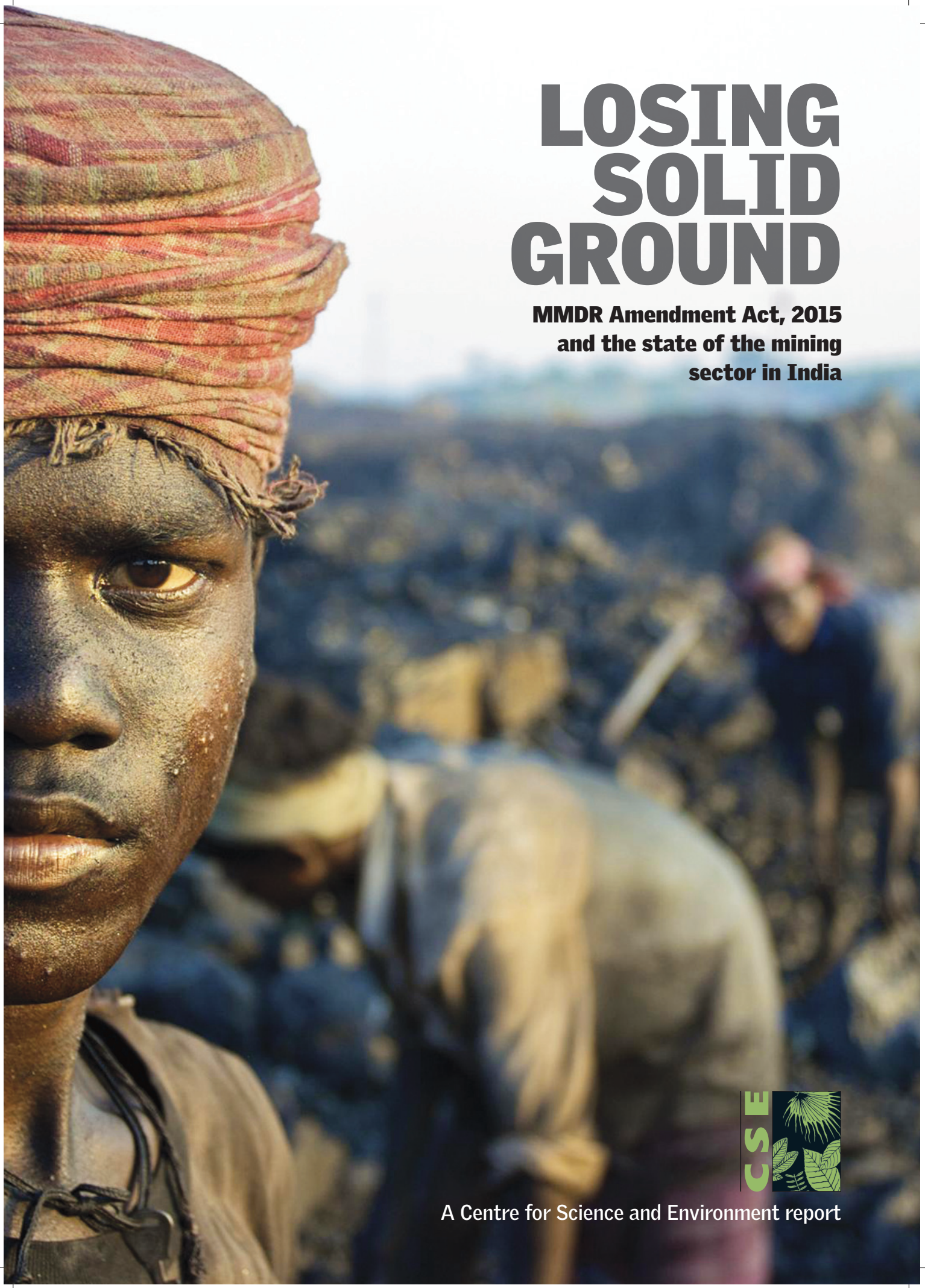

LOSING SOLID GROUND

MMDR Amendment Act, 2015 and the state of the mining sector in India

A Centre for Science and Environment report

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Contents

Sisyphus stares down

For over a decade, the country has debated the need to reform the mining sector by amending the Mines and Mineral (Development and Regulation) (MMDR) Act, 1957. The conversation started with the publication of the report of the High-Level Committee on National Mineral Policy (2006) set up by the erstwhile Planning Commission. In 2008, Centre for Science and Environment (CSE) published a detailed report on the mining sector titled *Rich Lands, Poor People: Is sustainable mining possible?* We pointed out that minerals are found where forests are found; from where water comes and where adivasis and the poorest of India live. These are also the places where Naxalism is spreading. We intervened to ask for a new social and environmental contract in the mining sector, keeping in mind the need to utilise mineral resources but also the interests of the people and the environment.

These debates fructified in the form of the Mines and Minerals (Development and Regulation) Bill, 2011; but due to disagreements within the UPA government and pressure from the industry, the Bill was allowed to lapse in February 2014. We believe that the MMDR Bill 2011 made an attempt to balance all concerns. There were lacunae in it but it recognised the need to incorporate community interests and environmental protection. In this way, there was a movement forward in the 2011 Bill from the 1957 law.

Now we have the Mines and Minerals (Development & Regulation) Amendment (MMDR) Act, 2015 which was passed by the Parliament without much discussion with the stakeholders. We believe that the Amendment Act is one-sided. While it protects the interests of miners and increases revenue for the states, it does little to protect the interests of the people and the environment. The Amendment Act is short-sighted and fails to tackle key issues. The problems faced by the mining sector are not just due to lack of transparency and accountability in mine allocations, but because of enormously reckless mining that has destroyed the environment and created problems for the local people. Therefore, there is a need for supervision of mining operations. Unfortunately, the 2015 Amendment Act utterly fails in providing this protective framework.

The objectives

The MMDR Amendment Act, 2015, "*seeks to amend the MMDR Act, 1957, in order to develop country's mining sector to its full potential and to put the nation's mineral resources to the best use for national economic growth*". According to the Ministry of Mines, it is designed to eliminate discretion in the grant of mineral concessions, bring in transparency in the allocation of mineral resources, simplify procedures and remove delays in decision-making, provide impetus to the mining sector, encourage exploration and investment, safeguard interest of affected persons and develop stronger provisions to check illegal mining. However, the structure of the Amendment Act gives little hope of helping in resolving many of these issues; rather it presents a danger of creating more problems in the future. Most importantly, the Amendment Act also has the potential to destroy the gains made in improving the environment and social performance of the mining sector in the past decade.

The benchmarks

To understand the implications of the 2015 Amendment Act, we need to judge it on the basis of five key objectives which concern the mining sector and mineral needs of the country, the people who are affected by mining and the environment.

Does it

- Make the local communities partners in the mineral development of the country;
- Hold promise to capture windfall profits from mining and share the wealth of mining with the local community, the states and the nation;
- Encourage and have the potential to steer the mining sector to adopt environment-friendly practices;
- Promote the development of a modern, scientifically advanced and efficient mining sector to fulfil the present and the future mineral needs of the country;
- Put in place regulatory and facilitative institutions for transparent and accountable functioning of the mining sector.

Does the 2015 Amendment Act make the local communities partners in the mineral development of the country?

The 2015 Amendment Act fails to make communities and the institutions of local government partners in the mining and the process of mineral development. None of the progressive provisions of the 2011 Bill have been included in the 2015 Amendment Act. The 2011 Bill had many progressive provisions for consultation and involvement of the institutions of local government. In this context, two important provisions can be referred to:

- In the 2011 Bill, notification of public lands for all types of mining concessions had to be done in consultation with the gram sabha or district council in Fifth and Sixth schedule areas. In non-schedule areas, district panchayats were required to be consulted. These were very important provisions as local people, mainly tribals, do not own land in large parts of scheduled areas. Similarly, before approving the progressive and final mine closure plan, the Indian Bureau of Mines (IBM) was required to consult the local panchayats on the planned land use.
- The most problematic part of the 2015 Amendment Act is that it has denied and removed the usufruct and traditional rights of communities over land and resources. In the 2011 Bill, compensation, rehabilitation and resettlement had to be provided not only for persons having occupational rights over the land, but also for those having usufruct and traditional rights. Removal of such provisions will have huge implications on deciding compensation, rehabilitation and resettlement. This will lead to further alienation of tribal communities in the scheduled areas.

Does the 2015 Amendment Act hold the promise to capture windfall profits from mining and share the wealth of mining with local communities, the states and the nation?

With respect to this question, let's focus only on sharing of profits with communities.

- In the 2011 Bill, for major minerals, the leaseholder had to pay the District Mineral Foundation (DMF) an amount equivalent to the royalty during the financial year. For coal and lignite, it was to be an amount equal to 26 per cent of the profit after tax. We did a detailed analysis in 2011 and found that this amount paid to the DMF would not affect profits of the companies. The DMF was to use this fund for specific purposes, which were stated in the 2011 Bill.
- These provisions have now been significantly diluted. Leaseholders are now required to

pay "not more than one-third" of the royalty for all minerals, as compared to an amount equivalent to royalty or 26 per cent of the profit after tax in the 2011 Bill. The states have been given the power to decide how these funds will be used. So, not only has the size of the funds been considerably reduced, they are now more prone to misuse. Reduction of profit-sharing provision by two-thirds means that from the idea of sharing profits, this provision has now been reduced to a charity.

Does the 2015 Amendment Act have the potential to steer the mining sector to adopt environment-friendly practices?

Most mining areas in India are critically polluted areas as environment management practices of mines are still in their infancy, and our regulatory institutions have failed to push the industry towards adopting better practices. There are many examples of poor mining practices, but just one, which is with respect to mine closure, can sufficiently bring out the extent of hazards associated with such practices.

India has the distinction of coining the term "orphaned mines". These are mines from where minerals have been obtained and the concerned mining company has run away without closing and rehabilitating the mines. Orphaned mines are a major cause of pollution. In many coal-mining areas, these orphan mines are leading to leakage of highly toxic acid and occurrence of mine fires is common. In the iron ore belt, they lead to huge air and water pollution. Over the past 20 years, regulations have been tightened to improve the mine closure practices, such as the requirement for progressive mine closure and provision of a financial bond to ensure that companies close the mines before they leave. These provisions are still evolving, the practice is still poor, but is slowly improving.

The provisions of the 2015 Amendment Act seriously jeopardise these gains.

Under the new Amendment Act, all mining leases will now be granted for 50 years. The lease for existing mines has also been extended to 50 years. After expiry, leases can be re-auctioned. This creates problems at multiple levels.

- 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 the 50-year mine lease provision will do.
- From an economic perspective too, it does not make sense to give mines a 50-year lease as it amounts to sitting and speculating on resources. It makes more sense to open a mine, remove all minerals quickly and progressively rehabilitate and close the mine, and return the land to the landowners.
- The 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. The **long lease period will also create difficulty in establishing appropriate financial guarantees to ensure mine closure happens**. This will bring back the practice of "dig and run", adding to India's poor legacy of orphaned mines.
- The 30-year lease period under the parent MMDR Act was itself problematic as there was no provision for detailed periodic assessment and most mines were doing progressive rehabilitation poorly. Only during the time of renewal some assessment was done. Now, with a flat 50-year lease period, with no provision for periodic assessment given in the Amendment Act, the situation will worsen.

The fact is that the theme of sustainable development has been completely downgraded in the 2015 Amendment Act. Under the National Mineral Policy 2008, the Sustainable Development Framework (SDF) was to be an important basis for undertaking socially and environmentally responsible mining. In the 2011 Bill there were provisions for development and implementation of the national and state SDFs. These provisions have been diluted in the 2015 Amendment Act.

Does the Amendment Act promote the development of a modern, scientifically advanced and efficient mining sector to fulfil the present and the future mineral needs of the country?

We will need minerals to meet the basic social and physical infrastructure needs of the country. We will also need minerals for future advances in technology, including the development of renewable energy sector and energy- and resource-efficient technology. Therefore, having a long-term vision for the sustainable future of the mining industry is very important. The Amendment Act, however, has more focus on short-term needs than long-term requirements. In fact, some of the provisions of the 2015 Amendment Act might limit innovation and investment in the sector.

Two major provisions under the 2015 Amendment Act almost invite such limitations; first, auction of all concessions, and second, provisions on prospecting and reconnaissance.

The Amendment Act creates a blanket provision for granting all types of mineral concessions through auctioning, including mining leases and prospecting-cum-mining leases. Though auctioning is a fair and transparent process, it does not give desired results in all cases.

- Auctioning is the best way to allocate mineral concessions where the deposits can be accurately established and proper valuation can be done. This will capture the windfall profits of mining as well as bring transparency in the allocation of leases.
- In cases where the valuation of mineral deposits cannot be done, auctioning can result in undervaluation of minerals and subsequent lower revenue earnings for the state government; or overvaluation, resulting in the inability of the concession holder to meet commitments.
- **Auctioning, therefore, is not suited for prospecting**. For prospecting, a transparent "first-in-time" principle is used across the world. By mandating auctioning of prospecting-cum-mining leases, the Amendment Act has introduced huge uncertainty in future of the sector.
- Similarly, the Amendment Act might also end up restricting investment in exploration. The long-term growth of the sector is dependent on advanced technologies and large investments in exploration. Though public investment in exploration is important, reconnaissance/regional exploration requires private risk capital. The Amendment Act discourages this. On the one hand, it promotes an "open sky" policy for reconnaissance by granting non-exclusive permits, while on the other hand it does not guarantee any return to the investors. This will restrict investment in high-tech exploration, which is urgently needed for deep-seated strategic minerals.
- Finally **in all cases of auctioning, conditions of bidding should be structured appropriately taking into account social and environmental safeguards**. This is not being done currently for auctioning coal-mining leases. This must not be the case.

Does the Amendment Act put in place regulatory and facilitative institutions for transparent and accountable functioning of the mining sector?

We know that today, the mining sector is plagued by poor and multiple regulations, discretionary decision-making powers, weak institutions, inadequate monitoring and feeble enforcement. These are the main reasons for large-scale irregularities that exist today, be it illegal mining, destruction of environment or ill treatment of mining-affected communities. Simply put, the entire governance structure of the sector is outdated and needs serious reforms.

- Just one example can demonstrate the inefficiency and inadequacy that exists in the governance structure. With respect to environment, health and safety management in the mines, currently, four regulatory institutions are involved. The Ministry of Environment, Forest and Climate Change (MoEF&CC) is responsible for giving environmental and forest clearances, the IBM clears mining and Environment Management Plans (EMPs) - the MoEF&CC can also clear EMPs, State Pollution Control Boards (SPCBs) are responsible for giving Consent To Establish and Consent To Operate under the Water Act, 1974 and the Air

Act, 1981, and the Directorate General of Mines Safety (DGMS) is responsible for monitoring the health and safety of workers. There is a lot of overlap in the responsibilities of these institutions, with each having very little capacity to monitor and enforce the law. Removing multiplicity of these institutions and strengthening their capacity must be a priority of mining governance reform. This has not been addressed in the 2015 Amendment Act.

- The 2011 Bill had provisions for serious institutional reforms. These included provisions for setting up a National Mineral Royalty Commission by the Central government to review and suggesting revisions in royalty rates and dead rent rates; establishment of National and State Mineral Funds to support research in and development of sustainable mining, developing capacity of IBM and of State Directorates, detecting and preventing illegal mining, and promoting scientific mining. The 2015 Amendment Act does not include these.
- The major reforms proposed by the 2015 Amendment Act include introduction of an auction mechanism for allocating all mining concessions; provisions for timely decisions; increase in penalty for violations; and creating special courts for speedy trial of offences. Considering the challenges, these reforms are inadequate and some of them could potentially create more problems. For instance, simply increasing penalty for violations within the existing institutional framework makes rent-seeking behaviour even more lucrative and will not be effective in curbing illegality. Similarly, auctioning of mineral concessions requires strong and scientifically competent institutions to establish reserves and valuation. In the absence of such institutions, auctioning can be manipulated. Auctioning, therefore, is not a substitute for but a part of the larger reform in governance. This fact has been missed by the 2015 Amendment Act.
- The Amendment Act also has other major shortcomings. For instance, it **does not address the issue of illegal mining adequately**. The issue has been primarily addressed by increasing penalty or through trials once offences occur. This misses out on the need to have strong institutions that can actually curb such activities. The Amendment Act also promotes captive mines. If one wants to see a textbook case of poor mining practices, captive mines provide one. We have addressed these issues in detail in our policy briefing and our research in evaluating the performance of the cement sector and the iron and steel sector.

Finally, we have to consider the MMDR Amendment Act, 2015 along with other ongoing regulatory reforms; the change in land laws through the Right to Fair Compensation and Transparency in Land Acquisitions, Rehabilitation and Resettlement Amendment Bill, 2015, and the report of the High Level Committee of the MoEF&CC chaired by T S R Subramanian (November, 2014), suggesting revisions in all major environmental laws. While, the MMDR Amendment Act, 2015, discourages consultation, excludes affected people from decision-making and reduces the benefit that local communities can get from the mining sector, the Land Bill removes the clause requiring community consent, and the Subramanian Committee report recommends fast-tracking of environment and forest clearances for mining projects. If we join all the dots, we are back to where we started in 1990. An era of exploitative mining, which will not balance the conflicting interests of miners with those of the affected communities, environment and forests.

In conclusion, while we urgently need reforms and therefore amendments in the MMDR Act, 1957, we need these for the right reasons. The revisions must be brought about to make mining sector socially, environmentally and economically viable. The 2015 Amendment Act does not measure up to this challenge. We, therefore, will have to start our work all over again. We will have to persuade the government, again, to bring meaningful reforms in the mining sector to protect the interests of the people, environment and the economy. This is our calling. This report is a beginning. Again.

— Chandra Bhushan

A. Minerals and mining in India

Wealth, but at what cost?

Endowed with large reserves of metallic and non-metallic minerals, India's vision of economic prosperity is centered on the exploitation of its mineral resources.

over **20,000**
mineral deposits

89
minerals (four fuel, 10 metallic, 48 non-metallic, three atomic and 24 minor minerals)[1] - second largest producer of barytes and talc; third in production of coal, lignite and chromite; fourth in iron ore, kyanite, andalusite and silimanite

2.11 per cent
contribution to GDP (2013-14)[2]

Rs **227,176** crore
total value of mineral production (excluding atomic minerals) during 2013-14: (fuel minerals 68.51 per cent, metallic minerals 16.39 per cent, non-metallic minerals 15.1 per cent)[3] (Rajasthan: 12.93 per cent, Odisha: 11.16 per cent, Andhra Pradesh: 9.39 per cent, Jharkhand: 6.8 per cent, Chhattisgarh: 6.75 per cent)[4]

3,461
reporting mines (2013-14) (excluding minor minerals, petroleum-crude, natural gas and atomic minerals)

492 MT
production of coal in 2013-14[5]

Rs **59,553.53** crore
corresponding value of production of coal

94 per cent
of India's mines in 11 states[6]

11,104
mining leases, covering 4,98,249 hectare (ha) in 23 states[7] (March 2013)

The major mining states, Chhattisgarh, Odisha and Jharkhand have the highest percentage of people living below poverty line (BPL)

Chhattisgarh **40** per cent

Jharkhand **37** per cent

Odisha **35.7** per cent

75 per cent

Number of tribal people living below poverty line in Odisha,

0.45

The average Human Development Index in Chhattisgarh, Odisha and Jharkhand; below the national average of 0.5

20 per cent

The share of mining in total forest land diversion due to development projects

Singrauli, Korba, Dhanbad

Some of the major coal mining districts are also critically polluted

Rs **27,787** crore

The value of minor mineral production, as indicated by the Ministry of Mines (2014)

81.5 per cent

In 2012-14, 81.5 % of major mineral mines were in violation of statutory requirements, as reported by Indian Bureau of Mines

Karnataka

Rs **16,085** crore

Goa

Rs **35,000** crore

Odisha

Rs **59,203** crore

Loss to the state exchequer from iron ore scams in states

Keonjhar forest cover
39%

Keonjhar tribal population
45%

A cartographic accident?

The geographical distribution of coal and metallic mineral reserves is uneven across the country, with most of them being concentrated in central and eastern India. The states of Chhattisgarh, Jharkhand, Odisha, Madhya Pradesh and some parts of Maharashtra and Andhra Pradesh are rich in minerals.

The major mineral producing districts of these states are also characterised by large forest covers, significant tribal populations and very poor economic status. (*See maps*)

So where are the minerals?

Dantewada forest cover
64%

Dantewada tribal population
79%

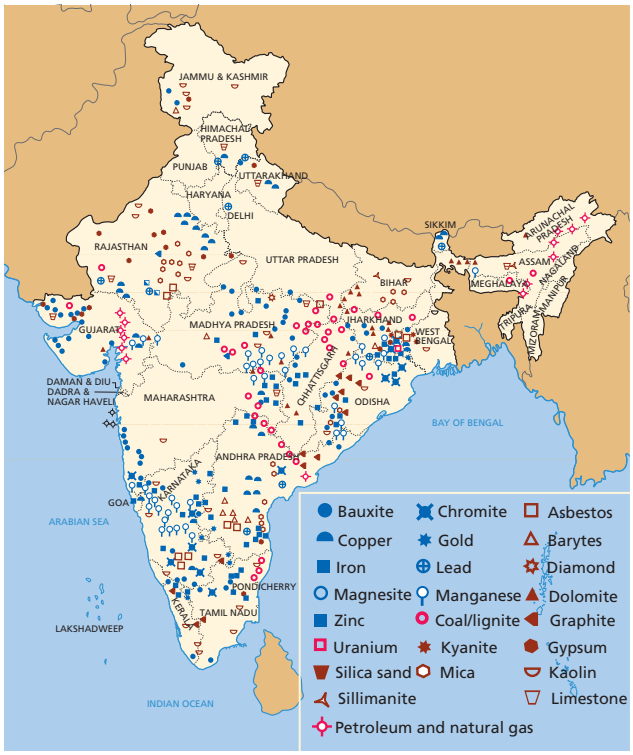
Chhattisgarh, Jharkhand and Odisha hold about 69 per cent of the country's coal,[8] 70 per cent of its high grade (hematite) iron ore,[9] 72 per cent of bauxite,[10] 40 per cent of manganese, and almost all of its chromite reserves.[11]

These states are also endowed with forest covers higher than the national average.

