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INDIVIDUAL PROJECT

ENVIRONMENTAL SCENARIO FOR SMALL & MEDIUM SCALE MINING
INDUSTRIES IN INDIA

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GUJARAT

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Introduction

The most important aspect small scale mining in India is absence of any nationally accepted criteria for identifying such mines, and the government is silent in this regard. The National Mineral Policy, placed in the table of Parliament on 9th August, 1990 has assigned “small deposits to small scale mining. Mines Act 1952 does not make much of a distinction between small mines or others except for employment of managers, Welfare Officers, etc. However, some of the mines are exempted from most of the provisions of mines Act 1952 in certain cases, mentioned under Section 3 on the basis of type of mineral mined, purpose of mining like for prospecting and other, depth of working and no. of workers etc. NISM, has very recently categorised small, medium and large scale mines as below:

<u>Annual Production</u>	<u>Category</u>
Upto 1.0 lakh tonnes	Small scale
1.0 –5.0 lakh tonnes	Medium scale
> 5.0 lakh tonnes	Large scale

contribution of SSM in National Economy

as a result of necertainty in defining SSM, no statistical data are collected, maintained and published for proper appreciation of the role of SSM in Country’s economy although such mines constitute about 95 % of the total number of mines (about 8700) and produce about 42% of the value of total output of non fuel minerals and minor minerals taken together and avout 60% of fuel mineals (coal) .If we add up the production from non reposting informal mines (500), all of which work on

small/tiny scale (mostly minor minerals), the total contribution of SSM would be slightly more. considering production from the medium mines (0.1-0.5 mtpy) which constitute about 5 to 6% of the total number of all mines (54 % of coal mines), it won't we un-reasonable to speculate that in India, the small and medium mines are responsible for pover half (50%) the total non fuel mineral and Minor Mineral Production and 28-30 % of coal production in terms of value during 1997-98.

Regarding the role of SSM in value added foreign trade it appears that SSM in 1996-97 contributed 15.50% to the minerals. The rest 9.5% by non SS Mines. The balance 75% was accounted for by processed (cut & Polished) diamond Since Diamond export is more or less a bonanza contributed by village level cottage industry, processing imported raw diamond, our mineral industry cant claim any special credit for it .Hence, considering the balance 25% of the export, in can be seen that with 15.5% share out of it, the contribution of excluding export of processed diamond.

Yet this sector of economy, does not find appropriate place in our policy statement. We have a special place for small-scale industries (SSI) but no such place for SSM. And SSM is not considered as an industry for claiming any benefit from the long list meant for SSI.

**Table 1: Status of Small –Scale Mining in India Summary of Information
(1997-1998)**

NUMBER OF SMALL SCALE MINS	Registered	Unregistered	Total
Number, including Processing & Related Operation			
Coal & Lignite - 26% of total	148		
Iron Ore - 68% of total	143		
Limestone - 76% of total	413		
Bauxite - 96% of total	160		
Mica -100% of total	47		
Manganese - 96% of total	130		
Other metallic & Nonmetallic - 95% of total	1594		
Minor Minerals			
Granite -100 % of total	110		
Stone and other Miner Minerals -98 % of total	4790		
Total	7535	500	8035 say 8000
Number Depending on Time Schedule of Operation			
* working full time, year round	2966		2966
* working full time, seasonal	2433		2433
* working part time, to supplement household income	1888		1888
* working full time, but short-term(in response to economic or environmental stress or to take advantage of a potential bonanza opportunity)	265		765
Total	7552		8052 say 8000
Range of Practice			
-underground	178		178
-open cast/ alluvial	7357		7857
Total	7535		8035 say 8000

Table :2 : Mineral Production in Million Tonnes or in Million INR

	Registered	Unregistered	Total
Coal & Lignite - 3% of 298 MT	8.6MT		8.6MT
Iron Ore - 6.3% of 73.4 MT	4.6MT		4.6MT
Limestone - 6.7% of 110 MT	7.4MT		7.4MT
Bauxite - 96% of 5.91 MT	5.7MT		5.7MT
Mica -100% of 3.27MT	3.27MT		3.27MT
Manganese - 96% of 1.92 MT	1.78MT		1.78MT
Other metallic & Nonmetallic - 25% of the total value	INR16280		INR16280
Minor Minerals			
Granite -100 % of 0.50MT	0.50MT		0.50MT
Stone and other Miner total -90 % of the Minerals total	INR25070 million	INR 250 million	INR2532 million
Total	31.85 MT +41350 million INR	INR 250 million	31.85 MT +41600 million INR

Table .3: Revenue Generated (Value in Million INR)

	Registered	Unregistered	Total
Coal & Lignite - 6 % of INR166260	11150		11150
Iron Ore - 6.3 % of INR16430	1035		1035
Limestone - 6.75 % of INR9403	618		618
Bauxite - 96% of INR 1448	1390		1390
Mica -100% of INR 54	54		54
Manganese - 96% of INR 2043	1961		1961
Other metallic & Nonmetallic - 25%	11981		11981
Minor Minerals			
Granite -100 % of INR1115	1115		1115
Stone and other Miner -90% Minerals	21445	250	21445
Total	50749	250	50749

Problems faced and the changes warranted

Generally quarry licenses are granted for a small period of 5 years, and size of the quarry licenses is also very small. This results in the mine owner's apathy for investing in safety, welfare and environmental measures. Because of the small area of operation and smaller duration, proper mine development, bench formation, backfilling / reclamation etc. are not at all observed.

