters with AP getting an equity stake 1.8% in those comp- The APMDG has to man- supply 200 million ton- bauxite to Jindal and million tonnes to Ras

Coal blending to benefit big players

Mining hooligans go berserk

Mob forcibly stops bus with 30 journo on field trip at Curpem, threaten to kill them

Coal Scam: Windfall gain made by private sector between 2004 and 2012 due to arbitrary allocation of coal blocks; Rs 1.86 lakh crore.

Iron ore scams, Bellary: a failure of governance, more than 700 officials and 400 companies engaged in mining, iron ore trade and steel manufacture figured in the Lokayukta report.

Shah Commission revelations, Goa, Odisha- Regulatory loopholes.

Sand mafia, the next bigwig.

Economic onslaught

Rich lands poor people

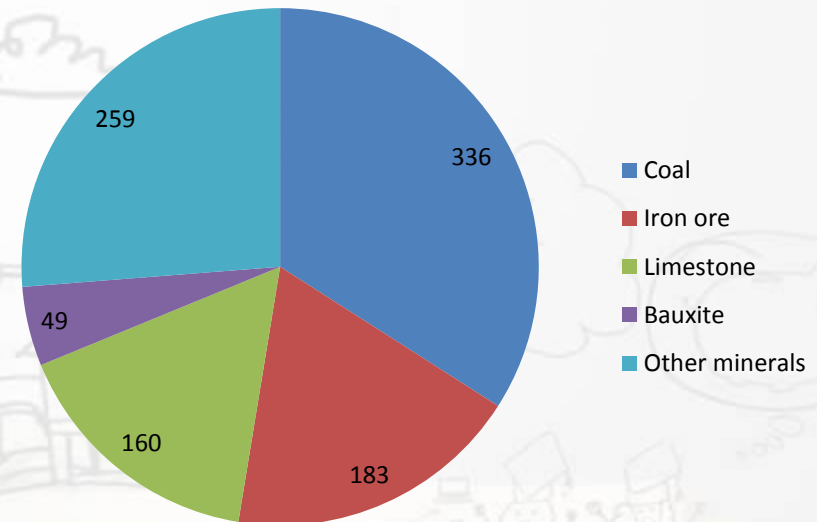
- Nearly **40% of people BPL** in the major mining states of Jharkhand, Chhattisgarh and Odisha; much higher than the national average 21.92 per cent.
- The planning commission has identified 15 districts in Chhattisgarh as backward, while for Jharkhand it is 19 and Odisha it is 27.
- Worst for tribals: In Odisha, more than 75% of the rural tribal populations are below the poverty line, while in Chhattisgarh, Jharkhand, Madhya Pradesh and Maharashtra it is categorically over 50%.

Deprived and Displaced

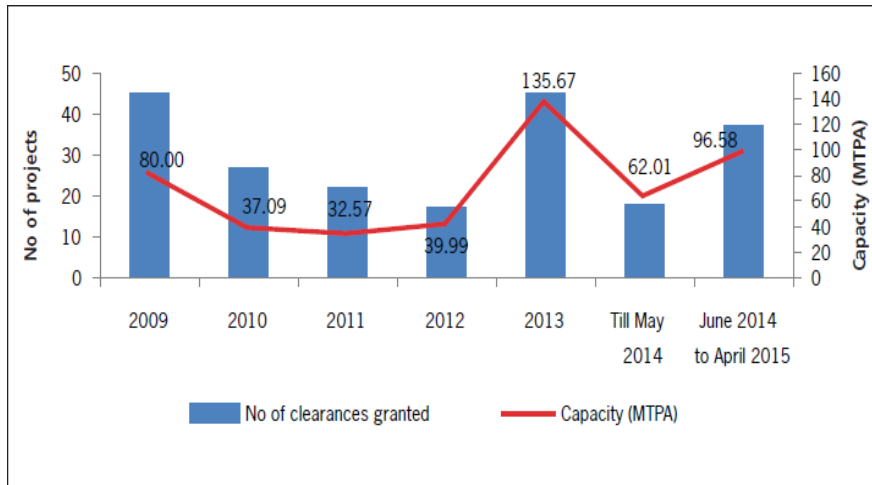
- No complete data on displacement.
- Estimates: During 1950-1991, 2.55 million people displaced – 12% of all projects – 2nd largest.
- 55% from Scheduled Tribes – highest of all projects.
- Only about 25% resettled (no estimations on rehabilitation) – lowest of all projects. Dismal performance of mining industry in R&R (especially coal).
- People displaced 50 years back are still awaiting compensation.