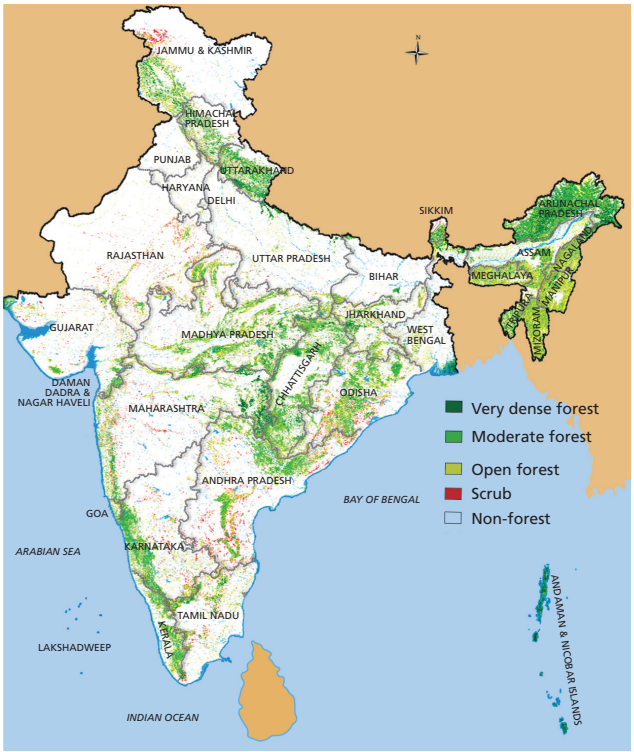
- India's forest cover: 69.79 million ha (21.23 per cent of the total geographical area).
- Forest cover in the three states: Chhattisgarh (41 per cent), Jharkhand (29.5 per cent), and Odisha (32 per cent).

Compounding the mining-forest equation of India is the tribal population.

Mineral resources textbook geography



Leftover forests a geography of fraught abundance



Please note: These maps weren't planned in advance. Overlaid, they reveal historical overburden.

Forest cover in tribal districts of major mining states

States	No. of tribal districts	Geographical area of tribal districts (ha)	Forest cover of tribal districts (ha)	Percentage of geographical area
Chhattisgarh	9	9,265,600	4,001,700	43.19
Jharkhand	8	4,441,300	1,430,100	32.2
Odisha	12	8,612,400	3,384,200	39.3
Andhra Pradesh	8	8,709,000	2,506,300	28.8
Madhya Pradesh	18	13,944,800	4,222,800	30.3
Maharashtra	12	14,423,300	3,070,100	21.3
Karnataka	5	2,659,700	1,313,900	49.4

Source: Forest Survey of India, 2014. State of Forest Report

- Tribals in India: 104.3 million (nearly 8.6 per cent of the total population).
- Nearly 90 per cent of tribals live in rural areas, often covered by forestlands and with rich mineral reserves.[12]
- 37.4 per cent of geographical area of all tribal districts covered by forests.
- Some tribal districts in these states have 40 per cent or more area under forests.

West Singbhum forest cover

40%

West Singbhum tribal population

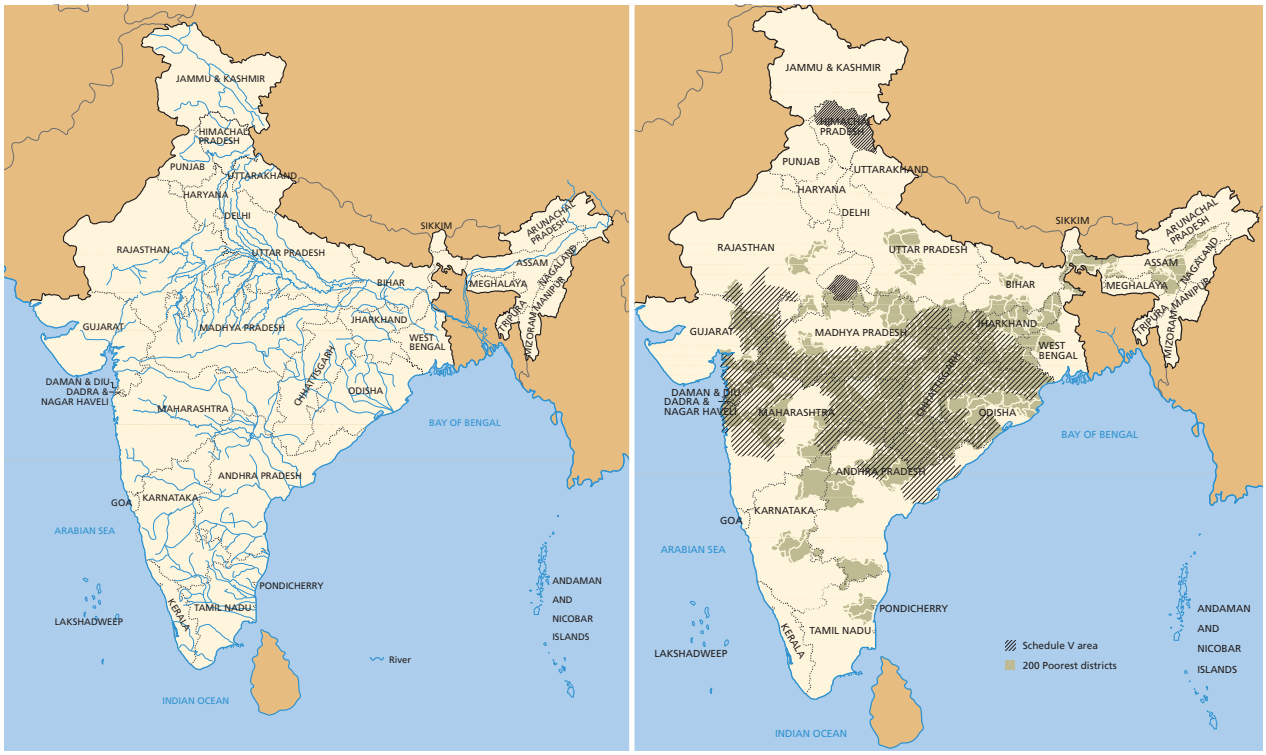
67%

The forest and tribal areas also have a close overlap with mineral resources.

- About 90 per cent of India's coal and nearly 80 per cent of its other major minerals are found in tribal areas.
- Of the 50 major mining districts in India, nearly half are tribal.[13]

Watersheds a geography of flow

Poorest 200 districts a geography of poverty



India's richest lands are precisely where her poor tribal people live

Resource curse

Is mining beneficial to the states that practise it, or for their people?

Mining wealth and state economies

Is the mining sector really a silver bullet to address all our concerns of growth and development? Some of the major mining states - with minerals contributing considerably to their gross state domestic product (GSDP) - have lower per capita incomes compared to states in which minerals do not contribute as much to the GSDP.

Minerals and state economies: Inverse bonding

Per capita incomes in these mining states are lower than the national average of Rs 33,556

State	GSDP* (crore Rs)	Mining share* (crore Rs)	Per cent share mining	Per capita net state domestic product* (Rs)
Jharkhand	105,597	11,776	11.2	28,023
Chhattisgarh	86,133	8,113	9.4	27,400
Odisha	140,367	8,165	5.8	25,415
Gujarat	427,219	6,918	1.6	61,220
Tamil Nadu	451,313	2,151	0.5	59,113
Maharashtra	843,565	3,455	0.4	66,066

Note: GSDP: Gross state domestic product
Source: Planning Commission, GOI, May 20, 2014; *Data as of 2012-13 at 2004-05 constant price.

Chhattisgarh's population which is below the poverty line

40%

Below poverty's radar?

In Chhattisgarh, Jharkhand and Odisha, the percentage of population below the poverty line (BPL) is much higher than the national average of 25.7 per cent (*Planning Commission's poverty estimates for 2011-12*).

The major mining districts of the country are also the poorest and most underdeveloped. Keonjhar in Odisha produces over 20 per cent of India's iron ore; 60 per cent of its population is BPL. Sonebhadra in Uttar Pradesh, producing 20 million tonne of coal per year, has 55 per cent of the population as BPL.[14]

Percentage of BPL population

State	Total per cent BPL	Rural per cent BPL	Number of backward districts
Chhattisgarh	39.93	44.61	15
Jharkhand	36.96	40.84	19
Odisha	35.69	32.59	27
India average	**25.70**	**21.92**	

Source: Planning Commission, Databook, June 2014

SPEAKING OF TRIBALS...

The tribal populations in the major mining states of the country are—typically—some of the poorest. As per 2014 estimates of the ministry of tribal affairs, in Odisha, more than 75 per cent of the rural tribal population lives below the poverty line, while in Chhattisgarh, Jharkhand, Madhya Pradesh and Maharashtra it is over 50 per cent.

The areas where tribals live are also the ones with significant forest cover and mineral resources.

Percentage of BPL tribal population

State	Total population	Total tribal population	Per cent of population tribal	Tribal population rural	Per cent tribal rural population BPL
Andhra Pradesh	84,665,533	5,918,073	7	5,232,129	**30.5**
Chhattisgarh	25,545,198	7,822,902	31	7,231,082	**54.7**
Jharkhand	32,988,134	8,645,042	26	7,868,150	**54.2**
Karnataka	61,095,297	4,248,987	7	3,429,791	**23.5**
Madhya Pradesh	72,626,809	15,316,784	21	14,276,874	**58.6**
Maharashtra	112,374,333	10,510,213	9	9,006,077	**56.6**
Odisha	41,947,358	9,590,756	23	8,994,967	**75.6**

Source: Ministry of Tribal Affairs, 2014 (based on sector-wise data of 2004-05).

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Human Development Index, anyone?

The mining states are at the bottom of the heap when it comes to infrastructure and other fruits of development.

In terms of Human Development Index (HDI), Chhattisgarh (0.45 HDI), Jharkhand (0.46 HDI), Odisha (0.44 HDI) and Andhra Pradesh (0.48 HDI) lie below the already low national level of 0.5. The human development indices for these states are actually in line with, or below, some of the poorest African countries such as Ghana, Cameroon and Kenya.[15]

- Keonjhar (Odisha): Producing more than 20 per cent of India's iron ore, has an infant mortality rate of 20 per cent higher than the state's average. Only 39 per cent of the population has access to safe drinking water (state average: 63 per cent).
- Dantewada (Chhattisgarh): The major iron ore mining district in the state, having deposits of 3,000 lakh tonnes, has only 53 per cent of households with access to safe drinking water (state average: 71 per cent). Only 22 per cent have access to electricity. Dantewada stands seventh among the 150 most backward districts in the country.

Between 1950 and 1991, mining is estimated to have displaced close to 2.55 million people in the country. The trend continues till date

Over 50 per cent of mining displacements involve tribal populations

- Gulbarga (Karnataka): The country's largest limestone producing district has 45 per cent of people living below the poverty line. Only 63 per cent of households have access to safe drinking water.[16]

Mining and displacement

Displacement of people from their lands and livelihoods is one of the worst impacts that mining-affected communities have had to endure. But there is very little data on this.

N C Saxena, former secretary of the Department of Rural Development estimates that the later half of the 20th century saw 50 million displaced. The number could be a gross underestimation as it only includes the people who have been moved out of their lands, not the ones that depended on the land for their livelihoods or those whose lands were destroyed due to waste dumping and associated pollution. Not even one-fourth of these displaced people have been resettled.[17]

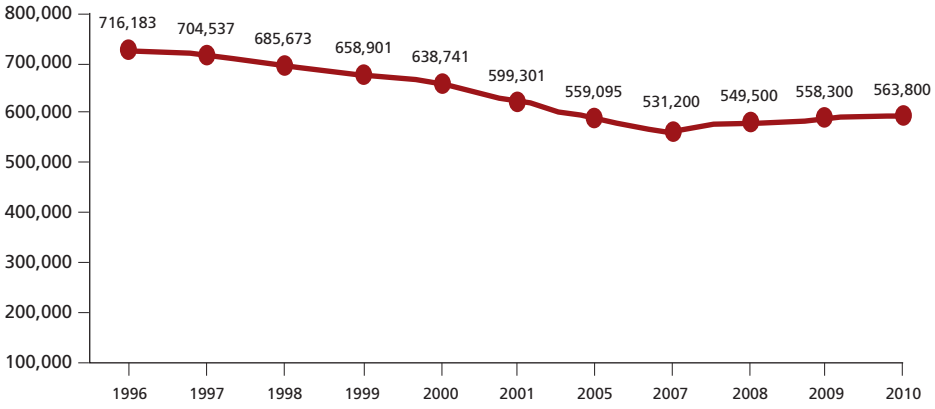
An analysis by CSE, based on environmental clearances given to various mining projects, shows that since the beginning of the 11th FYP the area leased out for mining can potentially displace more than eight lakh people.

An empty promise

The mining industry provides direct and indirect employment to a large number of people. These numbers have been decreasing over the years, even as the production of minerals has been increasing (*see graph: The peanut promise*). For instance, though the value of mineral production did increase from Rs 40,476.80 crore in 1998-99 to Rs 200,609 crore in 2009-10 there has been a steady decline during the same period in the number of people employed in the mining sector.

The peanut promise

Despite growth in the volume and value of mineral production in India, employment rates are steadily falling in the sector



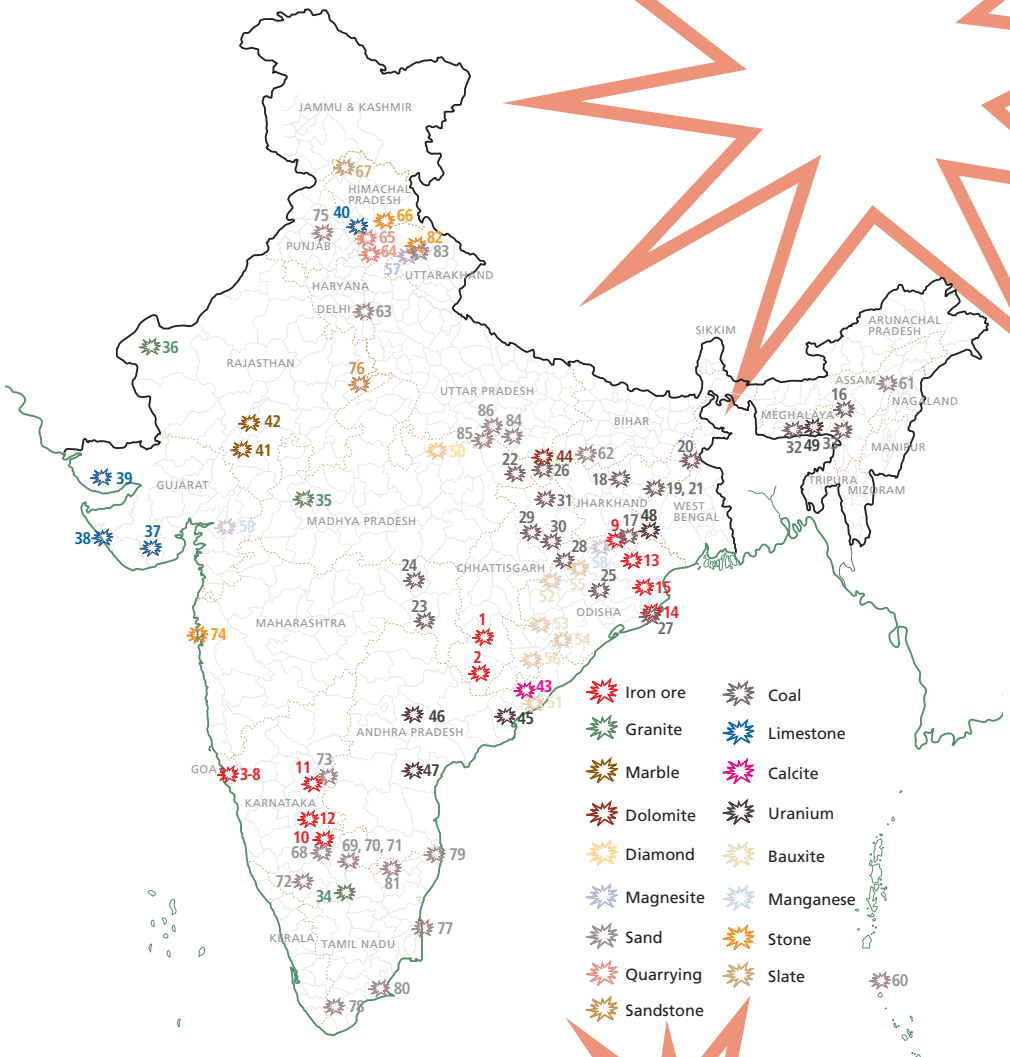
Source: Ministry of Labour and Employment, accessed from Indiastat, July 2014

Revolt of the dispossessed

In India, unequal share of mining benefits, poverty and lack of development have been exploited by left-wing extremists to fuel 'Naxalism' in the mining areas. The insurrection has posed a difficult question: whose development?

In this imploding map of India, where forests and minerals and the lives of the economically backward people remain entwined, "development" has largely become synonymous with exploitation of resources. Questions of conservation and demands for "a fair share" have been portrayed as undemocratic, and passé. But unless such questions are answered, a vision of unified, holistic growth cannot be realised.

The curse will assume gargantuan proportions and so will the contest, even as India continues to dream an elusive mining dream.



Recent clashes over mining reported in just the English-language media

1. Bastar, Chattisgarh, **iron ore**
2. Dantewada, Chattisgarh, **iron ore**
3. Bardez, Goa, **iron ore**
4. Haldankarwada-Porascadem, Goa, **iron ore**
5. Bicholim, Goa, **iron ore**
6. Tiswadi, Goa, **iron ore**
7. Ponda, Goa, **iron ore**
8. Sattari, Goa, **iron ore**
9. West Singhbum, Jharkhand, **iron ore**
10. Bellary, Karnataka, **iron ore**
11. Tumkur, Karnataka, **iron ore**
12. Chitradurga, Karntaka, **iron ore**
13. Keonjhar, Odisha, **iron ore**
14. Jagatsinghpur , Odisha, **iron ore**
15. Kalinganagar, Jajpur, Odisha, **iron ore**
16. Karbi Anglong, Assam, **coal**
17. West Singhbum, Jharkhand, **coal**
18. Hazaribagh, Jharkhand, **coal**
19. Jharia, Jharkhand, **coal**
20. Pakur, Jharkhand, **coal**
21. Dhanbad, Jharkhand, **coal**
22. Singaruli, Sidhi, Madhya Pradesh, **coal**
23. Chandrapura, Maharashtra, **coal**
24. Nagpur, Maharashtra, **coal**
25. Angul, Odisha, **coal**
26. Sonbhadra, Uttar Pradesh, **coal**
27. Jagatsinghpur , Odisha , **coal**
28. Jharsuguda, Odisha , **coal**
29. Korba, Chhattisgarh, **coal**
30. Surguja, Chhattisgarh, **coal**
31. Surajpur, Chhattisgarh, **coal**
32. West Khasi Hills, Meghalaya, **coal**
33. Jaintia Hills, Meghalaya, **coal**
34. Kollegal, Chamarajanaga, Karnataka, **granite**
35. Shankarpur, Ujjain, Madhya Pradesh, **granite**
36. Jaisalmer, Rajasthan, **granite**
37. Amreli, Gujarat, **limestone**
38. Porbandar, Gujarat, **limestone**
39. Kutchh, Gujarat, **limestone**
40. Solan, Himachal Pradesh, **limestone**
41. Udaipur, Rajasthan, **marble**
42. Rajasmand, Rajasthan, **marble**
43. Nimmalapadu, Andhra Pradesh, **calcite**
44. Sonbhadra, Uttar Pradesh, **dolomite**
45. Kakinada Yanam, East Godavari, Andhra Pradesh, **uranium**
46. Nalgonda, Andrha Pradesh, **uranium**
47. Nagarjunasagar, Andrha Pradesh , **uranium**
48. Jaduguda,, Jharkhand, **uranium**
49. West Khasi Hills, Meghalaya, **uranium**
50. Bunder, Bundelkhand, Madhya Pradesh, **diamond**
51. Vishakhapatnam, Andhra Pradesh, **bauxite**
52. Jharsuguda, Odisha, **bauxite**
53. Kalahandi, Odisha, **bauxite**
54. Kashipur, Rayagada, Odisha, Odisha, **bauxite**
55. Sambalpur, Odisha, **bauxite**
56. Koraput, Odisha, **bauxite**
57. Tehri Garhwal, Uttarakhand, **magnesite**
58. Keonjhar, Odisha, **manganese**
59. Vadodara, Gujarat, **manganese**
60. Car Nicobar, Andaman and Nicobar, **sand**
61. Golagha, Assam, **Stone**
62. Sone river, Bihar, **sand**
63. Jhingola and Palla village, Delhi, **sand**
64. Rampur, Haryana, **quarrying**
65. Morni, Haryana, **quarrying**
66. Shimla, Himachal Pradesh, **stone**
67. Chamba, Himachal Pradesh, **slate**
68. Tumkar, Karnataka, **sand**
69. Bannerghata national park, Bangalore, Karnataka, **sand**
70. Tejaswininagar, Bangalore, Karnataka, **sand**
71. Tejaswininagar, Bangalore, Karnataka, **Stone**
72. Srirangapatna, Karnataka, **sand**
73. Rampura, Karnataka, **sand**
74. Powai lake, Mumbai,, Maharashtra, **stone**
75. Salem Tabri, Ludhiana, Punjab, **sand**
76. Karauli, Rajasthan, **sandstone**
77. Nagapattinam, Tamil Nadu, **sand**
78. Tirunelveli, Tamil Nadu, **sand**
79. Thiruvallur, Tamil Nadu, **sand**
80. Ramanathapuram, Tamil Nadu, **sand**
81. Vellore, Tamil Nadu, **sand**
82. Tehri Garhwal, Uttarakhand, **Stone**
83. Tehri Garhwal, Uttarakhand, **sand**
84. Allahabad, Uttar Pradesh, **sand**
85. Kaushambi, Uttar Pradesh, **sand**
86. Chitrakoot, Uttar Pradesh, **sand**

B. Clearances: A bottleneck?

About 2.11 per cent of India's GDP comes from the mining sector; government plan is to increase the contribution to seven-eight per cent in the next 20 years. In order to maintain the momentum of growth, there is a huge push from industry and government for clearing mining projects. The contention is that green clearances cannot be allowed to become a bottleneck on the growth pathway.

