



Annual Report 2017-18

Responsible Mining - Sustainable Living



SUSTAINABLE MINING INITIATIVE

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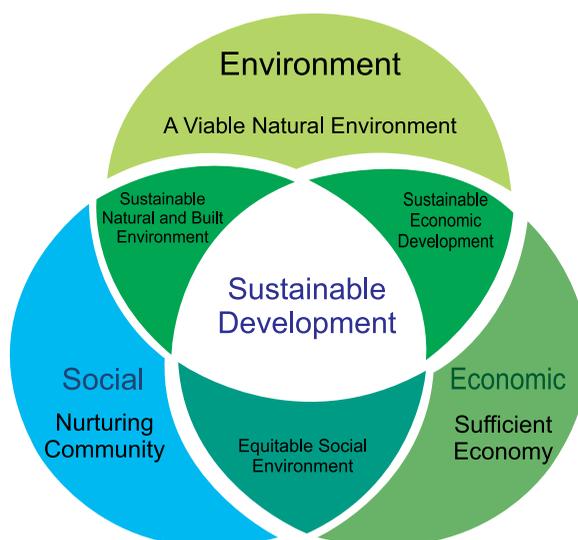


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1. Introduction

Minerals serve as the building blocks of modern society and are essential for sustaining the needs of 7.5 billion people on the Earth. As this population strives to improve its standard of living, mining has come to play a more vital role. Given the importance of mining contribution to nation's development both in terms of GDP and employment generation, sustainability has become a key enabler for the mining sector and hinges upon efficient extraction and judicious use of resources with adequate environmental safeguards and social welfare measures in mining jurisdictions.



Realizing the need to mainstream sustainability in the mining sector and to counter the negative perception of mining, FIMI, launched *Sustainable Mining Initiative* (SMI) in 2009. The overarching aim of SMI is to promote the tangible and measurable concepts of sustainable mining, assist the mining sector to inculcate sustainable practices in mining operations and tackle the industry-wide challenges of environmental management and socio-economic development.

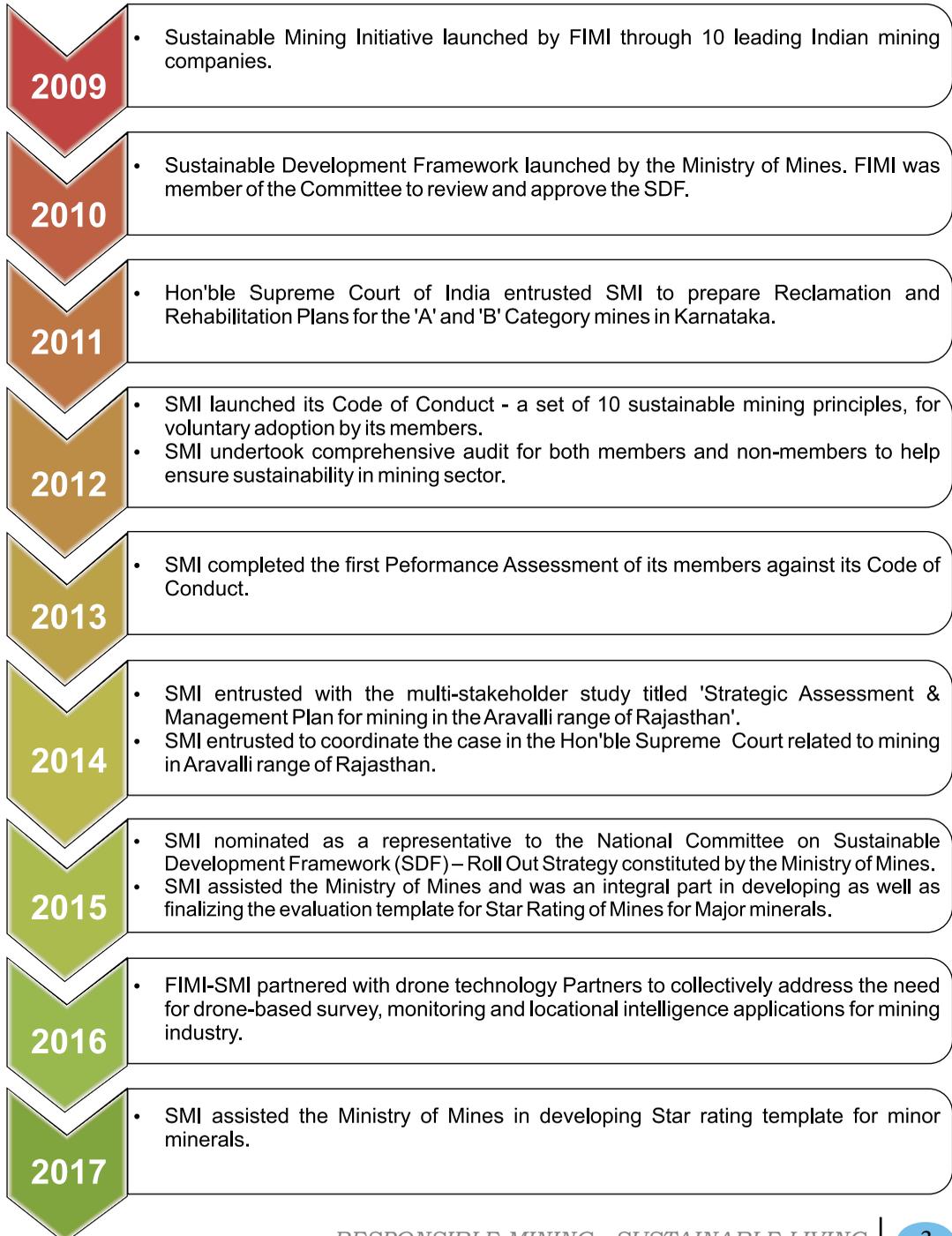
SMI, in its 9 years journey since 2009, has grown in stature for leading the sustainable movement in the Indian mining sector, as a driving force for change and continual improvement on issues relating to mining and sustainable development in India.