Yet clearance continues

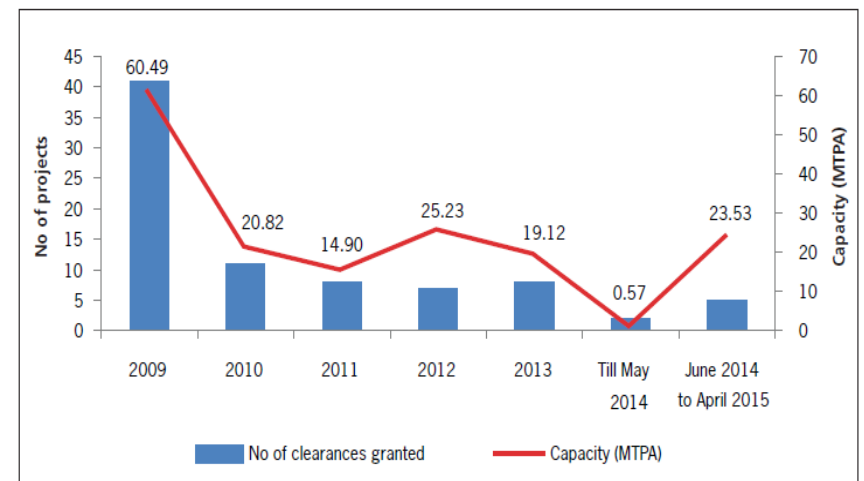
- There is a huge push from industry for clearing mining projects, **barely any project turned down.**
- Between April 2007 (beginning of the 11th FYP) till Oct 2015, nearly 987 mining projects (including those that have applied for capacity expansion) had been cleared by the Union environment ministry. The figure does not include projects cleared at the state level.
- Coal remains a focus- nearly 35% of clearances are for coal mining; More than 350,000 hectare area leased for 720 MTPA.