The growth projections in the sector can be gauged from the ministry of coal's estimates of coal demand, which says that with a cumulative annual growth rate of about nine per cent, the demand for coal by 2019 will be 980.50 million tonne (MT). This is nearly double the country's existing coal production capacity of 557.7 MT.

Environmental clearances that have been granted between April 2007 and March 2015 can potentially DOUBLE the mining capacity in almost all sectors

To mine more

Between April 2007 (beginning of the 11th FYP) and March 2015, nearly **890 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 by State Environment Impact Assessment Authorities (SEIAAs)/State Expert Appraisal Committees (SEACs).

Coal clearances: The states at a glance

State	Number of mines granted EC	Capacity of mines granted EC (MTPA)
Andhra Pradesh	33	42.84
Assam	3	0.6
Chhattisgarh	38	121.07
Gujarat	6	15.3
Jharkhand	75	203.3
Maharashtra	54	40.23
Madhya Pradesh	48	85.99
Odisha	27	99.75
Rajasthan	8	10.68
Uttar Pradesh	1	1
West Bengal	21	59.08
Total	314	680.47

Source: Analysis by Centre for Science and Environment

Coal

314 projects cleared (including expansion)

680.5 MT per annum (MTPA) cumulative production capacity

Nearly **326,000** hectare (ha) total lease area

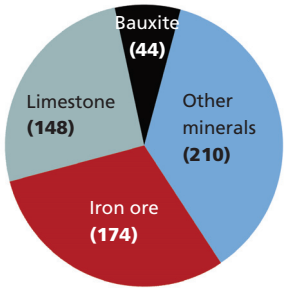
At the top: **Jharkhand** (**75** clearances, nearly **203** MTPA capacity)

Non-coal clearances

576 projects cleared

30 per cent iron ore projects

26 per cent limestone projects



Source: Analysis by Centre for Science and Environment

What about the other minerals?

Iron ore

174 clearances*

243 MTPA cumulative production capacity

More than **49,000** ha mine lease area

At the top: **Odisha**, 38 per cent of the total capacity of clearances granted

**The clearances account for more than the peak production of iron ore (constituting lumps, fines and concentrates) as reported by the IBM for the year 2011-12, which is about 167 MT.*

Mines granted environment clearance: Iron ore

State	Number of mines granted EC	Capacity (MTPA)
Odisha	57	119
Andhra Pradesh	4	3.35
Jharkhand	24	45.74
Karnataka	16	19.28
Madhya Pradesh	1	0.04
Maharashtra	4	4
Goa	47	16.82
Rajasthan	1	0.04
Chhattisgarh	9	34.05
Kerala	1	0.36
Total	174	242.68

Source: Analysis by Centre for Science and Environment

Mines granted environment clearance: Limestone

State	Number of mines granted EC	Capacity (MTPA)
Odisha	7	5.54
Andhra Pradesh	19	28.68
Gujarat	21	24.42
Jharkhand	1	0.04
Karnataka	12	23.46
Madhya Pradesh	21	15.42
Maharashtra	2	1.56
Tamil Nadu	14	8.85
Meghalaya	1	0.44
Rajasthan	40	34.38
Himachal Pradesh	2	3.07
Jammu and Kashmir	1	0.44
Chhattisgarh	7	12.96
Total	148	159.26

Source: Analysis by Centre for Science and Environment

Limestone

148 clearances

159 MTPA cumulative production capacity

Over **45,000** ha total lease area

Bauxite

44 clearances

28.5 MTPA cumulative production capacity

Nearly **12,867** ha total lease area

Mines granted environment clearance: Bauxite

State	Number of mines granted EC	Capacity (MTPA)
Odisha	8	18.21
Andhra Pradesh	3	2.5
Gujarat	8	2.3
Jharkhand	7	1.17
Karnataka	2	0.31
Maharashtra	11	1.57
Goa	1	0.9
Chhattisgarh	3	1.6
Rajasthan	1	0.003
Total	44	28.56

Source: Analysis by Centre for Science and Environment

Fell wood for coal

Mining accounts for about 20 per cent of the total forest land diversion for various development projects. Since the coming into force of the Forest Conservation Act of 1981, nearly 185,594 ha of forest land have been diverted for mining purposes.

The highest number of mining projects was cleared during the 11th FYP—533; the maximum amount of forest land diversion also happened in that period—48,537 ha. In the 12th FYP (until February 2015), 152 mining projects have additionally been given clearance, diverting around 33,709 ha of forest land.

AGNIMIRH BASU/CSE

Forest land diversion for mining since 1981*

Period/year	Number of mining projects granted FC	Forest land diverted for mining (ha)
1981-92	160	15,565.40
8th FYP (1992-97)	162	10,827.16
9th FYP (1997-2002)	447	47,952.93
10th FYP (2002-07)	501	29,710.47
2007	104	6,872.46
2008	143	10,580.72
2009	108	6,908.98
2010	97	13,011.51
2011	81	11,163.72
Total during 11th FYP	533	48,537.39
Total during 12th FYP (until February 2015)	152	33,709.73
Total since 1981	1955	186,303.12

*till February 2015, data not available for March 2015
Source: Analysis by Centre for Science and Environment

Coal

47,338 ha forest land diverted for coal mining since 11th FYP

57 per cent of total forest land diversions

Coal mining and forest land diversion since 11th FYP*

State	Number of projects granted in-principle clearance	Number of projects granted final clearance	Total	Forest land diverted (ha)
Andhra Pradesh	12	16	28	8479
Chhattisgarh	12	15	27	15,916.731
Jharkhand	25	29	54	9,304.5656
Madhya Pradesh	17	16	32	8,355.65
Maharashtra	3	1	4	407.04
Odisha	9	9	17	4,435.48
Assam	2	-	2	307
West Bengal	2	1	3	132.61
Total	82	87	169	47,338.08

*till December 2014
Source: Analysis by Centre for Science and Environment

THE CASE OF HASDEO ARHAND

It is not just the amount of forest land diverted that is a matter of concern; the bigger worry is the diversion of forest lands which are rich in biodiversity and are considered to be of high ecological value - areas which had been jointly demarcated as "no-go" zones in 2009 by the MoEF and the Ministry of Coal. This was done to prevent fragmentation of forest habitat and protect biodiversity-rich forest lands from development activities.

In recent years, one of the most controversial diversion decisions of rich forest land for coal mining involves the case of the Parsa East-Kante Basan (PEKB) coal block in the Hasdeo-Arhand coal fields of Chhattisgarh. The coal block is part of the South Surguja Forest Division in Chhattisgarh's Surguja district. Mining in the coal block required the diversion of about 1,900 hectare (ha) of forest land rich in biodiversity and already barred as a "no-go" area by the MoEF.

The ministry of coal had allocated the block to Rajasthan Rajya Vidyut Utpadan Nigam Ltd (RRVUNL) in June 2007, following which a forest land diversion proposal was submitted by the company in January 2009. Underlining the ecological importance of the forest land, the Forest Advisory Committee (FAC) of the MoEF opposed its diversion.

In February 2011, the communications department of the Rajasthan government wrote to the (then) environment minister Jairam Ramesh to accord forest clearance for the coal block, arguing that crores of rupees had already been spent on the RRVUNL's thermal power plants, for which coal was to be sourced from PEKB. The ministry re-evaluated the project, with the same conclusion as before: it could not be allowed. The FAC formally rejected the proposal in June 2011. However, Ramesh went against the observations of the FAC and opened up PEKB for mining.

The project thus received an in-principle clearance in July 2011 and a final clearance in March 2012. The minister's argument was the coal block was actually not in the biodiversity-rich forest area but on the fringes.

The clearance was challenged by Sudeip Srivastava, an activist and lawyer from Chhattisgarh, before the National Green Tribunal (NGT) in December 2012. The NGT pronounced its judgment on March 2014, quashing the forest clearance for PEKB. The court specifically reprimanded the conversion of the no-go area, and observed the economic justifications were weaker than the ecological considerations.

CSE raises the ante, coal ministry frets

In September 2011, CSE released an analysis of the coal mining sector. The data showed that coal companies which had been accorded environmental and forest clearances, were not developing the mines. Following is the ministry's response (November, 2011) corroborating CSEs findings:

- During the 11th FYP, 57 proposals of Coal India Limited (CIL) and Singareni Collieries Company Limited (SCCL)—spread over an area of 7,908.12 ha—were granted forest clearance. An area of 5,582.12 ha of forest land was handed over to the two companies.

- In addition, eight proposals of captive coal blocks having an area of 4,282.18 ha were also granted forest clearance. The total number of proposals accorded forest clearance thus works out to 65, over an area of 12,190.3 ha.

- Environmental clearance (EC) accorded during the 11th FYP period was 192 (CCL-112; SCCL-33; Captive-47) with a total capacity of 388.54 MTPA (CCL-207.47 MTPA; SCCL-52.75 MTPA; Captive-128.32 MTPA).

- It is not possible to achieve the sanctioned production capacity immediately

Environmental and forest clearances given during 11th FYP

Coal India Limited (CIL)

Year	Number of proposals	Diverted forest land (ha)	Number of proposals	EC capacity (MTPA)
2007-08	4	615	29	39.03
2008-09	22	2,581	17	58.5
2009-10	10	793	25	50.05
2010-11	9	1,140	23	27.23
2011-12	6	1,742	3	8.95
Total	51	6,871	112	207.47

Singareni Collieries Company Limited (SCCL)

Year	Number of proposals	Diverted forest land (ha)	Number of proposals	EC capacity (MTPA)
2007-08	1	231.94	8	13.14
2008-09	3	577.65	20	26.6
2009-10	1	100.82	4	9.01
2010-11			1	4
2011-12	1	126.71		
Total	6	1,037.12	33	52.75

Captive Coal Blocks

Year	Number of proposals	Diverted forest land (ha)	Number of proposals	EC capacity (MTPA)
2007-08			16	29.35
2008-09	2	940.75	9	30.48
2009-10			12	47.4
2010-11	5	3,324.19	8	7.59
2011-12	1	17.24	2	13.5
Total	8	4,282.18	47	128.32

Source: Response of the Ministry of Coal, November, 2011

after getting the EC due to the involvement of a gestation period (five-seven years) in reaching the rated capacity.

With the new government having taken charge, we need to rethink afresh the granting of environmental and forest clearances. It is quite clear that clearances have been granted aplenty. Companies are sitting on the clearances while demanding more. On the other hand, the ministry of coal continues to express its dismay with the delayed environment and forest clearances that supposedly affect India's domestic coal output!

The CSE analysis says anything but. If clearances given during the last seven years are fully realised, it will be more than sufficient to meet the country's projected demand for the next 10-15 years.

The bottom line is that India's current environment and forest clearance system is clearly not working for the environment.

C. A licence to pollute

Ample field evidence suggests that, currently, mining seems to be designed to just dig up the earth and leave it at that. Malpractices, ranging from unscientific mining activities to poor governance, abound. The result: pollution of air and water and loss of habitat. All this has, ultimately, a deleterious effect on the environment and health of local communities.

Mining in grossly polluted areas

Coal mining areas are characterised by high levels of pollution. Most coal mining companies have poor environment management records. The Ministry of Environment and Forests, in 2010, identified most coal mining districts as critically polluted areas (CPAs). The Central Pollution Control Board (CPCB) stipulates that an area identified as CPA requires detailed investigations in terms of the extent of environmental damage and formulation of appropriate action plans for managing and mitigating pollution. Such stipulations are left to blow with the wind (*see Singrauli's curse*).

SINGRAULI'S CURSE

Singrauli industrial area is a major power hub of the country located on the border between Uttar Pradesh and Madhya Pradesh and is dotted with coal mines and coal-fired thermal power plants. The mines produce nearly 83 MTPA of coal.

In January 2010, the environment ministry had declared Singrauli the ninth most critically polluted area. A moratorium on new projects, including expansion projects, was imposed in the area by the ministry. The pollution control boards of Uttar Pradesh and Madhya Pradesh were asked to prepare action plans to address the environmental concerns. Based on the plans and the CPCB's recommendations, the moratorium was lifted in July 2011.

But nothing has changed on the ground; Singrauli remains accursed.

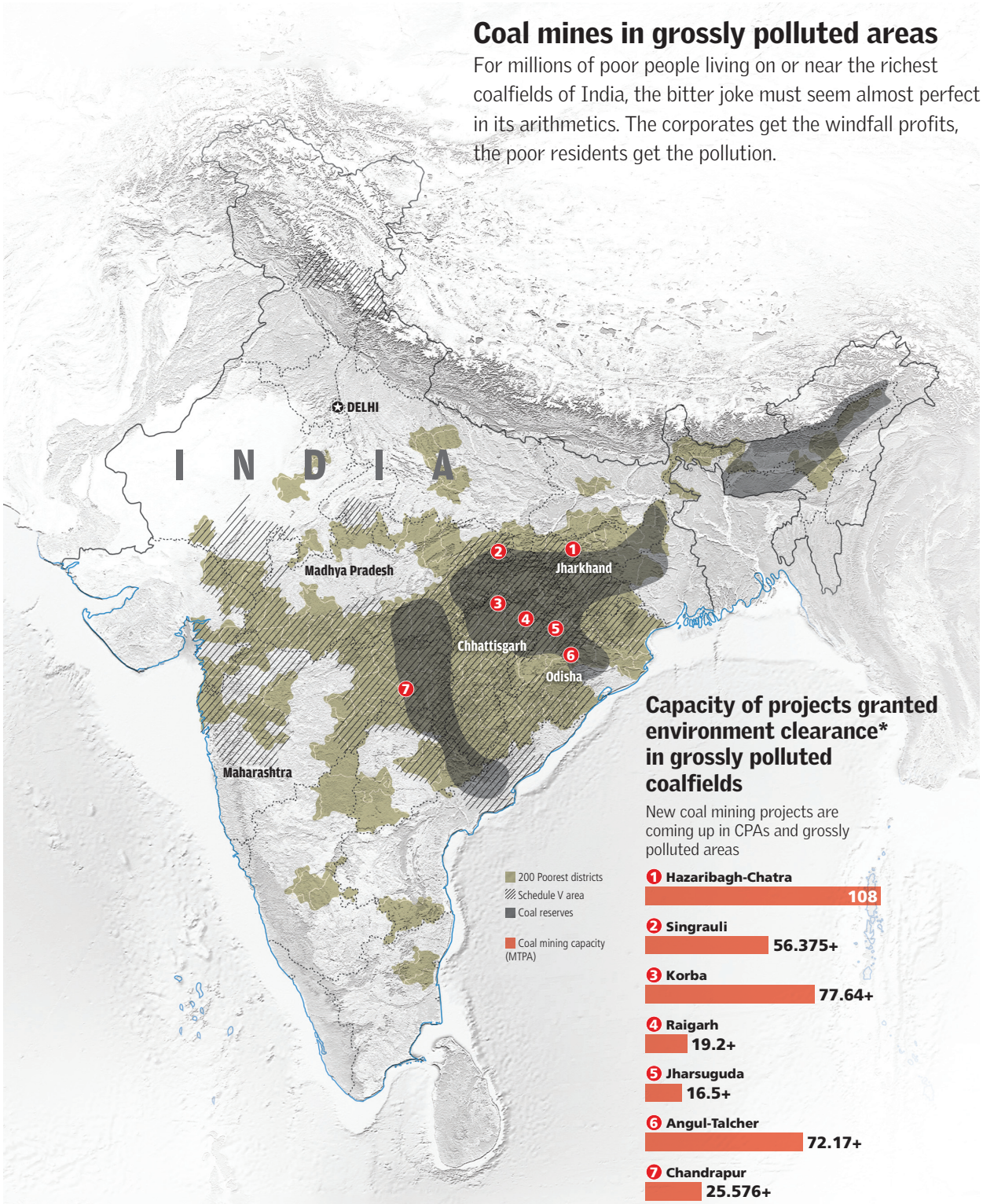
Responding to the concerns of the community, CSE carried out a scientific study in Sonbhadra district between May and August 2012, specifically studying the pollution and its public health impacts. The study found high levels of heavy metal pollution: the average concentration of mercury in human blood was noted to be 34.30 parts per billion (ppb), far exceeding the 5.8 ppb safe standard set by the United States Environment Protection Agency. More than 84 per cent of the blood samples were found to contain mercury above the safe level. CSE recommended the setting of mercury standards for coal-based thermal plants, coal washeries and mining in the country.

In March 2014, an expert committee of CPCB confirmed the severe pollution problem in the area. The committee found the waters of the Rihand reservoir (Gobind Ballabh Pant Sagar), the main source of water in the region, to be severely polluted by discharges of effluents from coal mines and power plants. Effluents from the Northern Coalfields Limited's mining projects in Dudhichua were being discharged into the reservoir. State authorities were asked by the tribunal to take immediate measures to address the pollution problem.

MEETA AHLAWAT/CSE

Coal mines in grossly polluted areas

For millions of poor people living on or near the richest coalfields of India, the bitter joke must seem almost perfect in its arithmetics. The corporates get the windfall profits, the poor residents get the pollution.



Capacity of projects granted environment clearance* in grossly polluted coalfields

New coal mining projects are coming up in CPAs and grossly polluted areas

1. Hazaribagh-Chatra — 108
2. Singrauli — 56.375+
3. Korba — 77.64+
4. Raigarh — 19.2+
5. Jharsuguda — 16.5+
6. Angul-Talcher — 72.17+
7. Chandrapur — 25.576+

Note: Data showing 188 coal blocks, includes coal blocks clubbed together, and excludes the ones allocated to Ultra Mega Power Projects; Source: CAG report, 2012
*Since 11th FYP;
Source: Analysis by Centre for Science and Environment, June, 2014

Dig and run: Dealing with mine closure

Once minerals are excavated, the pits are abandoned by mining companies, which prefer to dodge the environmental and social costs of closing and rehabilitation.

The objective of mine closure is to restore the physical and biological integrity of a mining area to an acceptable level. Mine closure came into being in 2003 after amendments in Mineral Concession Rules, 1960 and MCDR, 1988. It requires submitting a mine closure plan (progressive and final closure plan) for all minerals except petroleum, natural gas, atomic minerals and minor minerals.[18]

In January 2013, the Ministry of Coal issued guidelines for preparation of a mine closure plan. The guidelines say the closure plan should be incorporated into the project report/mining plan, and must be approved along with the approval of the mining plans/feasibility report/project report as applicable.

However, actual practice of mine closure remains insignificant. India does not even have a detailed inventory of its abandoned mines. As per a rough 2010 estimate of the IBM, there are 297 abandoned mines of major minerals in the country.[19] This is excluding abandoned coal mines in the country, which according to the CSE analysis, number about 240. The number for minor minerals could be in thousands.

The objective of mine closure is to restore the physical and biological integrity of a mining area to an acceptable level

No money for closure

According to the Ministry of Coal, the cost of mine closure is to be estimated based on a number of factors including cost of physical and biological restoration, plantation costs, reclamation of overburden dumps, filling up of de-coaled voids, etc. As per the coal ministry guidelines for closure developed in 2009, the cost of closure of open cast mines is estimated to be Rs 6 lakh per hectare, and that for underground mines is Rs 1 lakh per hectare.

Abandoned mines in the country
537

For other major minerals, financial assurance for mine closure is Rs 25,000 per hectare for category A mines (involving mine leases equal to or greater than 50 ha) and Rs 15,000 per hectare for category B mines (involving mine leases between five and 50 ha).

Moreover, a flat estimation of mine closure costs is problematic in itself. Countries like USA, Canada and Australia estimate it typically on a regional-basis because such costs might fluctuate wildly as a large number of variables, including topography, soil composition, population density and distribution have to be factored in. Worldwide, mine closure cost is estimated on a case-to-case basis. The logic of this practice commands emulation.

Even compared to global regional standards, the Ministry's estimated cost is very low. For example, the average existing financial assurance in states such as Montana, South Dakota, and New Mexico in the United States is more than Rs 16 lakh per hectare (calculated at 2003 rupee-dollar exchange rate).

A seething example of the consequences of abandoning mining without carrying out proper mine closure is Jharia, where raging underground coal fires are threatening to destroy everything (*see box, Jharia: A fiery grave*).

JHARIA: A FIERY GRAVE

The Jharia coalfields, burning for nearly a century now, host the maximum number of uncontrollable surface and sub-surface coal fires in India. Nearly half a million people are threatened by this fire.

In a drive to extract faster and cheaper coal, open-cast coal mining has been a common practice in the area for decades. Mining activities in Jharia started around 1925. A spatio-temporal study of the Jharia coalfields revealed that at that time open quarries covered about 1,080 ha. By the time of nationalisation in 1973, the quarry cover had increased over five-fold to about 5,700 ha. After nationalisation, the majority of the mines in Jharia came under Bharat Coking Coal Limited (BCCL), a subsidiary of Coal India Limited.[20] Little was done towards scientific closure of these open mining pits once the coal was taken out.