For this, wherever practicable minimum size of amine lease may be increased to a reasonable level, say 500m x 500m and lease period should be increased to a reasonably long period so that the operator has requisite incentive and motivation for proper development of the area. In addition to this, lease should be granted only to the persons/ organisations with sufficient strength to invest for the

development, and lease deed should clearly required the fulfilment of obligation of lease towards the provisions of environmental laws. Mining should be considered as a full fledged “industry” in the eyes of Financial institutions.

For a small mining entrepreneur, getting MOEF clearance (for mining area 5 ha.) is a herculean task. Preparation of EIA,EMP, proposals for clearance FCA and Biological Reclamation Plan, are beyond the capacity of mining lessee operating a small mine.

While nobody should argue in favour of environmental damage, but is necessary to realistically evaluate the damage by a lessee working a mine as a cottage industry, against its contribution to supplement agriculture and other trades. There should be a government agency (may be under MOEF) to make such plans and also to implement them from the revenue collected as taxes from the lease. Since no MoEF clearance is required for mining area less than 5 Ha, such env. plans and implementation may be carried out by this agency for the cluster of mines in the area.

Mine owners have to procure compensatory barren lands and pay for afforestation in addition to reclaiming mined out areas and thus they are asked to pay for double contribution.

The government should encourage commercial afforestation by the lessee in the unutilised degraded forest and non-forest land in the leasehold area. Biological reclamation particularly has to be done by forest department in case of small mining properties.

The medium and small-scale mines may adopt the following control measures.

- Community participation of the environmental aspects of all phases of mining activities.
- Adoption of environmental friendly technologies, which mitigate impacts caused from small scale mining operations.
- Priority for environmental laws and regulations, which make effective management practices.
- Priority for environmental management and promote the environmental policies, programmers and practices as essential element of management for the establishment of environmental accountability.

Challenges ahead

A number of efforts have to be made by government, local mine owners and non government organizations for protection, regeneration and enhancement of productivity of the waste lands, caused by mining activities.

Integrated Watershed Development Programme

Mining affected areas should be taken up the development on the watershed basis as a challenge though there are lot of complications and more fund is to spent towards development activities. This will help in response of water and soil conservation, increasing command/cultivate area and generating employment. Erosion control, moisture conservation and stabilizing gullies/ stream are the measures to be implement in the watershed areas while harvesting and re-using rain water and run-off. By construction of rainwater harvesting structures, more area can be brought under cultivable land.

Eco-generation

Through the erosion control and water harvesting structures, soil erosion and silt outflow may be reduced. Such structures along with afforestation programmes may increase the ground water level and irrigation potentiality in the mining areas.

Social Upliftment

Other income activities, besides mining must be created by way of providing them training directly or assisting them in developing such skill, by formation of co-operative societies or by providing / ensuring marketing of their products etc. Such measures will raise the income of native people. More over the cropping pattern must be reconsidered by introducing new cash crops, which can grow in very dry conditions and will keep the agriculture alive. The

implementation of watershed projects will create employment and considerable amount of income.

Future Perspective

Best post land use must be well planned for bringing more and core wasteland under fertile condition. Civil structures and drainage systems should be created for retaining more moisture for the plant growth and re-generation increasing the regular and remunerative work opportunities.

Conclusion

Based on the experience of this un-organised sector, we should learn a lesson in order to develop mining and environmental regulatory framework in such a way that it is simple, effective and easy to use. Hence it is required to update and characterize the current legal framework of small/ medium scale mining in the country / region in following manner.

- Make small / medium mining as an organised sector and consider small medium mining as an industry contributing to GNP. Give it status equivalent to commercial business and harness its potential in terms of better and optimal resource use.
- Incorporate statutes & legislation for small & medium mines in “ State’s Minor Minerals Rules”.
- Frame industry specific standards for mining and mineral based industry separately and implement them in to practices.
- Make special fiscal provision of finances, taxation depreciation etc. in statutes & policies.
- Impose rational tax structure of royalty costs etc. which is affordable by small entrepreneurs.
- Regulate small /medium scale mining policies for environmental norms in the strict and implementable ways.
- Regulate the small scale mining operation by framing legislation to minimize social disruption. It means that it should be convincingly and not harshly regulated.
- Encourage those statutes which brings direct socio-economic benefits to the local population, be in the terms of rural development, employment generation or infrastructure build up
- Make the industrial activity (mining) as the people’s cause for social upliftment.
- Dissemination of technical, legal and administrative knowledge and information (to be done free of cost or at the nominal prices) is extremely essential for overall healthy growth & compilation in SSM sector and

Earth

The mother who nurtures life

For ages she has been resource to all things living

And for all the valuable minerals that she harbours

Harness the same for justifiable utilization

“enrich the earth that enriches us”