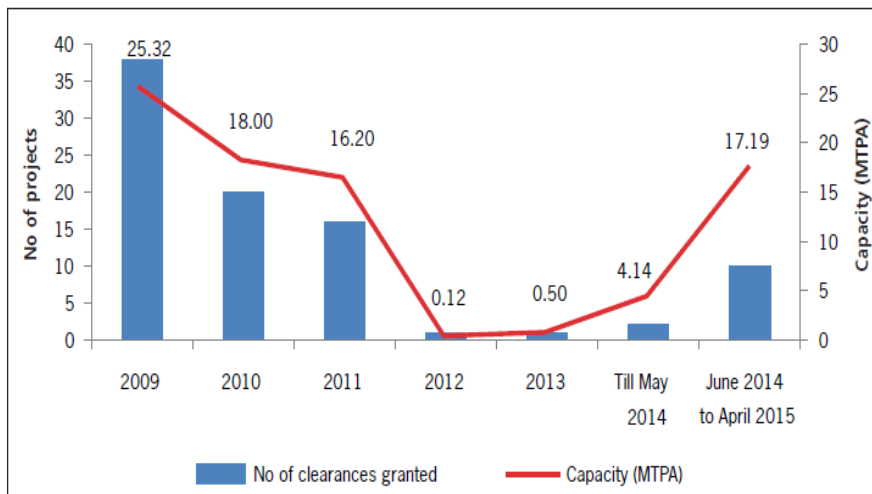
Coal ECs



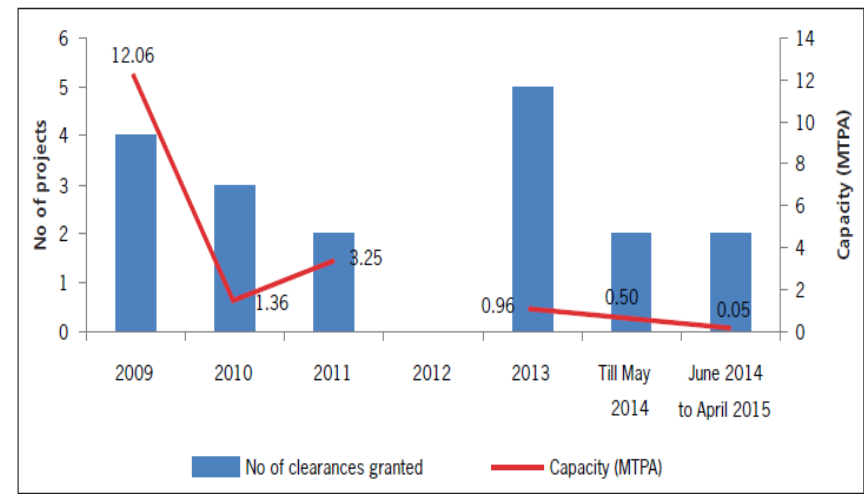
Iron ore ECs



Limestone ECs



Bauxite ECs

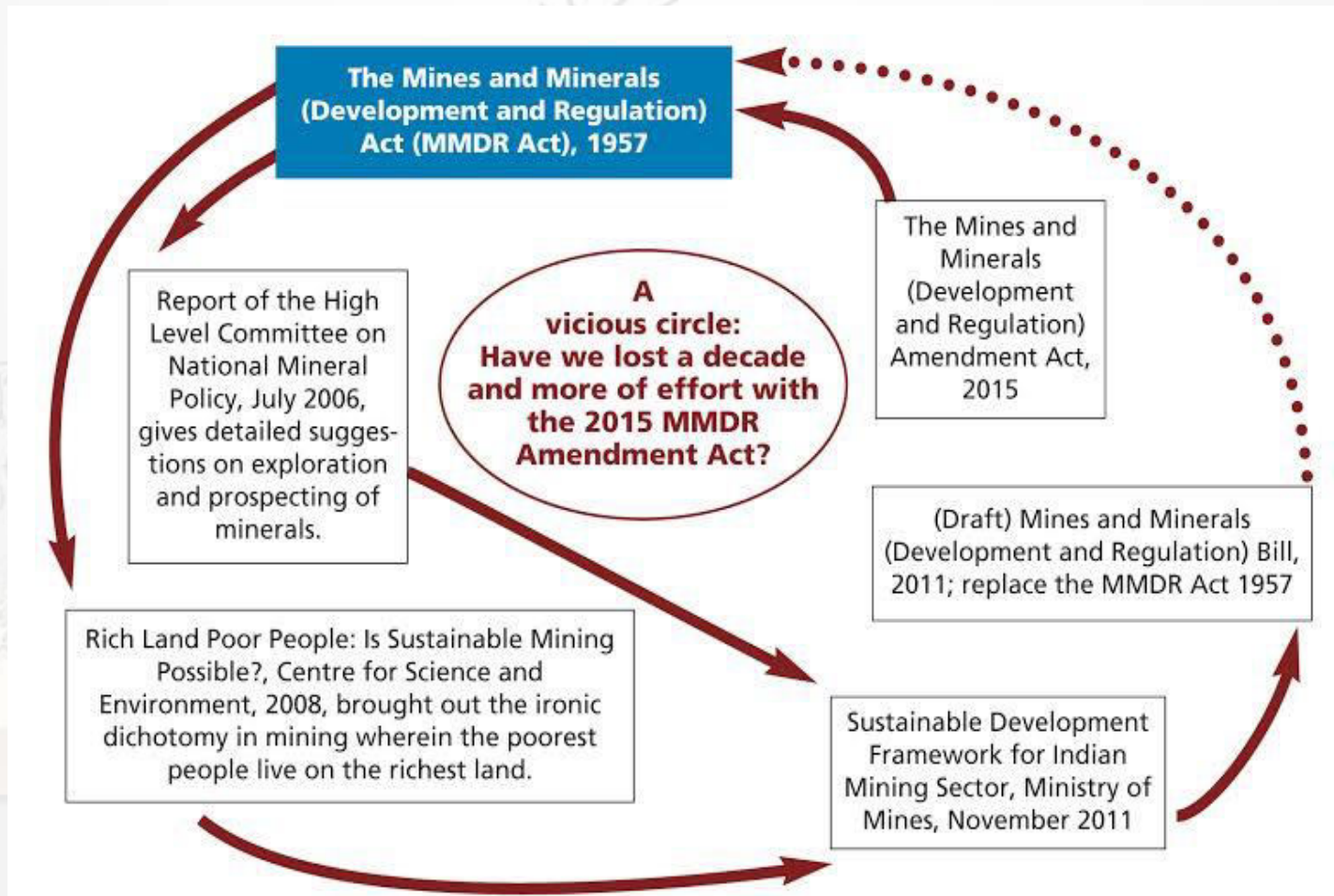


Is sustainable mining possible?

- Issue is not whether mining should take place or not-
Rather, the question is how and where it should happen.
- It also about reforming laws and institutions to ensure environmentally and socially acceptable mining.
- It is about a developing policies and encouraging practices so that impacts are minimized, resource use is optimized, and benefits are equitable.

An effort for change

MMDR 1957, Amended in 2015



Key moves

- **Increase transparency-**

- Auctioning of ALL mineral concession, mining leases and prospecting-cum-mining leases- (*Mineral Auction Rules, 2015, Coal Mining Special Provisions Rules, 2015*)
- Exploration permits have been made non-exclusive, “open sky policy”. After exploration leases will be auctioned.