As per information from BCCL, there were a total of 70 fires identified in the Jharia coalfields at the time of nationalisation; an additional seven fires were identified later. A BCCL master plan on Jharia, updated in 2008, says only 10 fires have been extinguished till date. The fires have affected 41 collieries - and the total affected surface area spans over 890 ha.[21]

Unscientific mining in the region has led to massive land degradation, and disturbed the topography and drainage patterns. The eastern and western sides of the coalfields have witnessed major subsidence.[22] The fires and the mining activities have also led to severe air pollution.[23] Winter $PM_{2.5}$ (particulate matter 2.5 micron in size) concentrations have been found to be between 96 to 114 µg m^3, far exceeding the National Ambient Air Quality Standard (NAAQS) of 60 µg m^3. Concentrations of PM_{10} recorded at 196 to 271.9 µg m^3, has also exceeded the NAAQS of 100 µg m^3. SPM (suspended particulate matter) concentration has recorded a peak of about 700 µg m^3 (above the prescribed limit of 500 µg m^3).[24]

According to the Standing Committee on Safety in Coal Mines, a committee was set up in December 1996 under the then secretary, Ministry of Coal, with representatives from other departments, coal companies and concerned state governments to deal with the problem in a comprehensive manner. Based on the recommendations of the committee, a master plan was prepared to look into the issues of fire, subsidence and rehabilitation covering the areas under BCCL. The plan, first prepared in 1999 and finalised in 2008 after several revisions, includes a number of proposals for controlling the fires, including surface sealing and blanketing; isolation by trenching and back-filling with cohesive soil; filling of open-cast highwalls, shafts, inclines and subsided areas; seam sealing and tunnel plugging. The master plan was approved by the government in August 2009.[25]

The plan also outlined the need and provisions for rehabilitation of households in the subsidence-prone areas. In 2008, when the plan was finalised, 98,314 households (including 868 public service places such as schools, hospitals etc) spread over 595 sites needed to be resettled. The Planning Commission gave a time of 10 years for resettlement to be done in two phases.[26]

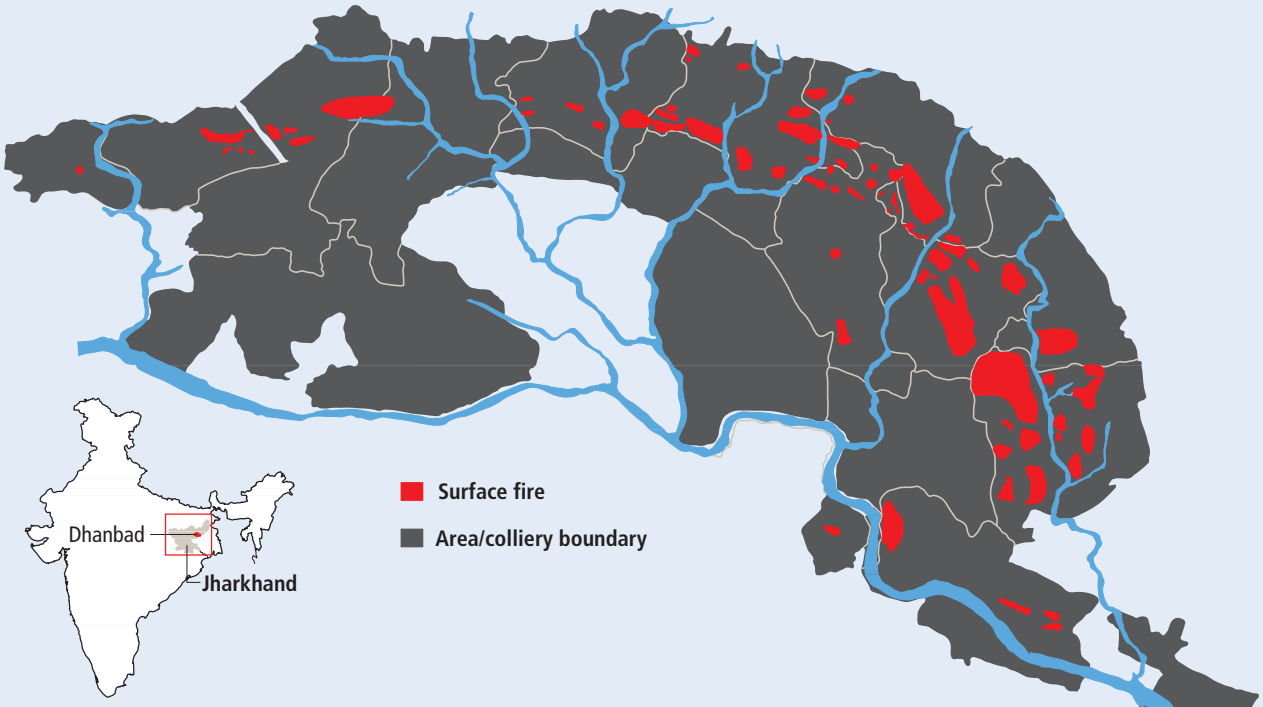
Following this, the Jharia Rehabilitation and Development Authority (JRDA) was set up in December 2008. The resettlement is to be carried out jointly by BCCL and the JRDA. However, progress remains poor. From the deliberations of a meeting chaired by the coal secretary held in December 2012, it is evident that though the process of construction had begun, only about 1,100 houses were to be handed over by mid-2013. Nearly 4,000 more houses are scheduled to be given by the end of 2014; tenders for others have been just floated.

The Standing Committee on Coal and Steel, in its report tabled before the 15th Lok Sabha in 2013, had sternly reprimanded the "poor state" of fund utilisation and progress in resettlement after more than three years of approval of the master plan. The committee has advised to expedite the land acquisition and resettlement process. It has also said that the coal ministry should ensure that the master plan is implemented within a period of 10 years.[27]

CSE LIBRARY

On hot coals

The cranium-like colliery pattern of Jharia is raging with fires, 66 of them in 44 mines. A befitting coincidence. No brain has been able to devise a method to douse the madness



AMIT SHANKER/CSE

Poisoned waters: Improper mining activities, inadequate policies and indifferent monitoring are

Percentage of India's chromite reserves found in Sukinda

98

Jharia does not suffer alone. The Damodar river runs through some of India's biggest coalfields, including Jharia, West and East Bokaro, Ramgarh, South and North Karanpura and Raniganj in the states of Jharkhand and West Bengal. A number of scientific studies have shown that coal mining in the region has severely degraded the quality of the groundwater. The major causes of water contamination are mine water and effluent discharge from coal washeries. Mine water discharge contains high concentration of heavy metals such as iron, manganese and nitrate. The discharge from coal washeries is high in total suspended solids (TSS), total dissolved solids (TDS), oil and grease, iron etc. Mine discharges in Talcher, Odisha, have been found to contain a number of heavy metals, such as arsenic, cadmium, chromium, lead, zinc and copper, all of which cause cancer.[28]

However, carcinogenic water is not a bane in just the coal mining areas. The cancerous spread in Odisha's Sukinda valley, the country's chromite mining

filling India's rivers, lifeline of its civilisation, with toxins

hub, is notorious. Located in Jajpur district, Sukinda contains about 98 per cent of India's chromite reserves, spread over an area of approximately of 20,000 ha. The huge amount of overburden generated from open-cast mining in the area has been a major source of pollution. Scientific studies show that runoff from these overburdens pollute nearby surface and ground water bodies due to leaching of hexavalent chromium, recognised by the World Health Organisation (WHO) as a major carcinogen.[29] Even the Odisha SPCB has recognised that the amount of hexavalent chromium present in the major water source of the area, the Damsala Nalla, is 10 times higher than the WHO permissible limits (0.05m/L).[30]

However, such recognition has brought precious little change in the ground situation. In places like Singrauli, Jharia and Sukinda, people continue to breathe toxic air and drink poisonous water, struggling on, in the hope of better days.

Amount of hexavalent chromium present in water sources of Sukinda is

10 times

WHO permissible limits

D. Minor no more

Though the term "minor" may suggest their being positioned as a tiny speck in the mining landscape, in reality minor minerals are becoming the major story of the mining sector. The growth in demand is massive, the earnings they promise big, and the temptation and scale of irregularities mind-boggling.

SURYA SENGUPTA

In the summer of 2013, Durga Shakti Nagpal, sub-divisional magistrate of Gautam Budh Nagar district of Uttar Pradesh, was suspended from service by the state government. The incident made headlines as it was reported that the officer was suspended for cracking down on illegal sand mining and for taking on politicians involved in such activities. Between February and July 2013, officials under the supervision of Nagpal had seized about 274 dumpers carrying illegally mined sand. Some of these vehicles belonged to powerful politicians who backed the mining mafia. This obviously rattled the powers that be in the state.

Yet Nagpal's ordeal appears trivial when compared to some of the others who have taken up issue with illegal mining of minor minerals in the recent past. In March 2012, more than a year before Nagpal's suspension, Narendra Kumar Singh, an IPS officer posted in Madhya Pradesh's Morena district, was run-over by a vehicle carrying illegally mined sand while he was trying to stop it. Morena is known to be rich in stones used for construction and also has one of the finest-quality sand in the country. Reportedly, Singh had been seizing tractors and trucks transporting illegally mined stones from Morena to Gwalior, and had also cancelled several licences.[31]

The killing of an IPS officer like Singh and the suspension of IAS officers like Nagpal is an indirect measure of the scale of the reckless sand and stone mining going on in the country and the stakes involved for the miner-politician nexus. The administration and judiciary are well aware of this growing menace but have not been able to control it with any degree of success because the escalating demand for sand due to the construction boom in the country and the money it is fetching is sustaining the large-scale mining, even illegally. The story of other minor minerals is pretty much the same.

Molehills made mountains

As the statistics prove, minor minerals are becoming as significant as major minerals in many states. For example, in Andhra Pradesh, with the largest (39.9 per cent) share their country-wide production, minor minerals constitute 47 per cent of the total value of mineral production. While the total value of mineral production (including fuel minerals) was Rs 23,371.34 crore, minor minerals had a share of Rs 11,079.37 crore.[32] In Rajasthan, the second largest producer of minor

Comparative account of major and minor minerals in Rajasthan for 2013-14

	Major minerals	Minor minerals
No of leases	3,403	11,861
Area (ha)	98,530	86,102
Production (lakh tonnes)	951	4,736
Sale value (Rs crore)	6,339	25,767
Revenue (Rs crore)	1,660	1,272

Source: Department of Mines and Geology, Government of Rajasthan 2015

QUARRY TO MARKET: NUMBER GAMES

According to the Ministry of Mines' annual report of 2014, the value of production of minor minerals in India is estimated to be Rs 27,787 crore.[33] However, this seems to be a gross underestimation.

Take, for example, the case of Rajasthan. The state government has acknowledged that the 2013-14 sale value of minor minerals produced in the state is Rs 25,767 crore. This number is very close to the total value of minor mineral production of India. Rajasthan's share in the minor mineral production of India is only 21.5 per cent which is worth an estimated Rs 5,961 crore. Clearly the numbers do not add up.

The value of mineral production is the value of the mineral at the point of production. The sale value, on the other hand, reflects the selling price in the market after accounting for such costs of processing as sizing of blocks in case of building stones, cutting and polishing in the case of gemstones, cost of transportation, etc. However, even if the value of production and the sale prices are determined at slightly different points in the chain, and the sale price involves some amount of value addition, it is not enough to account for the enormous discrepancy between the sale price in Rajasthan and national figures of production value. If the sale prices in Rajasthan are deemed valid, then the national value must be a gross underestimation, reflecting the poor accounting process for minor minerals. The Ministry of Mines has acknowledged the fact that there is a need to improve the system for discovery of sale value of minerals as well as reporting on the value of minerals produced.

MEETA AHLAWAT/CSE

SANDSTORM IN ANDHRA PRADESH

Andhra Pradesh is a major sand-mining state accounting for more than 70 per cent of the country's sand production, the revenue earned from sand has gone up from Rs 61 crore in 2007-08, to Rs 127 crore in 2011-12 (*see table: Exponential rise from sand earnings in Andhra Pradesh*).

The lure of big money has been a major impetus for illegality. In March 2012, the Andhra Pradesh High Court had stayed sand mining and all related activities in the state while considering a public interest litigation filed against indiscriminate and unscientific sand mining taking place in the Krishna river. The court noted that illegal miners were operating hand in glove with the government. The report of the Comptroller and Auditor General of India (2014), on the functioning of the Andhra Pradesh Directorate of Mines and Geology, noted various irregularities that exist with respect to sand mining leases. The major irregularities listed include:

- Minimum bid amounts of sand reaches fixed without taking into account the actual quantity of sand available for quarrying, resulting in a revenue loss of more than two crore rupees.
- Lease periods were incorrectly reckoned in cases of 24 sand leases, extending undue benefit of 56.05 lakh to the lessees.
- Quarrying of sand took place beyond limits fixed by the groundwater department due to non-inclusion of the limit of quantity of sand that can be quarried in the notification for auction.

Exponential rise from sand earnings in Andhra Pradesh

Year	Production (million tonnes)	Revenue earned (crore rupees)
2007-08	35.50	61
2008-09	32.97	80
2009-10	34.40	101
2010-11	58.50	158
2011-12	52.77	127

Source: Adopted from report of Comptroller and Auditor General of India, 2014, and Department of Mines, Andhra Pradesh

SAYANTONI PALCHOUDHURI/CSE

minerals, at 21.5 per cent, the production of minor minerals, by quantity, is five times that of major minerals. The sale value of minor minerals is also more than four times that of major minerals (*See table: Comparative account of major and minor minerals in Rajasthan for 2013-14*).

Exponential growth

Minor minerals are only expected to become more and more significant in the country's mining landscape, primarily because of the roaring growth in India's construction sector.

The Ministry of Mines, under the MMDR Act, 1957, lists a number of minerals as minor minerals, including building stones, gravel, ordinary clay, ordinary sand (and several others), all of which are important components of the construction sector. In February 2015, the mines ministry stated that it will further notify 31 minerals presently listed as major as minor minerals, including silica sand.

Sand needed during 12th FYP:
By road infrastructure
150 MT
By power infrastructure
90 MT

With the boom in India's construction sector, the demand for sand has grown exponentially in recent years. Though there is no accurate official estimate on the amount of sand being mined to cater to the growing demand, it can be gauged by the estimated demand in concrete and cement. Studies indicate that the per capita consumption of concrete in India is 1.5 tonnes per annum, making the total annual consumption 1.92 billion tons.[34] Considering the percentage of sand in a concrete mixture is about 25 per cent, the annual sand requirement in India can be estimated to be 0.48 billion tonnes.

The current figures might be the tip of the iceberg compared to the estimates of demand in the near future. Though there is no official estimate of the amount of sand that will be required, the trend can be gauged from the estimated cement demand in certain sectors. The 12th Five Year Plan envisages building a nationwide road network that will require 75 million tonnes of cement. The power sector, already pressed for ramping up generating capacities, will demand another 45 million tonnes. Now, considering the formula of mixing two parts sand into cement, road infrastructure needs about 150 million tonnes of sand and the power infrastructure about 90 million tonnes of sand. In addition, the railways, urban infrastructure, ports, airports, IT and ITES sectors, organised retailing, shopping malls and multiplexes are all in expansion mode and will be the focal sectors fuelling cement demand. On top of that there is the housing sector that accounts for more than 65 per cent of the total cement demand.

However, it is not just sand that is being exploited at such a massive scale. India is the second largest producer of fired clay bricks, accounting for about 13 per cent of the global production, an estimated 250 billion bricks annually.[35] For this, the demand of clay is about 500 million cubic metres. On top of this, the production is growing at the rate of 5 to 10 per cent every year.

Granite production is majorly spurred by exports. According to the Rajasthan Department of Mines and Geology, granite has 95 per cent share in India's dimensional stone export. The demand is evident from the increase in export in recent years. Between 2007-08 and 2011-12, the export increased from 3,958,853 tonnes to 6,062,753 tonnes—more than 1.5 times.

However, despite such large-scale mining of these minerals and the massive projected demand amount, their regulation has mostly been ignored by policy makers and remains unclear to the general public. Taking advantage of the

resulting vagueness, mining of minor minerals has been continuing with little accounting in most states, and a number of illegalities are reported on a constant basis.

Havoc for the environment

For the longest time, the environmental impact of minor minerals, including sand mining, was not studied properly. In the recent past a few scientific reports have highlighted the havoc it wreaks. A report of the MoEF in March 2010 expressed concern over unscientific mining of minor minerals, including riverbed sand mining.

Observing that minor minerals are mined largely in a "haphazard and unscientific manner", the study noted that such activities have a direct bearing on the hydrological regime of the area, hampering both water availability and water quality. It was also noted that groundwater withdrawal and de-watering of mine pits can cause drying up of sub-surface hydrological systems. The Geological Survey of India (GSI) has also enlisted a series of ecological impacts related to riverbed sand mining, including alteration of in-stream floral and faunal habitat caused by increase in river gradient, suspended load, sediment deposition, increase in turbidity and change in temperature, etc. This adversely impacts the river biodiversity. Mining activities also lead to change in vegetation cover in the banks, worsening the problem of erosion, increasing run-off, and lowering the groundwater table in floodplain area. Mining sand in coastal areas increases groundwater salinity by allowing saline water into the aquifers. The impacts are also long-term as studies have indicated that if not remedied, stream recovery from sand and gravel mining can take decades. Studies found that rivers remained in early stages of recovery 20 years after mining in the stream had ended.

Even 20 years after mining in a stream has ended, rivers remain in the early stages of recovery

AGNIMIRH BASU/CSE

Ostrich policy

Minor minerals are primarily regulated by state governments. Various states have their own rules with respect to minor minerals. Generally referred to as the (state) Minor Mineral Concession Rules, they are mostly outdated and have not kept up with the major escalation in the mining of minor minerals as well as the new regulatory and environmental challenges that have arisen.

Another factor that sustains unchecked mining of these minerals is the lack of specification for clearance requirements for these minerals. For long, there was no specification for clearance and monitoring of minor minerals, typically involving small-mine leases for an area below 5 ha. Both the Environmental Impact Assessment (EIA) Notification, 2006 and the amendment to it in 2009 do not mention any provision for such small-mine leases, nor did they have any other mention of minor minerals. Regulatory provisions were specified only for mining leases equal to or greater than 5 ha. This allowed the mining of minor minerals without any environmental impact assessment and without the requirement of a clearance from the concerned state authority.

As per the EIA Notification, 2006, all Category A projects are required to carry out an EIA and undertake a public consultation before being granted an EC by the Union Ministry. Category B projects are given a clearance by the SEIAAs. Moreover, projects under Category B1 also require an EIA but those falling under B2 are exempted from requirements of both EIA and public consultation. Till the 2009 amendment, all mining projects with lease area between 5 and 50 ha remained under Category B.

Such inadequacies in the regulatory provisions and lenience on the part of the administration have permitted minor minerals to be mined in an unabated manner, with the Supreme Court and the National Green Tribunal stepping in to set guidelines that should ideally have been legislated.

The judiciary steps in

In recent years, the courts have stepped in to curb illegal and unscientific extraction of minor minerals, particularly sand, given poor regulation and oversight on the matter. Interventions by high courts of various states, the NGT, as well as the Supreme Court have taken place.

The Supreme Court, in a landmark judgement in February 2012, cautioned against such illegal and unscientific mining, particularly at a regional level. The Court order was passed following deliberations over the validity of auction notices for minor minerals extracted from lease areas below 5 ha in several districts in Haryana. Taking cognisance of the report of the MoEF on environmental impact of sand mining and responding to rampant sand mining activities, the Supreme Court specifically noted that though individual mines of minor minerals, being small in size, may have insignificant impact, their collective impact on a regional scale is significantly adverse. Following such observations, for the first time, the matter of regulating small-scale mines was taken up. The Supreme Court ordered that "leases of minor minerals, including their renewal for an area of less than 5 ha, be granted by the states/Union Territories only after getting environmental clearance from the MoEF."

The NGT, in August 2013, followed the lines of the Supreme Court order. Responding to a case that was filed by the NGT bar association against the UP government for allowing illegal sand mining near the Ganga, Yamuna and some other rivers in the state, the tribunal issued a restraint order against all

The Supreme Court and the National Green Tribunal have stepped in to set guidelines which should ideally have been legislated

MINORS UNDER THE EIA FRAMEWORK

May 2012: Following the directives of the Supreme Court, MoEF issued an office memorandum (OM) asking all states to follow the Apex Court order, thus requiring all small-scale minor mineral projects to get an EC.

June 2013: The ministry received a number of representations conveying problems being faced by the brick kiln manufacturers in obtaining EC for "brick earth" mined by them, and by the developers of road projects in respect of mining of "ordinary earth". The activities were pointed out to be of a small scale, requiring digging only up to a certain depth, and thus may be kept outside the purview of EC. Responding to this, the Ministry issued another memorandum placing all such projects of less than 5 ha under Category B2. If such projects were clustered leading to the total area more than or equal to 5 ha, the land would come under Category B1.

September 2013: The EIA, 2006, was amended for the first time providing specifications for "minor minerals". As per the amendment, leases less than 50 ha for minor minerals would be considered Category B.

December 2013: MoEF issued another OM categorising minor mineral projects into B1 and B2, bringing clarity on the issue of clearances. For river sand-mining projects it noted that those with lease areas equal to or greater than five ha, but less than 25 ha, will fall under B2 category. In cases where the periphery of one mining lease area is less than 1 km from the periphery of another lease area, and the total area covered by these mine-leases equals or exceeds 25 ha, they will become a cluster and the project will come under Category B1. It was further specified that "no river sand mining project with mine lease area less than 5 ha may be considered for granting EC". For brick earth and ordinary earth, leases between 5 and 25 ha remained under Category B2. All other minor mineral projects with a mining lease area less than 25 ha were placed under B2.

The December 2013 OM had apparent ambiguities as it was not clear to state and also Central officials whether it implies that river sand-mining projects do not require an EC. In a matter before the NGT regarding the excavation of excavation of bajri/sand in Rajasthan (*Himmat Singh Shekhawat vs the State of Rajasthan*), officials of the MoEF&CC, in their statement in August 2014, clarified that "no EC would be granted for extraction of minor minerals from any riverbed and/or water body, where the area is less than 5 ha. Sand mining, in an area other than the riverbeds, would be permitted, only if the project proponent takes EC." Nevertheless, the matter still remains unclear and the NGT, in its judgement of January 2015, has asked the government to clarify the matter.[36]

October 2014: Changes were again made with respect to mining of minerals in the EIA Notification. Under Category B projects, the distinction only reflects coal mines and non-coal mines, with all non-coal mine leases below 50 ha clubbed as Category B.

SURYA SEN / CSE

sand-mining activity being carried out across the country without environmental clearance. The Tribunal observed that the majority of persons carrying riverbed mining do not have licences to extract sand, have not obtained any clearances from the environment ministry and the SEIAAs, and do not possess any permits from the state pollution control boards.

Taking cognisance, but to what extent?

The strong observations by the judiciary, particularly the Apex Court prompted the government to take measures for regulating minor minerals. The Union environment ministry issued a slew of notifications and office memorandums to specify minor minerals and small-mining leases that will require a permit (*See box: Bringing the minors under the EIA framework*). The specifications, as they stand till date, place a large portion of such mining activities under Category B2. This essentially means that the projects will be cleared by the SEIAAs without undertaking any EIA or requiring the local people to be consulted. Moreover, there is no certainty on how carefully the projects will be evaluated, or how much the clearance conditions will be adhered to, given the almost non-existent accountability of the SEIAAs. Essentially, such categorisation only mandates paperwork, without assuring any assessment and monitoring of such mining activity.

Community voices: Not even minor

Not only will most mining activities of minor minerals not require any consultation with the local people under the EIA notification, the community will also not been able to exercise their rights to give consents for such activities as required under the Panchayat (Extension to Scheduled Areas) Act, 1996. The PESA, that governs nine states, including Andhra Pradesh, Chhattisgarh, Gujarat, Himachal Pradesh, Jharkhand, Maharashtra, Madhya Pradesh, Odisha and Rajasthan, constructs a framework of local/tribal self-governance around certain features. Sub-sections 4(k) and 4(l) of PESA specify that prior "recommendations of the Gram Sabha or the Panchayats shall be made mandatory" before the "grant of prospective licence or mining leases of minor minerals or grant of concession for the exploitation of minor minerals by auction".

However, studies suggest that there is a gross violation of the stated intent of the law on ground. Most states have significant legislative work still left to actualise the intent of the Act and are faring poorly on implementing these provisions meaningfully on the ground.

Most states have significant legislative work still left to actualise the intent of the PESA and are faring poorly on implementing these provisions meaningfully on the ground

States begin to regulate small mines

Following observations of the Supreme Court in 2012, many states are also currently in the process of developing necessary policy frameworks and amending rules for regulating minor minerals, including sand. Andhra Pradesh, Rajasthan, Maharashtra, Goa, Telangana and Madhya Pradesh have already come up with new or revised mining policies. Jharkhand, Odisha and Karnataka are also amending rules governing minor minerals. However, such measures are largely still on paper as evidence of irregularities keeps mounting every day.

Rajasthan: On June 19, 2012, the Department of Mines and Geology proposed to amend the Rajasthan Minor Mineral Concession Rules, 1986, by forming

clusters of small mines comprising areas with mining leases, quarry licences or short-term permits, and developing Environmental Management Plans (EMP) for them. The Rules were amended in July 2013. Cluster, as defined in the Rules, is the geographical boundary declared by the Director of Mines and Geology "comprising of mining leases/quarry licences/short term permits which already exists or are to be granted in future". The area thus declared by the Director "as far as possible, shall not exceed 5,000 ha (50 sq km) and mineral concessions area at the time of formation of cluster shall not exceed 100 hectare".

Many states are currently in the process of developing policy frameworks for regulating minor minerals, including sand

For clusters of leases or licences having an area of less than 5 ha individually, an Environment Management Plan (EMP) shall be prepared by associations of lessees or licensees of the cluster within a stipulated time period. The plan is required to be submitted to the district-level environmental committee, chaired by the district collector, for approval. The association will also be responsible for implementation of the EMP, and, in case of noncompliance, the mining engineer can stop all mining operations following a 30-day notice, which will be restored only after the EMP is implemented. The Rules also require a progressive mine closure plan to be submitted along with the EMP, if the mining plan is for the area exceeding 1 ha.

Maharashtra: The Maharashtra government enacted the Maharashtra Minor Mineral Extraction (Development and Regulation) Rules in 2013. The Rules have been framed to ensure scientific mining of minor minerals, such as sand, stones, gravel and clay. They require a mining plan along with a mine closure plan (including provisions of progressive mine closure) to be submitted before mining can commence. The Rules also specify that where a large number of small mines are situated and worked out in clusters, the environmental clearance may be obtained by a lessee or a group as per the concept of regional environmental assessment and regional environmental management plan. Until the enactment of the 2013 Rules, minor minerals were governed on a regional basis. Three sets of minor mineral rules were applicable for the three regions of Vidarbha, Konkan and Marathwada.

ANKUR / CSE

SURYA SEN / CSE

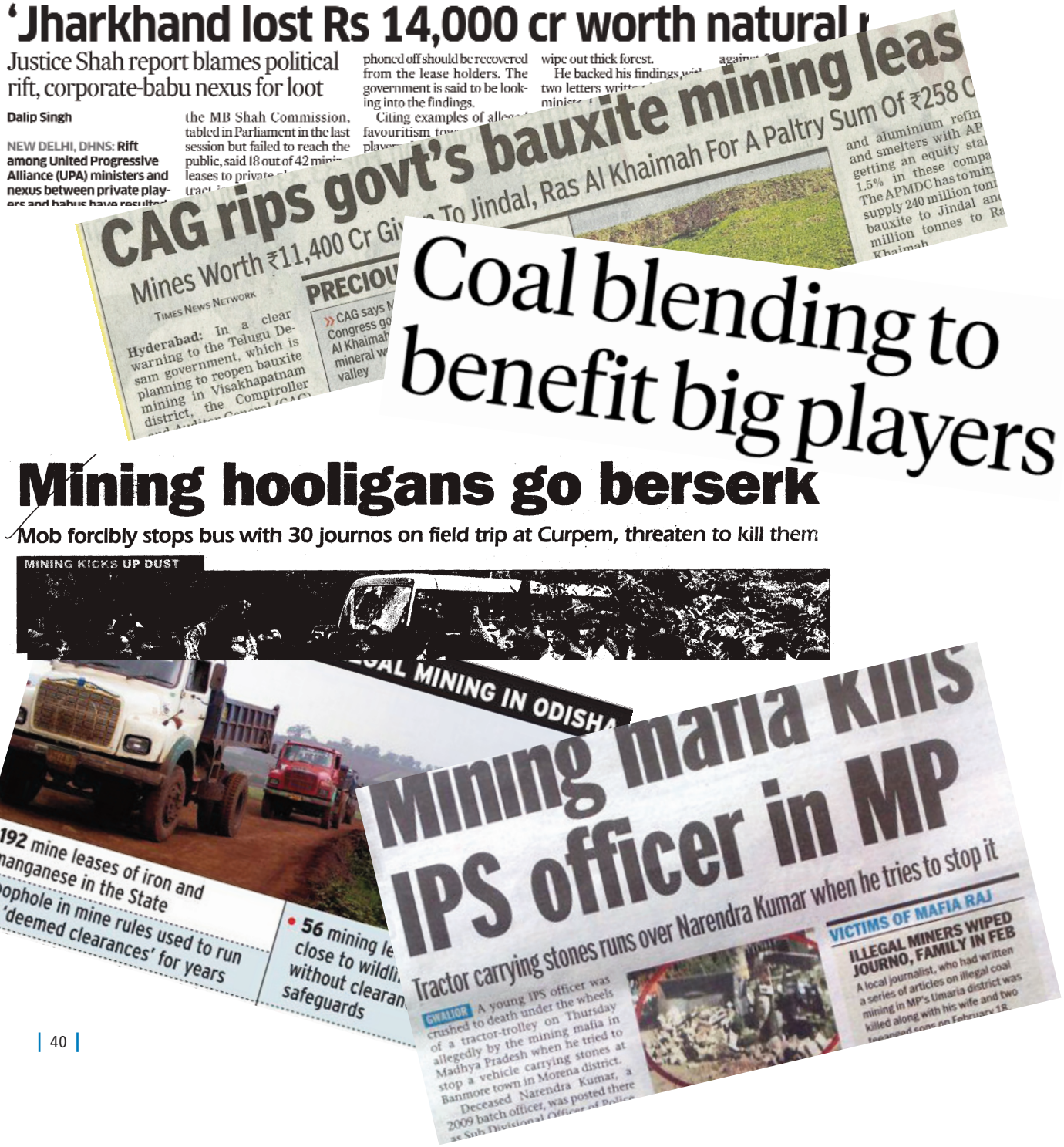
Andhra Pradesh: The state government, in 2014, introduced a sand-mining policy outlining rules and procedures for extraction of sand. This was brought about by amending the state's Minor Mineral Concession Rules, 1966. The amendments specify that all the sand reaches in the state will be entrusted to Andhra Pradesh Mineral Development Corporation (APMDC) Limited. These sand reaches will be allotted to the district/mandal "Mahila Samakhyas" (women groups) or village organisations for undertaking quarrying, depending on the potential of each sand reach. As reported at the time, the move was brought about to curb illegal sand mining, alleviate poverty and empower women.

To ensure sand mining is carried out in an environmentally responsible manner, the policy specifies certain parameters for identification of sand-bearing areas where such mining can be done. These include the type of ground water regime and consideration of other structures present in the drainage basin, the depth of sand in the streams and rivers, the permissible depth of extraction, the machinery to be used for extraction etc. The policy also requires the creation of District Level Sand Committees (DLSCs) in various districts, chaired by the district collector. The respective DLSCs shall take up joint inspection to fix the boundaries of the "specified" sand-bearing area and assess the sand in terms of quantity including the designated ramps as cleared by the river conservator. The district collector shall then allot all such specified sand-bearing areas to APMDC. The APMDC will prepare feasibility reports for sand-bearing areas for both open and in-stream extraction, obtain approved mining plans from the mines and geology department, and necessary clearances from concerned authorities, and finally allot sand reaches to the women groups or village organisations.

In Andhra Pradesh, sand reaches will be allotted to the district/mandal "Mahila Samakhyas" (women groups) or village organisations for undertaking quarrying depending on the potential of each sand reach

E. Scam zone

In the last half a decade, India's mining sector has been marred by countless controversies. From illegal allocation of mineral resources to over-extraction and illegal sale of ore - scam after scam has been unearthed, bringing the sector into the limelight of policy debate. Some light is finally being shed on such issues as corruption in the governing bodies and mining companies, priority given to vested economic interests in extraction and use of mineral resources, loopholes in the regulatory mechanism, and inadequacies in the governance process. These issues call for serious intervention in revising mining policies and practices and reforming existing institutions.



Bellary miners use 'pink passport' to access ports

By **Aravind Gowda** in Hospet (Karnataka)

IT BOILS down to a handwritten "pink passport" for the thousands of trucks ferrying iron ore from the illegal mines in Karnataka's Bellary district to the ports.

The greedy miners have devised a convenient system in connivance with corrupt government officials to export high-priced iron ore illegally extracted from the forests in Bellary's Hospet and Sandur regions.

Miners have to obtain road permits by paying a fee to the transport department to ferry ore to the ports. This apart, they also need a no-objection certificate from the forest department and a "royalty paid certificate" from the mines and geology department.

But the miners have invented a way to deal with these "unnecessary government paperwork".

When a vehicle laden with ore from the mines reached the outskirts of the town of Hospet, a pink chit was given to the driver by an agent, who allegedly worked in connivance with government officials.

Political role in protests against mineral sand-mining

By Shafi Rahman

New Delhi, Nov 12: When the authorities proposed mineral sand-mining in two states - Kerala and Andhra Pradesh- political participation, or rather the lack of it, has played different strokes at the prospects of protest movements. While the protests in Kerala provide instructive lessons for activists in winning political

While protests in Kerala provide ... for activists in winning political ... protests in Andhra, despite ... consensus, fails to hit the ... political support

and some local organisations. This was meant to accord a reception to a national jatha led by Medha Patkar in which she pledged the solidarity of NAPM to the movement.

Later, the CPM came to the front of the struggle. But prize catch for the eco activists was V.M. Sudheeran whose entry in the protest arena and the CPM's full-fledged support changed the

INVESTIGATION

last laugh, national has both hands tied

Mining the loopholes

THE INDEPENDENT REPUBLIC OF REDDYS

PART ONE

The Indian EXP

AN EXPRESS INVESTIGATION

From Minister to Collector — how all come to the aid of the Rs 3,000-crore mining party

...रगी का परियोजना को नहीं मिली मंजूरी

वन एवं पर्यावरण संबंधी

वाली बैठक की भनक भी नहीं लगने दी। मंगलवार को वन सलाहकार समिति की बैठक में यह फैसला लिया गया।

बैठक के बाद रमेश ने कहा कि

सरकार ने दिया झटका

- उड़ीसा के नियामगिरी पहाड़ी क्षेत्र में 1.7 अरब डॉलर की है परियोजना
- फैसले से नवीन पटनायक नाराज पर

INVESTIGATION

Mining scam keeps getting bigger

Loss to exchequer from illegal mining at least eight times more than estimated in Lokayukta report

MINING

tigation by The Hindu, with help from whistle blowers in the Railways, the Kar-

TIMELINE OF THE MINING SAGA

2001 TO 2003: Bellary produces

BRINGING BANGALORE BACK TO YOU

WHY, you might ask. After all, Bangalore has known The Hindu for its credible, fearless and unfettered reportage.

For never dumbing down. For vanguard journalism that brings the world to your doorstep every morn-

Even The Best Performers Got A Maximum Of 40 On A Scale Of 0 To 100, Finds CSE Study

Iron, steel cos struggle to meet green norms

TIMES NEWS NETWORK

New Delhi: The iron and steel industry might be recording an 3% annual growth but it's struggling to meet environmental norms in the process, the Centre for Science and Environment concluded, while rating the industry for its performance. The results of the study were released by environment

Steel, Hazira, Gujarat and Rashtriya Ispat Nigam Ltd (Vizag Steel), Visakhapatnam.

Even the best performers, CSE noted, got a maximum of 40 on a scale of 0-100, with the steel industry performing on an average far below the global best and one of the worst performers when compared to other large industries that CSE has rated previously such as the co-

Down To Earth

ed the worst in the rating that used 150-parameters to assess the green credentials of the companies. Narain pointed out the lack of voluntary disclosure and participation in the process by all but one of the SAIL units and said it was mostly the bad performers that had hidden information during the public audit process.

She said the industry was forming worse than those with little cost headroom. The government would look to implement the roadmap CSE had recommended for upping the environmental standards and norms for the industry, Natarajan said.

Chandra Bhushan, deputy director general of CSE, noted that iron and steel plants were found to be using 1,200 hectares

The coal block allocation muddle

The allocation of mining rights is a central issue that involves two fundamental questions: a) who should mine and b) for what purpose. In 2012, the Comptroller and Auditor General (CAG) released its final report on the allocation of coal blocks and production of coal in the country and stirred a hornet's nest which continues to buzz to this day. The report estimated that the private sector had made a windfall gain of Rs 1.86 lakh crore between 2004 and 2012 due to the absence of a competitive bidding process.

Windfall gain made by the private sector between 2004 and 2012 due to the absence of a competitive bidding process is Rs 1.86 lakh crore

The judiciary steps in

On August 25, 2014, the Supreme Court of India, in a landmark judgement, pronounced that 218 coal blocks that had been allocated to public as well as private companies between 1993 and 2010 were illegal.[37] The court observed that the process of making the allocations was "ad hoc and casual". In a final order in September 2014, the court cancelled 204 coal blocks.[38]

The ad hoc decision-making was primarily observed in the way coal blocks were allocated by the screening committee—an inter-ministerial group which allocates captive mining coal blocks to private companies. The blocks had been allocated by the committee in a non-transparent manner, due to which "common good" and "public interest" had "suffered heavily", the apex court observed.[39]

Whimsical is the way

The screening committee had not followed any specific guidelines for such allocations; rather, the "guidelines were altered in every meeting", as was revealed through the minutes of the deliberations of the committee over the 17-year period. There was no clarification on what basis one company was selected over the other for allocating a coal block. All in all, 106 coal blocks were thus allocated in Jharkhand, Chhattisgarh, Odisha, Maharashtra and other coal-producing states. The committee's whimsical behaviour pointed to a clear case of favouritism in which the principles of intelligent use of resources and social and environmental considerations, were put on the backburner.

Ad-hoc behavior of the screening committee for allocating coal blocks

Meeting Dates/Period	Major observations by Supreme Court	Coal blocks allocated to private companies
July 1993-August 2003; 1st—21st meeting	Screening Committee "kept on varying the guidelines from meeting to meeting". It "failed to adhere to any transparent system". Guidelines applied by the committee are conspicuously "silent about" why one applicant was preferred over the other for the same block. "No method to allot coal blocks as per the end-use projects coal requirement".	21
November, 2003 - October 2005; 22nd—30th meeting	Once again "guidelines do not lay down any criteria for evaluating the comparative merits of the applicants". Considerations "ad-hoc". "The guidelines were altered in every meeting." "Rules of game were changed" to accommodate applicants whose applications would have been otherwise rejected as their coal requirement was far less than the availability in the coal blocks.	26
June, 2006- July, 2008; 30th—36th meeting	No clarity on how "the merits of the companies chosen for recommendation were determined". Some of the companies which "had no recommendation" from the state or the Ministry of Power were recommended by the committee.	59

Bend the law

Other violations involved the misinterpretation of the law to allocate coal blocks to state government companies and their public-sector undertakings for commercial use by way of government dispensations. In this process, meant for government companies, applications are made to the Ministry of Coal and decisions regarding allocation of captive blocks are made within the ministry without referring them to a screening committee. However, allocation of coal blocks to state government companies and their undertakings is in violation of the provisions of the Coal Mines (Nationalisation) (CMN) Act, 1973, that only allows state government companies or their undertakings to mine on a very small scale and not for commercial purposes. Commercial mining can only be done, as per law, by Central government companies and their undertakings.

The contradiction arose when the coal ministry, through a revised policy dated December 2001, allowed state government companies or their undertakings to do coal mining either by open-cast or underground methods anywhere in the country. The purpose of such a revised policy, as noted by the ministry, was to address the problems that small industrial units/consumers were facing in obtaining coal. But whatever may have been the intention of the state, the revised policy, as the Supreme Court has put it, "is not in conformity with the provisions of the CMN Act, 1973, and, consequently, has no legal sanction".

States on a blink

Another question that came up for discussion was whether the Centre has the power to allocate coal blocks. As per provisions of the MMDR and the CMN Acts, the Centre has no such power. The power to grant the lease actually vests with the state government. However, in the process of allocation the Centre practically side-lined the states' role, rendering it a mere bureaucratic formality. Some companies that did not even have a recommendation from any state got the nod from the screening committee.

The ad hoc process wrecked havoc in terms of misuse of the blocks allocated. In the absence of a proper assessment of the coal reserves, the requirement of coal or how it was to be used eventually, private players made windfall profits. Moreover, many of the coal blocks allotted were not even fit for production given the geomorphology, while many got tied up in controversies of green clearance.

The Shah Commission revelations

The Shah Commission was appointed by the Central government in November 2010 to probe into the matter of illegal iron and manganese ore mining in India, to find where such practices were going on in contravention of the provisions of the MMDR Act, 1957, the Forest (Conservation) Act, 1980, the Environment (Protection) Act, 1986, and any other relevant Central and state laws. So far, the Commission has submitted its reports on Goa, Odisha and Jharkhand. The matters in Odisha and Jharkhand are still under investigation. Based on the Shah Commission report, the non-profit Goa Foundation filed a petition before the Supreme Court in September 2012, resulting in a ban on mining in Goa. The ban was lifted in April 2014, allowing conditional resumption of mining.

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Go, Goa, gone

The Shah Commission report on Goa brought out countless issues of illegality, including mining without a valid permit, mining outside the lease area, production of ore beyond permitted capacity and illegal transportation of ore. Illegalities in export were further specified by the Supreme Court's Central Empowered Committee (CEC). The CEC found that between 2006 and 2011, iron ore exports from the state was 194.93 MT, while production during the period was 155.37 MT, a mismatch of 39.56 MT. Such illegalities cost the state exchequer Rs 35,000 crore.

Loopholes and official oversight

Several factors contributed to the scale of the mining scam in Goa, from exploitation of loopholes in mining regulations to official oversight. A significant part of this illegal iron ore came from the extraction and selling of iron ore remains from overburdens dumped outside the lease areas. Such extraction had been going on without any permission or payment of royalty to

THE GOA STORY

Mismatch between production

19.9%

of the total iron ore production in India during 2011-12 was from Goa. This established Goa as the second-largest iron ore producer in the country. *Source: Indian Bureau of Mines*

33.4 MT

was the total production of iron ore in in Goa in 2011-12 *Source: Indian Bureau of Mines*

43.27 MT

iron ore was exported from Goa in 2011 *Source: Goa Mineral Ore Exporters' Association*

155.37 MT

iron ore produced in Goa during 2006-11 *Source: CEC report*

194.93 MT

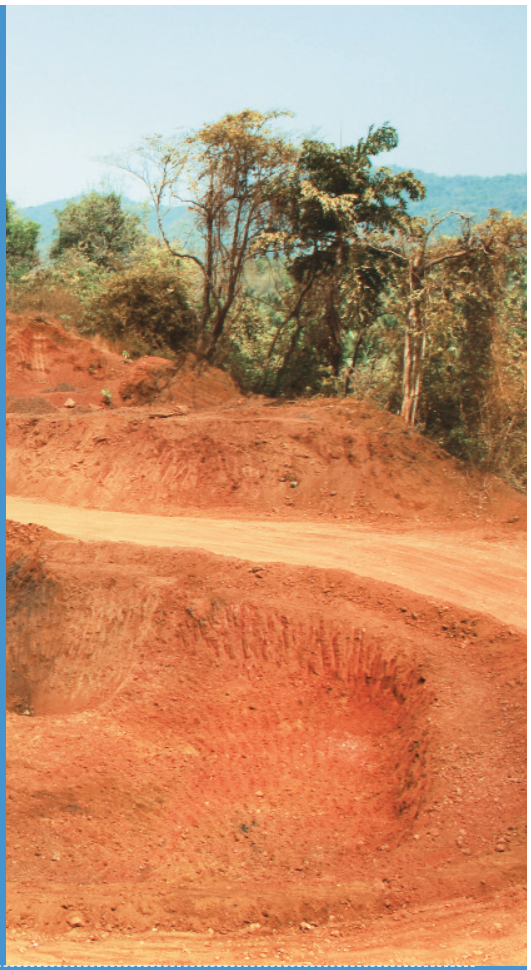
iron ore exported from Goa during 2006-11 *Source: CEC report*

39.56 MT

the state, in contravention of the Mineral Concession (MC) Rules, 1960. The Rules require a levy to be paid only for sale or consumption and not for dumping rejects. The state mines department remained at fault for oversight in this regard. As per industry insiders, the state mines department usually does not inspect what the industry sells from the overburden. This gave the industry leeway to export iron ore as overburden and evade royalty.