- **Removing irregularity-**

- Grant mining leases for 50 year period, as opposed to 30 year plus 20 year renewal provision.
- Create Special Courts to deal with mining offences.
- Increase fines.

- **Benefitting community-**

Creating District Mineral Foundations in each mining district

What will it ensure?

The benchmarks

- #1 Will it make mining equitable and share the wealth of mining with the local community, the states and the nation?
- #2 Have the potential to steer the mining sector to adopt environment friendly practices?
- #3 Promote the development of a modern, scientifically advanced mining sector to optimize efficient resource use ?
- #4 Bring in necessary institutional reform to ensure sustainable practices?

#1 Will it make mining equitable?

- Institutes District Mineral Foundation in every mining district.
- Objective is to work for the interest and benefit of people.

How much welfare will be delivered?

- Mines and Minerals (Contribution to District Mineral Foundation) Rules, 2015
 - 10 % of the royalty for leases granted on or after January 12, 2015;
 - 30 % of the royalty for leases granted before January 12, 2015

From potential equivalent royalty/ 26 % of PAT in 2011 to 10% royalty

- States to develop DMFs, mixed signs so far...

2 Will it make mining environmentally responsible?

50 year lease and subsequent auctioning- a recipe for environmental disaster.

- From an environmental perspective, it doesn't make sense to keep thousands of mines open at one point of time as every open mine is a source of pollution. This is what this provision will do.
- Long lease period with subsequent re-auctioning provision will now create incentive for leaseholders to do the opposite. They will keep the mines open and shift the burden of rehabilitation to future generations.
- Create difficulty in establishing appropriate financial guarantees to ensure mine closure happens. Will bring back the practice of "dig and run", adding to India's poor legacy of orphaned mines.

#3 Will the mining sector be scientifically advanced and efficient?

- **Blanket provision for auctioning all mineral concessions extremely problematic.**
- Auctioning is best way to allocate mineral concessions where the deposits can be accurately established and proper valuation can be done; otherwise will lead to under or over valuation leading to revenue uncertainty and rampant/irregular activity. **Auctioning, therefore, is not suited for prospecting**
- **Some of the provisions might limit innovation and investment-** “open sky” policy for exploration by granting non-exclusive permits, while not giving certainty on return on investment might restrict high-tech exploration. Will limit scientific development of deep-seated minerals.

#4 Does it bring in institutional reform?

- No deep reforms proposed in institutional mechanisms; no strengthening of institutions.
- Overlaps and inefficiency will continue.
- No provision of institutional strengthening, while their responsibilities increase (local authorities to clear more projects). 2011 Bill had provisions for developing capacity of IBM and of State Directorates, development of national and state Mineral Funds for scientific mining.
- Only increasing penalty might actually increase rent-seeking behavior.

Favorable initiatives from MoEFCC can compound problems

- Particularly favorable towards EC for the coal sector.
- Easing of public hearing requirement- between Dec 2012 and Sep 2014 five exemptions (4 in 2014 alone) given to clear larger and larger coal projects.
- Clearance continues in critically polluted coalfields, such as in Singrauli (Madhya Pradesh) and Dhanbad (Jharkhand). Has been allowed keeping in abeyance the moratorium on projects in these areas that was re-instated in September 2013.

Do we really need to rush?

- According to the Planning Commission, with a cumulative annual growth rate in coal demand of about 9%, the target requirement in 2016-17 (terminal year of 12th FYP) will be 980 MT. The Working Group of Coal estimates that the coal demand in 2021-22 (terminal year of 13th FYP) will be 1,373 MT.
- Current production capacity (557.7 MT) plus the clearances given since April 2007 (720 MT) is sufficient to meet the projected demand till 2022.
- Clearances granted must be realized; what also holds up projects is pushing people aside to clear projects, and post clearance contentions.

Major issues remain to be addressed

- Requires a concerted multi-institutional approach.
- Institutional reform; strengthening regulatory agencies at every level, making them efficient, transparent and accountable.
- Streamline processes, but without dilution.
- Incorporating environmental and social sensitivities in decisions on leases.
- Improve enforcement and monitoring , must institute periodic monitoring and random inspection.
- People must not be left out- DMFs need to be developed only to benefit communities in mining affected areas.
- Enhance public participation
- **Clearance is NOT EQUAL to environmental protection**- need to improve assessment including cumulative impact assessment; should move to comprehensive planning.

If mining happens, it must be environmentally responsible, socially equitable, economically viable

6
State of India's
ENVIRONMENT
A CITIZENS' REPORT

RICH LANDS POOR PEOPLE

IS 'SUSTAINABLE' MINING POSSIBLE?

A long way to go...