Who needs a permit?

It was found out that a significant portion of mining in the state was without even a valid permit. Such activity was being carried out under the pretext of the clause "deemed extension", under the MC Rules, 1960. Broadly, deemed extension allows mines to operate even without a permit as long as the lease holder files a timely application with the state government for the first renewal of the lease and until further orders are given by the state. In Goa, the government's inaction on the renewal applications of the lease holders led to continued mining without a valid permit in hand.



SUNITA NARAIN / CSE

excess iron ore exported from Goa compared to the production between 2006 and 2011. The excess quantity is illegally mined iron ore in the state, says CEC

Odisha odyssey

The bloodied picture of Goa is not an isolated one. The Shah commission has now reported similar irregularities in Odisha. In an observation in the case of mining in Odisha in June 2013, the Commission said that the deemed extension clause facilitates lease holders "to indulge in illegal mining activity at their sweet will". The report of the Shah Commission on mining in Odisha, that was tabled in the Parliament in February 2014, observed various forms of illegalities in 146 iron ore (and manganese ore) mines in terms of violation of environment clearances, mining plans and consent to operate norms. The illegalities, that went on from 2000-01 to 2009-10, caused the state a staggering loss of Rs 59,203 crore. The Commission has declared the Odisha scam the biggest. As many as 94 mining leases were operating without environmental clearance. These include 23 leases where conditions are specified for giving forest clearance (FC) in order to obtain EC, but the conditions have not been met.

In April 2014, the Supreme Court decided to probe into the issue of illegal mining in Odisha, following a petition filed by the non-profit Common Cause. The petition was

Illegal iron ore exports from Goa during 2006-11

39.56 MT

Loss to state exchequer due to illegal mining in Goa

Rs 35,000 crore

FAULTY ECONOMIC GOVERNANCE: BLOODIED BELLARY

Besides coal, another big scam that continues to shadow the mining sector is the extraction and selling of illegal iron ore. Rising iron ore prices in the global market, driven by demand in China for the 2008 Olympics, was a major impetus catalysing the scam in India.

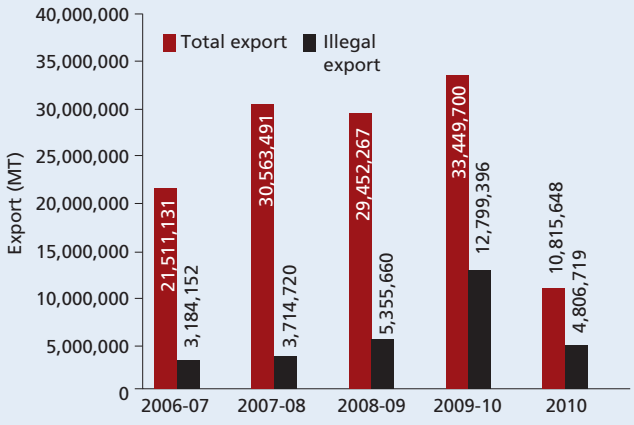
In the hope of windfall profits, the iron ore mining lobby went into frenzy. Mining was carried on even without proper permits, encroaching upon unauthorised lease areas and forest lands, and excavating, transporting and exporting more than what was permitted or officially produced. The plunder has been colossal, and unfortunately in instances in connivance with state governments.

The loot of iron ore first became publicly sensational in Karnataka, where the state exchequer endured a loss of Rs 16,085 crore due to illegal mining.

As per estimates of the Indian Bureau of Mines (2012-13), Karnataka has 2,159 million tonne, or nearly 12 per cent share, of India's total high-grade (hematite) iron ore reserves, with the major portion concentrated in Bellary district. While Karnataka produces 40 million tonne of iron ore annually (one-fifth of the country's total production), 80 per cent of it comes from Bellary.[40]

The rush to extract iron ore had begun way back in 1999. The floodgates, however, opened in 2003, following the huge demand from China. With the price of iron ore soaring from Rs 1,200 per tonne in 2000 to over Rs 5,000 per tonne in 2003, the loot in Bellary began.[41]

Karnataka: illegal iron ore exports 2006-07 to 2010



In March 2007, the Karnataka government asked the Lokayukta to probe allegations of illegal mining. It was asked to initiate action against all public servants, including ministers, whether in office or otherwise, beginning from 2000, if they were found guilty of illegality. The report of Karnataka's Lokayukta, first submitted in 2008 and finally in July 2011, brought out the sordid story of Bellary. The dirty dealings that were exposed showed that public officials and private businesses were hand-in-glove.[42]

More than 700 officials and 400 companies engaged in mining, iron ore trade and steel manufacture figured in the report. The corruption in the government departments was reported to be pervasive, prevailing in all departments, whether connected directly or remotely to mining. Fake permits were issued by public officials to help illegal mining in return for bribes. Mining giants such as JSW Steel Ltd owned by the Jindal Group, Adani Enterprises Ltd, Sesa Goa Ltd and MSPL Ltd owned by the Baltoda Group were accused, besides the National Minerals Development Corporation (NMDC), India's largest public sector iron ore producer.

The Lokayukta report revealed that from 2005-06 to 2009-10, illegal export of iron ore grew about four times,

PHOTOGRAPHS: K R VINAYAN

from 3.18 MTPA in 2006-07 to 12.8 MTPA in 2009-10. The Lokayukta pointed out a number of cases where extracted ore was transported using fake or forged documents, through vehicles without any permits.

The report shook the political establishment of the state. B. S. Yeddyurappa, BJP leader and the then chief minister, was forced to quit. The initial report of the Lokayukta was followed by the filing of a petition in the Supreme Court by the civil society organisation Samaj Parivartana Samudaya in 2009. Following a court-ordered investigation by the Central Empowered Committee in 2011, a complete ban on mining in Bellary was imposed. The ban was extended to the Tumkur and Chitradurga districts in August 2011.

The mining loot in Karnataka did not just create mayhem for the state's economy and governance but also left the environment in tatters. Bellary had lost 45 per cent of its forest cover to iron ore mining, noted the CEC report. A CSE analysis in 2011 showed that about 50 per cent of Karnataka's iron ore mines are located in forested areas. The report also indicted the Union environment ministry and the Indian Bureau of Mines utter indifference towards the havoc being wreaked on the ecology. The agencies had not considered issues like area available to dump waste and overburden, the capacity of roads to allow increased transportation and the impact of increased mining on air and water.

The ban on mining in the state was lifted by the Supreme Court in April 2013. While allowing resumption of mining, mines were classified into three categories, taking encroachment as the criterion for determining whether their operations were legal or illegal. The mines (numbering 45) which did not encroach or encroached in small ways outside their sanctioned area were placed under Category A. Those that encroached an area up to 10 per cent outside their lease area through mining pits and up to 15 per cent by way of waste dumping were categorised as B (72 mines). Category C mines were those where encroachment was found to be more than 10 per cent of the lease area through mining pits and over 15 per cent by dumping waste. The court allowed all Category A and 63 out of 72 Category B mines to resume operations, while cancelling all category C mines.

Miners get high profits

On low investment

Legal expenses	
Royalty paid to state government	Rs 27*
Cost of excavation (approx.)	Rs 300
Illegal expenses	
Bribes (approx.)	Rs 200
Total expenses (approx.)	Rs 527
Selling price of iron ore (in international market)	Rs 6,000-7,000
Profit	Rs 5,500-6,500
Percentage of profit	1,300

*All calculations done for one metric tonne of iron ore

Such a long lease

Table shows extent of illegal mining in Odisha from 2000-01 to 2009-10 that violated environmental clearance, mining plan and consent to operate norms

Name of mining circle	Iron ore leases	Manganese leases	Excess production (in Rs crore)
Koira	33	22	13,188.13
Joda	62	10	44,452.50
Keonjhar	04		1,064.93
Koraput	03		0.43
Bolangir	01		29.56
Baripada	11		467.75
Total	146 (Iron ore + manganese leases)		59,203.33

Source: Ministry of Mines

based on the report of the Shah Commission on illegalities and findings of CSE on unequal distribution of mining wealth/benefits in the mineral-rich districts of Odisha, which suffer from high poverty and poor human development index.

In May 2014, the Supreme Court suspended mining activities in 26 iron ore mine leases. Once again, like with Goa, these leases were found to be operating without legal permits on the pretext of having "deemed extension". The court has asked the state to relook into the renewal applications.

Will legal action curb illegal mining?

A key question in this debate is how effective will the intervention of the Supreme Court be in stemming rampant corruption, irregularities and plain daylight robbery of the mineral resources of the country.

While companies will always be tempted to use illegal means to obtain more profits, regulatory loopholes, oversight in the implementation of policies by the state government and corruption catering to vested interests have sustained the illegalities.

Transparent allocation

The battle against scams in the mining sector is going to be a long-drawn one. The first step the government is taking to address some irregularities is allocation of mines.

Loss to state exchequer due to illegal mining in Odisha during 2000-10

Rs 59,203 crore

The Coal Mines (Special Provisions) Act, 2015, institutes a process of auction by competitive bidding for the allocation of coal mines. The Act sets in motion the process of reallocation of the 204 coal blocks that stood cancelled by the orders of the apex court. Coal mines will be allocated to private companies or joint ventures (JVs) through auction. In the case of government companies and their JVs, allotment may be made without auction. The Act also removes any end-use restrictions on the eligibility to participate in the auction, other than for blocks which are already producing or are ready to produce (such blocks number 42), and the blocks that have already been substantially developed for a specific end-use (32). The final proceeds of the auction are to be disbursed to concerned states through a "Nominated Authority" constituted by the Central government, that conducts the auction, assisted by experts and other officers, and receives the proceeds in the first place.

This new approach to auctioning is not going to be restricted to the allocation of coal mines, but applies to the mining sector at large. The MMDR Amendment Act, 2015 provides for the grant of all mineral concessions through auctioning. Auctioning might be the best way for allocation of confirmed reserves, but it creates its own set of problems in case of prospective mining.

Curbing the loot

The judicial intervention led to certain steps being taken to curb illegalities in iron ore mining in Karnataka and Goa. However, action against illegal mining

is still at the stage of inception and has a long way to go.

For Karnataka, boundaries for mining operations have now been specified to determine the extent of illegalities. Also, the reopening of mines and resumption of mining operations has been made conditional on preparation and implementation of Reclamation and Rehabilitation (R&R) plans.

In Goa, the government has rectified its earlier stand. In the proposed Goa Mining Policy of 2013, there are provisions to disallow mining on the basis of deemed extension.

The concerns of sustainable mining have also led to prescribing caps on mining in Karnataka and Goa. In Karnataka, a ceiling of 25 MMTPA on the production of iron ore from Bellary district was prescribed, and the ceiling was to be five MMTPA for all the mining leases in Chitradurga and Tumkur districts. For Goa, an interim ceiling of 20 MMTPA, subject to an adequate mechanism to regulate and monitor its impacts, has been prescribed.

In Karnataka, the ministry has already sought raising the cap from 30 MMTPA to 50 MMTPA. The plea was rejected by the Supreme Court, but will the state continue to operate within the prescribed limits? Although the cap in Goa is 13.4 million tonnes less than the production level of 2011-2012, it remains much higher than the recommended cap by the Shah Commission, which is 12.5 MMTPA.

The overall question is: Will India's goal of a 9 to 10 per cent GDP growth by the terminal year of the 12th FYP in 2017, the growing energy demand, and the immense potential of profits from minerals in the global market, allow the development and practice of sustainable, legal mining? The growth of the mining sector is currently about 4.6 per cent and the target by 2017 is 8.5 per cent. Such ambitious numbers require a strong regulatory mechanism and prompt revision of institutional loopholes so that we do not keep on enduring anti-people allocation of resource and the loot of minerals. Judicial interventions are important and have been timely, but they cannot be a long-term substitute for institutional and regulatory reforms.

While companies will always be tempted to use illegal means to obtain more profits, regulatory loopholes, oversight in the implementation of policies by the state government and corruption, catering to vested interests, have sustained the illegalities

SAYANTAN BERA/CSE

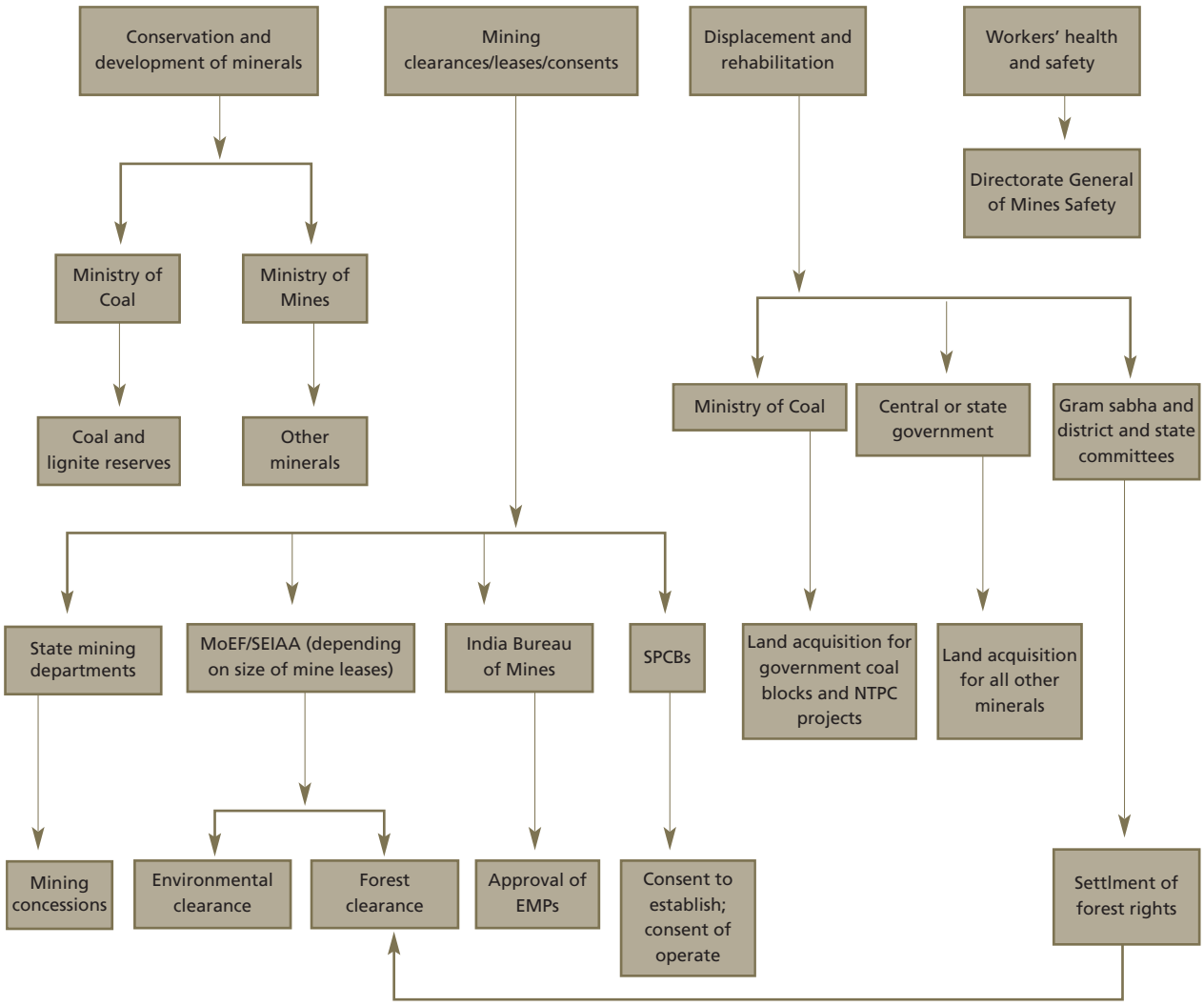
F. Regulatory maze

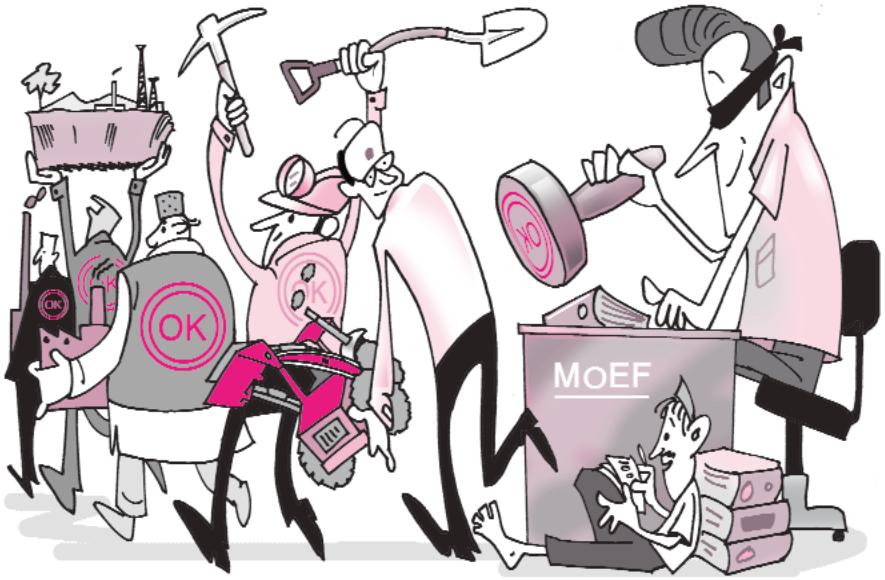
Regulating mining is probably one of the most complex tasks in the development sector. There is a host of rules and regulations that, in turn, entails participation of various agencies, Central and state.

The regulatory framework

The regulatory framework of the mining sector can be broadly categorised on the basis of four major aspects: mineral conservation and development, granting of mining leases and clearances, dealing with displacement and rehabilitation issues and ensuring workers' safety (*see figure: Regulating mining activities*)

Figure: Regulating mining activities





SHYAMAL / CSE

Conservation and development of minerals

The recently amended Mines and Minerals (Development and Regulation) Act, 1957 is the centrepiece legislation for the conservation and development of minerals. Some major rules formed under the provisions of the MMDR Act include the Mineral Concession Rules, 1960, the Mineral Conservation and Development Rules, 1988 and Mining Leases (Modification of Terms) Rules, 1956. There are also specific ones focusing on particular minerals such as the Granite Conservation and Development Rules, 1999, Marble Conservation and Development Rules, 2002 and Minor Mineral Concession Rules of various state governments.

For coal and offshore minerals, there are also separate sets of regulations such as the Coal Mines (Conservation and Development) Act, 1974, the Coal Mines (Special Provisions) Act, 2015 and the Offshore Areas Mineral (Development and Regulation) Act, 2002, respectively.

The conservation and development of coal and lignite reserves falls under the ambit of the Ministry of Coal.

The powers and duties of the Ministry of Mines are enumerated under MMDR Act, 1957.[43] The ministry is also responsible for the overall survey and exploration of all minerals except for natural gases, petroleum and atomic minerals. In addition, it oversees the administration and management of the Geological Survey of India and Indian Bureau of Mines.

There is a needless multiplicty of governing institutions that makes the management of mining very inefficient

Mining leases, clearances and concessions

Mineral reserves belong the states, according to the law, and the state governments are therefore empowered to grant mining concessions. Mineral concessions are granted under the provisions of the Mines and Mineral (Development and Regulation) Act, 1957 (now amended) and its auxillary rules, such as the Mineral Concession Rules, 1960 and the Mineral Conservation and Development Rules, 1988.

MoEF&CC is responsible for giving environmental and forest clearances as per provisions of Environment (Protection) Act, 1986, EIA Notification, 2006 and Forest Conservation Act, 1980, respectively.

Trend in fatal accidents in mines

Year	Coal mine		Non-coal mine	
	No of fatal accidents	No of people killed	No of fatal accidents	No of people killed
1994	156	241	No data	No data
1995	137	219	66	74
1996	131	146	72	83
1997	143	165	70	77
1998	128	146	56	65
1999	127	138	61	72
2000	117	144	51	55
2001	105	141	71	81
2002	81	97	52	64
2003	83	113	52	62
2004	87	96	57	64
2005	96	117	48	52
2006	78	137	58	71
2007	76	78	56	64
2008	80	93	62	83
2009	83	93	44	54
2010	97	118	60	101
2011	65	67	44	50
2012	81	85	39	41
2013	84	90	58	73

Source:
http://www.indiastat.com/table/crimeandlaw/6/accidentsincoalmines19812014/449320/317/data.aspx
http://www.indiastat.com/table/crimeandlaw/6/accidentsinnoncoalmines19862014/379519/30551/data.aspx

IBM clears mining plans and EMPs (the MoEF&CC can also clear EMPs).

At the state level, the SPCBs are responsible for giving consent to establish and to operate under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981. In case of groundwater abstraction or intersecting the water table, a no objection certificate from Central Ground Water Authority is a prerequisite.

Workers' safety

Regulations particularly focusing on ensuring welfare and safety in working conditions of the mine workers include the Mines Act, 1952 Coal Mines Regulations, 1957, Metalliferous Mines Regulations, 1961, Mines Rescue Rules, 1985 Oil Mines Regulations, 1984 etc.

DGMS constituted under the Union Ministry of Labour and Employment, is the nodal agency responsible for ensuring occupational safety, health and welfare.[44]

Displacement and rehabilitation issues

Given the cartographic overlap of people, their

REUTERS

Bodies of mine accident victims being retrieved from Dhanbad mine. Accidents in underground coal mines are common; Jharkhand accounts for the most accidents due to coal mining.

SHYAMAL / CSE

livelihoods and mineral-rich areas, almost all mining projects require people's lands to be acquired followed by the displacement of the people.

For people living in forest areas or dependent upon the land for their livelihood, issues regarding their land rights are to be settled under the provisions of the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, also known as the Forests Rights Act (FRA).

The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 includes provisions for acquisition of land for minerals except coal. The law, which is administered by both the Central and state authorities as the case may be, is applicable when appropriate government acquires land for its own use, hold and control, including acquisition of land for public sector and for "public purpose". It is to be noted that "mining" activities are listed under "public purpose".

For coal-mining projects, land acquisition falls under the provisions of the Coal Bearing Areas (Acquisition and Development) Act, 1957. Administered by the Central government, the law remains applicable to only government companies,[44] including coal blocks allotted to NTPC.[45]

A simplified diagram of the various authorities involved in regulating mining is given in *Figure: Regulating mining activities*.

Regulatory challenge

Despite the existence of multiple regulations and regulatory authorities to address mining issues, the sector remains marred by illegality and controversies. As the examples prove, activities like operation beyond lease periods and without proper permits, mining over permissible limits of quantity

Despite the existence of multiple regulations and regulatory authorities to address mining issues, the mining sector remains marred by illegality and controversies

As per the latest estimates, more than 80% mines are in violation of environmentally and scientifically sound mining practices

and time, illegal transport and sale of minerals and unscientific mining practices are rampant. The ecological and environmental fall-outs are grave, including severe pollution in mining areas and associated public health problems and diversion of biodiversity-rich areas. Most importantly, all these activities do little to benefit the people of the area, forcing them away from their lands and livelihoods or leaving them to deal with a changed, challenged ecology.

The question, therefore, is: how effective are regulations and regulatory authorities to deal with these issues?

Outdated regulations and lack of clarity

A case of "wherever possible", "not feasible" and "otherwise"

The main problem is that though there are regulations galore in place, many are archaic or lack clarity, while some lack synergy with each other.

For example, the MMDR Act, 1957, the central legislation governing mining activities, was designed in an era when public sector was dominant. Several amendments later, the Act still lacks clarity on several important issues. There are vague provisions for mineral conservation and an absence of proper provisions for compensating land owners and customary users.

The clause of "deemed extension", under the Mineral Concession (MC) Rules, 1960, is a perfect example of law sustaining illegal mining. The clause holds that if an application for renewal is made within the stipulated time-frame, typically six months before the expiry of a lease, which can be extended up to one year by the state, the lease period shall be deemed to have been extended till further orders from the state. This allows mines to operate even without a permit. To avoid this, the new 2015 amendment has done away with the requirement of renewing mine leases. They can now be given for a flat 50-year period. But this creates a new set of problems.

Inspection and compliance status in major minerals

Number of mines	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15 (till October 2014)
Inspected	2,371	2,177	2,563	2,520	2,512	1,282
Where violations observed	797	685	1,722	1,780	2,049	742
Issued show cause notices	404	168	856	768	955	311
Where prosecution cases were launched	17	20	23	23	58	52
Where operations suspended due to violation of mining plans, submitting incomplete/false information regarding trading, storage, end-use or export of minerals	79	104	402	1,376	900	243
Recommended to the state government for termination	-	-	5	487	223	111

Source: Anon, Lok Sabha, unstarred question no. 1912 (2013) and question no 16 (2015); details of inspection carried out by IBM

In recent years, high levels of non-compliance have been reported by IBM under MCDR, 1988, with respect to statutory requirements such as mining plans, schemes of mining and mine closure plans for major minerals[46] (*see Table: Inspection and compliance status in major minerals).*

Take the following example from Mineral Conservation and Development Rules (MCDR), 1988:

"[H]older shall take all possible precautions for the protection of environment and control of pollution while prospecting, mining, beneficiation

or metallurgical operations". What are these precautions?

On storing overburden (the earth dug out during mining) and waste rock, MCDR rules mention that "dumps shall be properly secured to prevent escape of material therefrom in harmful quantities which may cause degradation of environment and to prevent causation of floods". However, there is no clarification on what is a harmful quantity.

For mine restoration, the rules say that "wherever possible the waste rock, overburden, etc., shall be backfilled into the mine excavations with a view of restoring the land to its original use as far as possible". It further says that "wherever backfilling of waste rock in the area excavated during mining operations is not feasible, the waste dumps shall be suitably terraced and stabilised through vegetation or otherwise". However, the phrases "wherever possible" and "not feasible" remains undefined, as does "otherwise". The way certain provisions are spelled out suggests that a lot is left to the interpretational spin of the miner.

According to a response of the Minister of Mines to a question in the Lok Sabha in November 2014, and to a similar question earlier in March 2013, it is evident that the number of mining violations has increased considerably over the years.[47] Between 2009 and 2014, violations under the various provisions of MCDR have nearly tripled from 797 in 2009-10, to 2049 in 2013-14.

In 2013-2014, serious violations have been particularly observed in carrying out mining operations in contravention with the mining plans as per rule 13(2) of the MCDR, 1988 and also in terms of submitting incomplete or false information regarding trading, storage, end-use or export of minerals as per rule 45(7)(i)(a) of MCDR. Such violations have led to the suspension of mining leases, the number of which increased more than 11 times from 79 in 2009-2010 to 900 in 2013-2014.

The regulations do not clearly mandate a cumulative assessment of mining activities, which is of vital importance given the widespread and long-term impacts of mining

Inadequate provisions

The regulations do not clearly mandate a cumulative assessment of mining activities, which is of vital importance given the widespread and long-term impacts of mining.

There is no clear provision/guideline yet for regulating small scale mining, i.e. mine leases for an area below 5 ha, particularly for sand mining, which has witnessed exponential growth following India's construction boom.

The requirement of scientific mining and mine closure is also still in the cradle in terms of implementation.

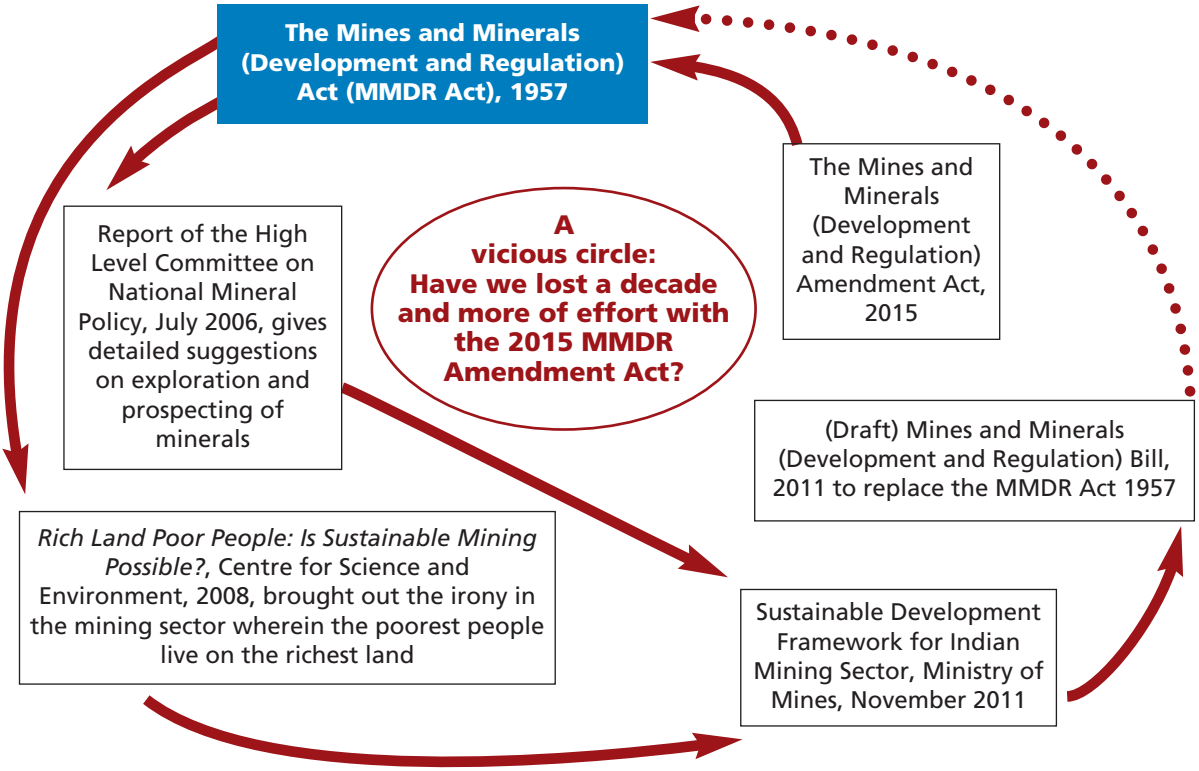
Poor implementation and oversight

A major problem with regulating mining is the poor implementation and oversight even for the regulations that are in place. Implementation of regulatory provisions suffer from multiple issues, from need to cater to GDP growth and serving special interest, to lack of resources and capacity required for effective implementation.

Regulatory inefficiency stemming from overlap in responsibilities is also a major reason for poor law enforcement and monitoring. The four main regulatory institutions, MoEF, IBM, SPCBs and the DGMS, governing the environment, health and safety aspects of mining, have a lot of overlap in responsibilities, with no capacity to monitor and enforce the law. Such overlap also creates confusion and delay in decision making.

G. Changing the mining landscape?

Over the years, the mining sector has become synonymous with exploitation, be it of the environment, people or mineral resources. A long conversation to amend the MMDR Act, 1957, the centrepiece legislation of mining, has shadowed this sorry state of affairs.



Wrong turn?

The Mines and Minerals (Development and Regulation) Amendment Act (MMDR), 2015, passed recently by the Parliament, is supposed to be the latest step in the march towards a better mining regime. The Amendment Act specifies that it "seeks to amend the MMDR Act in order to develop [the] country's mining sector to its full potential and to put the nation's mineral resources to the best use for national economic growth." The Ministry of Mines further indicates that the Amendment Act is designed to eliminate discretion in the grant of mineral concessions, bring in transparency in the allocation of mineral resources, simplify procedures and remove delays in decision-making, provide impetus to the mining sector, encourage exploration and investment, safeguard interest of affected persons and develop stronger provisions to check illegal mining.

Does the Amendment Act live up to these promises? Or have we taken a wrong turn with the Amendment Act?

Governance

Institutional capacity

There is a serious lack of capacity within the government, at all levels, for assessment of mineral resources, development of mining plans, and monitoring and enforcement of mining regulations.

Major reforms in governance proposed under the Amendment Act are:
Introduction of an **auction mechanism** for allocation of all mining concessions.
Provisions for **reduction in delays** in decision-making.
Increasing penalty for violations of mining regulations.
Creating **special courts to offer speedy trials** of mining offences.

However, these do not add up to a solution of the fundamental problems of the mining sector, in fact they could, potentially, create more problems.

We need to have technically and scientifically competent institutions both at the Central and state levels for better management of the sector.

There also exists a huge multiplicity in the institutions concerning mining governance. There is a lot of overlap in the responsibilities of these institutions, with each having very little capacity to monitor and enforce the law. According to the first interim report of the Shah Commission (2011) illegal mining arises because of the non-enforcement of provisions of the MMDR Act, 1957 empowering Central and state government officials to enter and inspect any mine and undertake necessary surveys. It has not been possible to carry these surveys because of shortage of staff. Increasing institutional capacity, therefore, means increase in staff as well as condensing the functions of many different

We need to have technically and scientifically competent institutions both at the Central and state levels for better management of the sector

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organisations. Streamlining the functions of these institutions and strengthening their capacity should have been a priority of the reform exercise. The 2015 amendments fail to do this.

Auctioning in the dark

The most substantial reform in governance suggested by the Amendment Act is auctioning all types of mineral concessions, including prospecting-cum-mining leases, by way of competitive bidding. This is to bring transparency in the process of granting mineral concessions and increase revenue for the respective state governments.

Streamlining the functions of institutions and strengthening their capacity should have been a priority of the reform exercise. However, the 2015 amendments fail to do this

Now, auctioning is the best way to allocate mineral concessions where the deposits can be accurately established and proper valuation can be done. This will capture the windfall profits of mining as well as bring transparency in the allocation of leases. But in cases where mineralisation is not properly established, auctioning can result in undervaluation of minerals and subsequent lower revenue earnings for the state government; or overvaluation, resulting in the inability of the concession holder to meet commitments. Auctioning, therefore, is not suited for prospecting. The report of the Hoda Committee has observed that "prospecting is a high-risk venture in as much as the prospecting agency has to spend considerable amounts on activities that may or may not result in finds of commercially exploitable deposits".[48]

For prospecting, a transparent "first-in-time" principle is widely

State wise summary of lease distribution as on March 31, 2013

State	No of Leases	Percentage	Area (In ha)	Percentage
Andhra Pradesh	2,001	18.02	68,009.35	13.65
Assam	7	0.06	889.50	0.18
Bihar	9	0.08	1,382.66	0.28
Chhattisgarh	308	2.77	22,723.20	4.56
Goa	337	3.03	24,522.12	4.92
Gujarat	1,104	9.94	29,607.04	5.94
Haryana	110	0.99	10,974.99	2.20
Himachal Pradesh	45	0.41	2,546.68	0.51
Jammu & Kashmir	57	0.51	2,450.92	0.49
Jharkhand	294	2.65	35,028.70	7.03
Karnataka	594	5.35	48,841.60	9.80
Kerala	87	0.78	3,071.82	0.62
Madhya Pradesh	1,117	10.06	34,455.74	6.92
Maharashtra	261	2.35	16,061.86	3.22
Manipur	2	0.02	610.17	0.12
Meghalaya	18	0.16	606.19	0.12
Odisha	490	4.41	74,694.74	14.99
Rajasthan	3,185	28.68	106,139.13	21.30
Sikkim	3	0.03	96.32	0.02
Tamil Nadu	924	8.32	9,890.98	1.99
Uttar Pradesh	23	0.21	3,964.70	0.80
Uttarakhand	86	0.77	1,280.51	0.26
West Bengal	42	0.38	400.41	0.08
All India	**11,104**	**100**	**498,249.33**	**100**

Source: Ministry of Mines

Prospecting licences granted from 2010-11 to 2012-13 (by states)

State	2010-11		2011-12		2012-13	
	No	Area (In ha)	No	Area (In ha)	No	Area (In ha)
Andhra Pradesh	9	3,364.05	7	2,040.16	14	997.53
Arunachal Pradesh	-	-	-	-	-	-
Chhattisgarh	5	71.47	4	1,540.65	-	-
Gujarat	2	24.70	-	-	1	5.31
Jharkhand	10	2,587.35	2	44.50	-	-
Madhya Pradesh	66	25,637.41	67	4,810.26	55	6,748.16
Maharashtra	14	3,282.20	2	1,031.55	-	-
Manipur	-	-	4	6,000	5	2,700
Rajasthan	11	650.76	13	4,190.27	27	2,905.90
Tamil Nadu	1	2.02	-	-	-	-
Uttarakhand	13	62.17	16	89.19	2	9.8
Total	131	35,682.13	115	19,746.58	104	13,366.70

Source: Indian Bureau of Mines

practised.[49] If prospecting-cum-mining leases must be auctioned, it should be allowed only for bulk minerals such as like iron ore, bauxite and limestone, where the mineral deposits are more uniform and predictable, and where substantial work may have been done by state agencies. For deep-seated minerals (base metals, noble metals, rare earths etc.), given the high-risk nature of exploring and prospecting them, the "first-in-time" principle must be retained to ensure certainty of investments.

Finally, even for auctioning to deliver on the desired goals, strong and scientifically competent institutions will be needed. In the absence of such institutions, auctioning might just become a market-based tool for generating revenue, while problems of accountability and poor mining practices will worsen. Auctioning, therefore, is not a substitute for but part of the larger reform in mining governance, a fact that the Amendment Act has failed to recognise.

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Tilting balance to govern

The mining sector is one of the very few sectors where a delicate balance of power exists between the Centre and the states. The Amendment Act, instead of strengthening institutions and improving governance and regulations at the state level, creates a huge scope for interference by the Central government.

While the states will continue to have the power to grant mine leases, the bidding parameters as well as terms and conditions for auctioning of mine leases and prospecting-cum-mining leases are to be determined by the Central government. This effectively means that while the Centre will dictate the process by setting the rules for auction, the states will be left to do the bureaucratic paperwork.

The 2015 amendment also introduces new provision empowering the Centre to give directions to the state governments for implementing various provisions of the MMDR Act. This is in addition to the existing power of the Central government to revise any order passed by the state with respect to all minerals other than minor minerals, as specified under the parent MMDR Act.

"Dig and run": Welcome back

Environmental management and performance of mines is largely dependent on how a mine is opened and how it is ultimately rehabilitated and closed. For this, requirement of progressive and final mine closure plans have been created under the Mineral Concession Rules, 1960 and in the Mineral Conservation and Development Rules, 1988, by introducing appropriate amendments in 2003.

Under the new Act, all mining **leases will now be granted for 50 years**.
The **lease for existing mines has also been extended** to 50 years.
After expiry, **leases can be re-auctioned**.
There are **no provisions for intermittent assessment** of mines.

A long lease period, without any provisions for periodic audit, means that regulatory supervision will be further downgraded

Together, these provisions provide little incentive to mining companies to invest in progressive mine closure, they might rather keep the mines open for as long as they want and shift the burden of rehabilitation to future lease-holders through re-auctioning. The long lease period will also create difficulty in establishing appropriate financial guarantees to ensure mine closure takes place. Given the poor assessment and monitoring of mines in India, renewal of leases has been the only time when there is an opportunity to assess the environmental performance of mines. A long lease period, without any provisions for periodic audit, means that regulatory supervision will be further downgraded.

P MADHAVAN

Targets and achievements of coal blocks allocated for captive mining

Year	Target		Achievement		Shortfall
	No of coal blocks	Production (in MT)	No of coal blocks	Production (in MT)	from target (in MT)
2007-08	28	22.48	15	21.25	1.23
2008-09	58	35.72	25	30.01	5.71
2009-10	77	47.09	26	35.46	11.63
2010-11	86	73	28	34.64	38.36
2011-12	93	104.08	29	36.17	67.91

Source: Adapted from CAG report (2012) p 13

Therefore, it is very likely that the new Amendment Act will bring back the practice of "dig and run", adding to the country's poor legacy of "orphaned" mines.

Keeping mines captive

The Amendment Act extends the lease period for captive mines till March 2030, or for a period of 50 years from the date when the lease was granted, whichever is greater.

The practice of captive mines has been allowed to continue on the assumption that it lowers costs of goods and services in the country. However, repeated evidence of the arbitrariness and inefficiency that captive mining entails suggests that the opposite might be true. There is humongous corruption, which came out most evidently in the coal scam. Companies with captive mines, of coal and iron ore etc., also distort the market by selling their products in the open market.

Captive mining also has very poor production and environmental performance. According to the Comptroller and Auditor General (CAG) Report (2012) on allocation of coal blocks and augmentation of coal production by Coal India Limited, the actual production from captive coal mines has been much less than the targets. An analysis of target versus production between the periods of 2007-08 to 2011-12, shows that production has been markedly less. For instance, out of the 86 coal blocks slated to begin production by 2010-11, only 28 had commenced production by March 2011. Actual production from these captive coal blocks was only 34.64 MT, as opposed to a target of 73 MT, a more than 50 per cent shortfall. For 2011-12, the shortfall was nearly 68 per cent.

Captive mining have a very poor environmental record. An analysis of the steel sector by CSE in 2012 brought out the poor environmental performance of steel plants with captive iron ore and coal mines. The performance of these plants was found to be far worse than the ones that did not rely on captive sources of raw material, despite the fact that captive plants recorded higher profit margins due to the availability of cheaper raw material. The fact is that companies acquiring raw material and energy from the open market at a higher cost have innovated in technology to improve efficiency, while those with captive iron ore and coal mines do not have any incentive to do so.[50] By encouraging the regime of captive mines, the Amendment Act does a disservice to the cause of the conservation of environment.

By encouraging the regime of captive mines, the Amendment Act does a disservice to the cause of conservation of the environment

AGNIMIRH BASU / CSE

People

Equity or charity

Windfall profits enjoyed by mining companies must be shared fairly with local communities for their socio-economic benefit. However, our regulations have failed to make this possible. This is evident in the grinding poverty and poor social conditions that people of India's richest mining districts suffer from. Observing this ironic dichotomy, the Sustainable Development Framework had referred to this as "historical hurt" and emphasised the need for "community engagement" and "benefit sharing" with respect to mining activities.

The (lapsed) MMDR Bill, 2011, had, for the first time ever, created provisions for addressing such inequality. The Bill proposed the establishment of DMFs by state governments in mining districts. It required that for major minerals the holder of a mining lease shall pay the DMF an annual "amount equivalent to the royalty paid during the financial year". For coal and lignite, it was to be an amount equal to 26 per cent of the profit after tax. The mechanism of disbursement of fund by the DMF was also given. For example, it was specified that monetary benefits will be provided to affected persons on a monthly or quarterly basis, depending on the nature in and the extent to which they are affected. Some money obtained through this process was also to be used in supporting local infrastructure. To maintain transparency in fund disbursement by the DMF, a periodic audit of the DMF would be done by the state government in consultation with the Comptroller and Auditor General of India.

The "equivalent" royalty provision was introduced in the 2011 Bill to recognise the people of a mining area as stakeholders in the mining activities, having equal rights vis-à-vis the mining companies and the government to benefit from the profits of mineral extraction.

However, the 2015 Amendment Act completely ignores this principle. Leaseholders are now required to pay the DMF "not more than one-third" of the royalty for all respective minerals in addition to the royalty paid to the state. Therefore, the 2015 Amendment Act has reduced the "rights" of people into "charitable contributions" that people in mining areas are ought to receive.

The 2015 Amendment Act also does not provide any clarity on fund disbursement and utilisation by the DMF. It is also now up to the states to decide how these funds will be used. So, not only has the size of the funds been considerably reduced, they can now be potentially misused too.

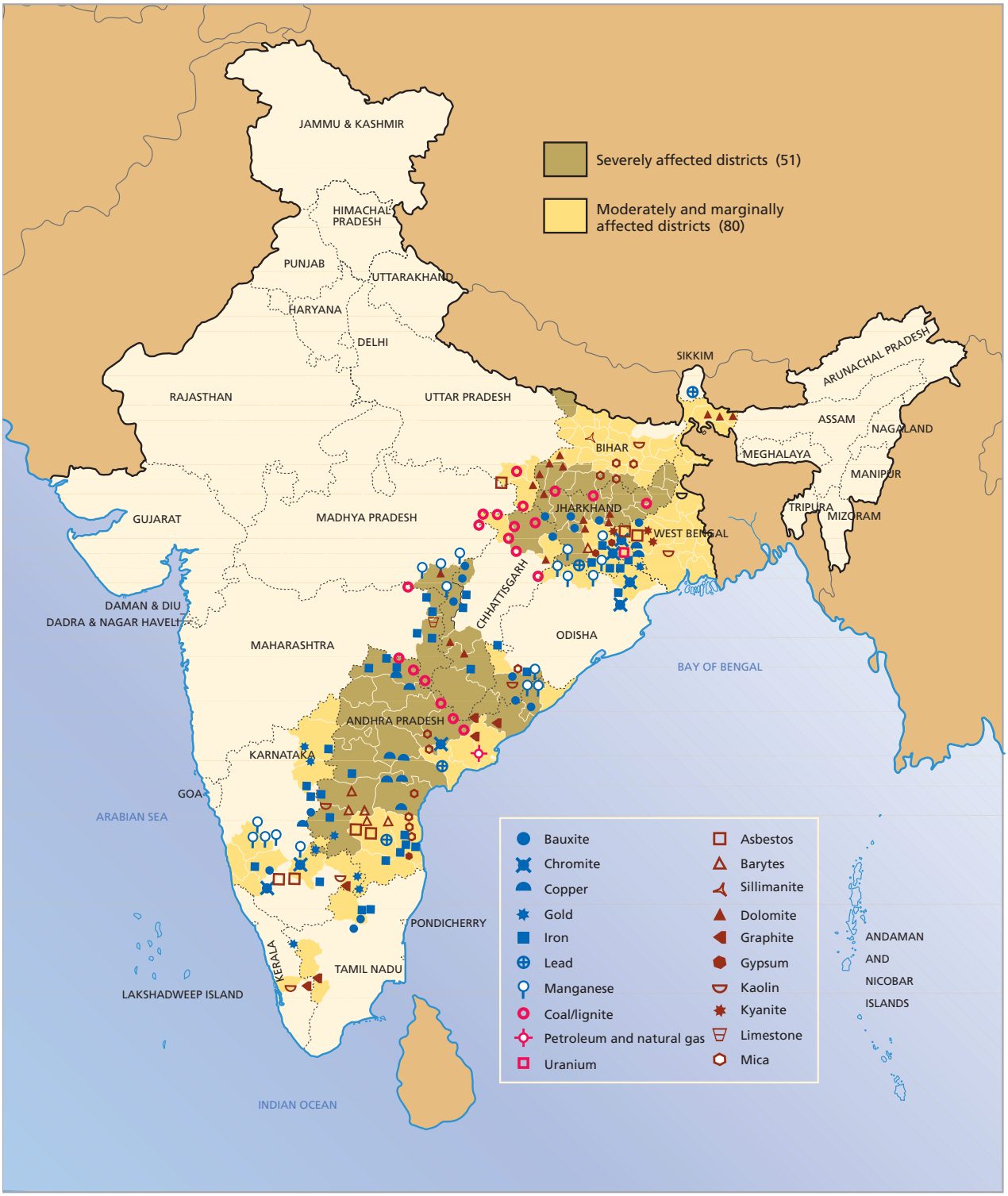
Ignores rights, increases alienation

The most regressive part of the 2015 Amendment is its denial of the usufruct and traditional rights of communities over their land and resources. In the 2011 Bill, compensation, rehabilitation and resettlement had to be provided not only for persons having occupational rights over the land, but also for those having the usufruct and traditional rights. Removal of such provision will further increase the distrust that exists between mining companies and local communities. The distrust and anger of the dispossessed is evident in the uprisings in the forested and economically backward mining areas of Chhattisgarh, Jharkhand, Odisha and Andhra Pradesh.

Moreover, the Amendment Act has been rolled out at a time when multiple

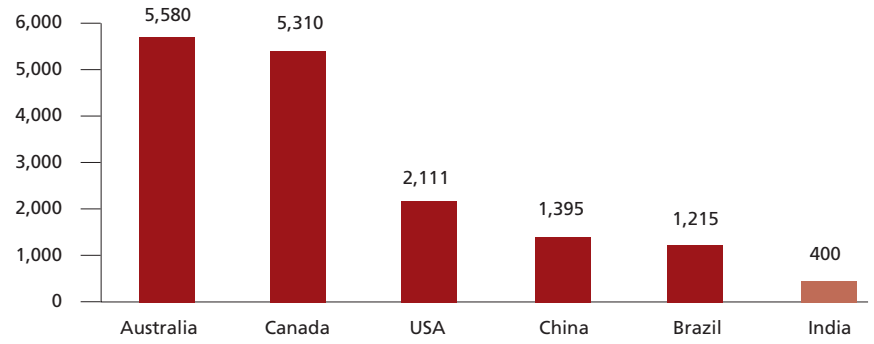
The red spread

Naxalites are operational in most mining districts, targeting companies as exploiters of poor and tribal people



Source: ***Rich Land, Poor People; Is Sustainable Mining Possible?***

Absolute investment in exploration (Rs per sq. km)



Source: Strategy Paper for the Ministry of Mines, November 2011

By limiting innovations and investment, and with a short-term focus on boosting revenues, the Amendment Act jeopardises the sectors' long-term growth

reforms are being proposed by the Central government in other laws with respect to green clearances, forest and land rights. The recent report of the Union environment ministry's High Level (Subramanian) Committee of November, 2014 has recommended the need for developing a special mechanism to speedily deal with environmental approvals for mining projects. The Committee has also prescribed that only "genuine local participation" will be permitted during public hearings. The prescriptions, read together, create an excuse to pay even less attention to concerns of the mining-affected people and dilute the process of public consultation.

On the other hand, the proposed Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement (Amendment) Bill, 2015 removes the requirement of public hearing during the acquisition of land for infrastructure projects, which includes activities related to mining. The parent Land Acquisition Act, 2013 required public hearing to take place during the phase of Social Impact Assessment. Moreover, the 2013 Act also specified that at the initial stage, for private companies to acquire land for public-private projects, a 70 per cent consent of affected families will be required, while for stand-alone private projects, 80 per cent consent will be required. The 2015 Land Bill now removes such requirement for infrastructure projects, including mining.

Not a win-win for the mining sector either

Ironically, the 2015 amendments leave a big question mark on the future of the mining sector itself. By limiting innovations and investment, and with a short-term focus on boosting revenues, the Amendment Act jeopardises the sector's long-term growth.

Sustainable growth of the mining sector is dependent on optimum exploration of minerals. This requires adoption of state-of-the-art technologies and large investments. However, the Amendment Act discourages the risk capital which can be made available by private investors by not providing any clarity on return on investments. On the one hand, it promotes an "open sky" policy for reconnaissance by granting non-exclusive permits, while on the other hand it does not guarantee any return to the investors. This issue did surface in discussions of the Hoda Committee Report, and the proposal was, when no guarantee can be given for prospecting licences, the globally accepted "first-in-

time" principle must be adhered to. It will incentivise investment in high-tech exploration, urgently needed for India's deep-seated strategic minerals.

The proposal to set up a National Mineral Exploration Trust for improving mineral exploration, by contributions from the mining lease holders, is also grossly inadequate. The corpus to be developed by payment of a sum equivalent to 2 per cent of the royalty paid is not likely to grow to more than Rs 500 crore (about US $90 million). This will not be sufficient for exploration of strategic minerals needed for new developments in electronics, renewable energy and advanced energy storage. Australia, with a similar potential of mineralisation, has an exploration budget of US $3 billion.

Moreover, this money is largely to be used for exploration by government institutions whose performance in the past has not been up to the mark. The Hoda Committee had specifically noted that "due to lack of resources in terms of manpower, equipment, and technology, the Geological Survey of India has not been able to do either extensive or intensive regional exploration for most minerals other than coal". It further noted that "with limited exploration, quantification of any significance has not been possible".[51]

Limiting the scope of exploration will also aid cherry-picking of minerals by companies. While mineral deposits close to the surface, such as bulk minerals, will continue to be the low-hanging fruit for the mining companies to exploit, extensive deposits of many important deep-seated minerals will remain unexplored.

Limiting the scope of exploration will also aid cherry-picking of minerals by companies

SUNITA NARAIN / CSE

H. The way ahead

The mining sector is an important part of India's growth calculus and will continue to be so in the foreseeable future. Development of the mining sector must be envisaged in the environmental and social context. To let the rush for minerals and the drive for profit overrule the concern of people and environment would be counterproductive in the short-run, and futile in the long-run. The challenge is to achieve a balance in the mining equation.

The mining sector needs to be guided by four primary principles:

- Making communities partners in mining benefits.
- Mining within environmental and ecological limits.
- Developing sound regulations and strong and accountable institutions to manage mining more effectively and with precision.
- Doing mining to meet the needs of the nation, not the greed of the miners.

DEBANJAN BANDOPADHYAY

SUSTAINABLE DEVELOPMENT FRAMEWORK

The Sustainable Development Framework (SDF) for mining, as developed by the Ministry of Mines in November 2011, is an approach towards "fuller integration of sustainable development in practice". The SDF provides guidance for mining companies to improve their environmental and social performances. It also provides a benchmark against which all mining and related activities and governance decisions are to be evaluated over time.[52]

Emphasising on the need for incorporating environmental and social concerns within mining decisions, and framing a governance process commensurate with that, the framework underlines seven basic principles. These are:

- Incorporating environmental and social sensitivities in decisions on leases;
- Undertaking strategic assessment of key mining regions at periodic intervals;
- Managing impacts at the mine level by developing sound management systems;
- Addressing issues of land, resettlement and other social impacts;
- Commitment to community engagement, benefit sharing and contribution to socio-economic development;
- Develop provisions for mine closure and post closure situation;
- Reporting on performance on a regular basis with respect to the provisions of the SDF.[53]

The mining sector is very complex; and new developments take place constantly. The irregularities in the sector cannot be removed by linear tactics or by relying on stop-gap measures. The sector deserves a more comprehensive approach.

SDF can guide us to adopt mining practices that are socially and environmentally acceptable and economically viable

Practice mining within the SDF

Inasmuch as mineral resources are finite and non-renewable, mining can never be absolutely sustainable. However, it is still possible to mine intelligently, so that our mineral resources last as long as it takes to develop an alternate to them. SDF can guide us to adopt mining practices that are socially and environmentally acceptable and economically viable.

Set the social contract right

Involve people in the decision-making process

Since mining affects local population the most, it is only fair that the opinion of these people should play an important role in deciding where and in what way mining should take place. Therefore, a primary clause of writing a just social contract for mining must be taking into account people's concerns and obtaining their consent. Provisions in the current legislative framework stipulate listening to the people but, unfortunately, the practice has been the opposite.

For instance, the obligatory public hearing for environmental clearances and the requirement of obtaining consent of gram sabhas for forest clearances have been rendered to nothing more than a bureaucratic exercise over the years. On the one hand, there is a blatant disregard of these requirements, and on the other hand a systematic dilution of these processes is also being carried out. Recent developments in the laws and regulations dealing with land

CONSENT THAT IS FREE, PRIOR AND INFORMED

The pronouncement of protecting the rights of tribal people against mining activities, and the need for their consent, first came to India by way of the landmark Samatha Judgement in 1997.[54] It was specifically noted that "the competing rights of tribals and the State are required to be adjusted without defeating rights of either".[55]

The order was passed by the Supreme Court of India in response to a petition by the activist group Samatha, who contended land acquisition by private companies in Nimalapedu village of Andhra Pradesh for calcite mining. The Court observed that minerals in Fifth Schedule Areas (which are tribal areas) have to be exploited by the tribal or state instrumentalities alone. If mineral extraction by private entities is authorised in the Scheduled Areas, provisions of habitat protection and security of livelihood in such areas must be provided,[56] and mining should not be allowed without the participation of local people.[57]

The need to recognise the voice of the tribal people about their resources and when their lands are being exploited is also recognised through other globally accepted principles. A significant one is the principle of Free, Prior and Informed Consent (FPIC). The FPIC requires that all indigenous people have a right to consent about proposed development projects and all other activities affecting their land and territories. The principle is recognised under the United Nations Declaration on the Rights of Indigenous Peoples (2007); several international organisations and a few governments have adopted it as well. It has also been recognised by financial institutions such as the International Finance Corporation.[58] Further, there is a discourse at the international level to extend the FPIC principle beyond indigenous peoples to include all local communities.

Such principle should also be made binding in India by instituting systemic changes, as not all marginalised people can be expected to be represented in the court to get a fair share of their rights.

acquisition, environmental clearance and forest rights will only encourage more violations and dilute the safeguards further.

Addressing people's concern and taking their consent are principles that cannot be compromised. We should strengthen existing regulatory provisions and, additionally, institute principles such as Free, Prior and Informed Consent (FPIC).

This will also remove the distrust that exists between mining companies and the community and help make mining projects viable.

Sharing benefits: The right way

Recent revisions in mining regulations have incorporated the principle of sharing of benefits with local communities. However, just specifying an amount and creating a body, in this case the DMF, is not enough. A mechanism must be put in place to ensure appropriate channelisation and utilisation of money.

We should strengthen existing regulatory provisions and, additionally, institute principles such as FPIC

For example, the money accrued by the DMF can be paid, monthly, or at any other appropriate interval, to the families affected by mining-related operations. This should not just be restricted to people holding occupational rights on the land, but also for those having usufruct or traditional rights. The monetary compensation they must receive should also take into account the nature, and the extent, to which they are affected. Most importantly the money must be utilised to ensure improvement of their economic and social conditions.

It is also important to ensure transparency in and accountability of the DMF. The DMF must maintain proper records of lease holders in the district,

the annual payments made by them, and the disbursal of benefits to affected persons. The DMF must also prepare an annual statement of accounts, and an annual audit mechanism must be put in place to review the Foundation's activity. Finally all information regarding inflow and outflow of funds should be made available in public domain.

It is important to ensure transparency in and accountability of the DMF. The DMF must maintain proper records of lease holders in the district and the annual payments made by them, and the disbursal of benefits to affected persons

Environmental contract should not be a give-away

Mining takes a heavy toll on the environment, leading to depletion of resources and pollution. Though we have numerous regulations concerning mining and environment and multiple authorities related to their implementation, destruction of forests and land subsidence continue unabated and the levels of pollution are steadily rising. This needs to change.

Green clearances not green-wash

An evaluation of green clearances of mining projects shows that environmental concerns have barely been a roadblock for granting mining approvals. Mining projects have been allowed to come up in areas which are critically polluted, or forest areas rich in biodiversity.

Decisions are often taken based on poor documentation of environmental conditions and project impact. The poor quality of EIA reports, which form the basis for deciding environmental clearances for mining projects, is well established. The promoters of the project commission an agency or a consultant to prepare such reports, which typically never disclose inconvenient truths. The decision-making authorities do not have the capacity to verify these. There is practically no monitoring once projects are commissioned. The situation is worse when it comes to the forest clearance component as there is not even a requirement of an impact assessment report.

The impact assessment process should be made rigorous. The process of forest clearance must be revamped, mandating a thorough impact assessment of forestland diversion, considering impacts on the bio-diversity, ecology and the people. Regional impact assessment must be made mandatory.

In fact, we must develop regional mining plans taking into consideration the cumulative environmental and social impacts.

Consolidate clearances

There is needless multiplicity of clearances and permits required for mining projects in India. Even then the environment gets neglected, as the regulatory and bureaucratic maze becomes an end in itself. We need to consolidate all clearances and streamline the clearance mechanism so that project impact is fully understood and decisions taken accordingly. Clearances need to be given on the basis of a single consolidated comprehensive assessment report.

'CBI probe into the environmental clearances for mining'

Close what you open

Abandoned mines in the country, besides representing the loss of valuable land, are both an environmental and a safety hazard. Currently,

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It is important to have a detailed inventory of abandoned mines in the country to ensure effective measures for mitigating their impact

the mining sector does not have a detailed inventory of its abandoned mines. The fact is evident from a submission of the Ministry of Mines in Lok Sabha in December 2014. Responding to a question on the number of abandoned mines in the country, the ministry said that there is no "separate classification" of abandoned or sick mines giving just an estimate for non-working mines.

It is important to have a detailed inventory of abandoned mines in the country to ensure effective measures for mitigating their impact. The provisions of mine closure must also be strengthened with a focus on how mining areas can be restored for productive use effectively. Most importantly, an intermittent assessment mechanism must be put in place to ensure progressive mine closure.

Revise pollution measures

The existing standards for estimating pollution from mining activities are concentration based. However, concentration-based standards do not represent correctly the extent or level of pollution. For example, very large quantities of effluents can be within the limits of concentration-based standards. However, the sheer volume of effluents can still contribute to significant pollution load of the receiving medium, which may not have the necessary assimilating capacity. Therefore, load-based standards must be instituted. Standards must also be revised based on Best Available Technologies to meet them.

Moreover, there is no regulatory standard for containing the impact of mining on water, while evidently mining continues to be a major cause of ground and surface water pollution, groundwater depletion, reduction in surface water availability and subsequent disturbances in the watershed.[59] The Environmental Management Plans poorly address such issues. There is thus an urgent need to develop and planning mechanisms to deal with these issues.

Reformed institutions, tougher regulations

The entire debate on reforming mining governance is essentially contained in two issues: auctioning of mineral concessions and the granting of green clearances for mining. However, the multiple irregularities that exist in the mining sector today is not because of the lack of auctioning or dearth of clearances. The irregularities exists because the mining laws have not been appropriately structured to deal with the multiple challenges, there has been lack of synergy between various rules and regulations that has created confusion and, crucially, the question of institutional capacity and accountability has been poorly addressed.

Therefore, while auctioning is an important component of the reform in governance, all the above factors need to be considered alongside to actually improve mining governance.

Year and state-wise cases of illegal mining for major and minor minerals

Year	Illegal mining cases
2008-09	44,674
2009-10	69,316
2010-11	78,189
2011-12	94,604
2012-13	98,597
2013-14	88,689
2014-15 (Qtr ending September 2014)	33,258

Source: Ministry of Mines, March 2015

Strengthen institutions

There is a serious lack of capacity within the government at all levels for project assessment, monitoring and compliance. This is a prime reason for the huge gap between policy and implementation. The government must provide resources, build capacity and reform institutions for better implementation of laws and regulations.

The Ministry of Mines' own SDF report had noted that "each operating mine can be visited no more than once a year by the Indian Bureau of Mines". As of 2012-13 estimates of the IBM, of the total number of reporting mines, nearly 20 per cent were left uninspected by the IBM.

The situation is particularly poor with the inspection of small scale mines. The SDF acknowledges this fact. The document notes that since the priority of IBM is to monitor larger mines, small mines can hardly be covered.

The capacity of monitoring and enforcement is equally weak at the state level. The SPCBs have a serious shortfall of resources and manpower to monitor pollution resulting from mining activities. For instance, in Odisha, a major mining state, while the workload of the pollution control board has gone up three to four times between 1996-97 to 2006-07, the man power has only increased 1.5 times.

The government must provide resources; build capacity and reform institutions for better implementation of laws and regulations

SHAYAMAL/CSE

The funds required for strengthening these institutions can be obtained by levying a mining and environmental cess. The proceeds can then be used for developing capacity of the Indian Bureau of Mines and similar institutions involved in the monitoring of mining activities. In the case of the state boards, an environmental cess based on polluter pays principle can be levied, which can be used to make the institutions financially strong and independent.

Develop proper rules and synergise regulatory provisions

The MMDR Act, the amendments to it, and the rules auxiliary to it fail to address a lot of issues that have sustained unscientific and illegal mining practices over years. For instance, it must be a mandatory that every mining lease shall have a progressive mine closure plan and a final mine closure plan, prepared in the context of a SDF.

Similarly, the MCDR, 1988, which deal with the matter of overburden dumping, does not clearly specify that overburden should be dumped inside the lease area. The rules only provide that the overburden and waste material obtained during mining operations should be dumped separately on the ground earmarked for the purpose, which should be away from the boundary of the working pit. Such lack of clarity has helped mining companies continue dumping overburdens outside the lease area in an irresponsible manner. This needs to be addressed by introducing the necessary changes in the legal apparatus.

It must be mandatory that every mining lease shall have a mine closure plan, a progressive mine closure plan and a final mine closure plan prepared in the context of an SDF

Design appropriate regulatory tools

Designing proper regulatory tools is crucial to ensure that regulatory provisions are implemented in a non-arbitrary manner. This must be the case most with auctioning. Though auctioning is a market mechanism, social and environmental safeguards must also be made an integral part of the bidding proposal and form a basis for the evaluation. Also, technical evaluation should be done separately from financial evaluation to ensure the viability of a project. Finally, all information related to bidding must be put in the public domain to increase accountability.

Regulate all mining activities

All mining activities should be regulated irrespective of the size of the mine lease or type of the mineral. Small mine lease areas only appear to have negligible impacts in isolation, while in reality the leases occur in proximity to each other and the overall cumulative impact is significant.

Finally, no law or regulation will be enough unless there is major rethinking about the manner in which we utilise our mineral resources. Under a "business-as-usual" scenario the demand for various minerals will continue to grow, and so will the pollution and the alienation of affected communities. The world is on a brink, environmentally and socially. Past models of mineral extraction cannot be replicated. We need a paradigm shift in the utilisation of mineral resources, from use to re-use. Although this thinking is not new, its urgency has almost reached a point of necessity. We cannot afford further delays. Our scientific and technological advancements must compel us to develop policies that promote the recycling and reuse of existing material stocks, rather than cannibalising the very earth which sustains us.

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The need for reform in the legislative and regulatory framework of India's mining sector has long been a pressing one. The NDA government has passed the Mines and Minerals (Development & Regulation) Amendment Act, 2015. Together with critical changes in land laws and environmental clearance regime, the Act has the potential to bring substantial change in the way environment and resources are managed in India.

But while the Act tries to skirt around or obliterate the old, stubborn questions, they remain. Can mining be sustainable without taking into consideration the needs of the environment? Can we progress without safeguarding the interests of the people most affected by mining? Is transparency and accountability needless red tape or a fundamental pillar of democracy? This report digs deep into these questions to excavate the truth of India's mining future.

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