SMI engages with all stakeholders including government, industry, communities, civil societies, academia etc. to positively influence Indian policy and regulations to promote sustainable mining. It has also been a great honor for SMI to be recognized by the Central Empowered Committee (CEC) and subsequently entrusted by the Hon'ble Supreme Court to prepare the Reclamation & Rehabilitation Plans (R&R Plans) for 'A' and 'B' category mines in Karnataka in 2011 and to evaluate their production enhancement proposals. SMI has defined a pathway through its Code of Conduct and follow-up activities to help the mining sector address sustainability issues. The SMI Code of Conduct is a set of 10 sustainable mining principles for voluntary adoption by companies to become SMI members; and is also the first step towards sustainable mining in India. Moreover, SMI has also been entrusted with high level engagements in mining sector both by the Government and the Industry.

SMI has evolved itself as an important encouragement for the inclusive and responsible growth of the mining sector. It has been effectively working with the mining industry to integrate sustainable practices and bring out the optimistic aspects of mining. SMI assisted the Ministry of Mines to implement Sustainable Development Framework (SDF) at individual mine level and has been an integral part in developing the Star Rating Scheme for mines. Owing to SMI's contribution in formulating and finalizing the Star Rating Scheme, the Ministry of Mines has particularly recognized SMI's capacity and appreciated its work. Presently, SMI is part of the 5-member Executive Committee constituted by Ministry of Mines to monitor the Star Rating Scheme in India.

This report provides an overview of SMI's path of fulfilling its objectives, milestones achieved, various activities and achievements in the year 2017 - 18.

SMI – Milestones

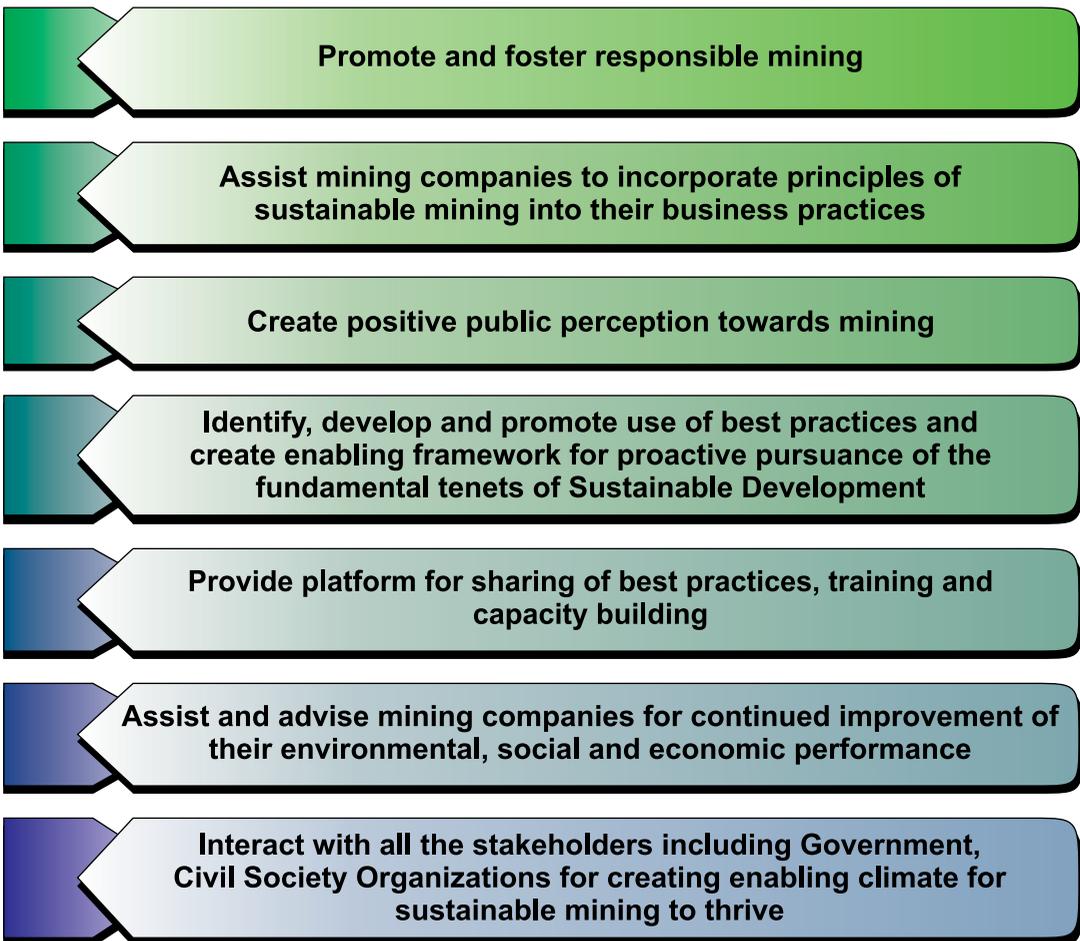


2. Objectives

Mining sector plays an important role in meeting the ever increasing demand for minerals and metals not just to prolong high economic growth rate of the country, but also to help the population progress its standard of living. The challenge for the sector is to incorporate the environmental, social and sustainability concerns into the business so as to ensure responsible extraction of minerals and metals in a holistic manner, while contributing to national and community development.

To ensure that the integration process mentioned above happens, SMI has outlined its specific objectives to mainstream sustainability in the mining sector :

Objectives of SMI



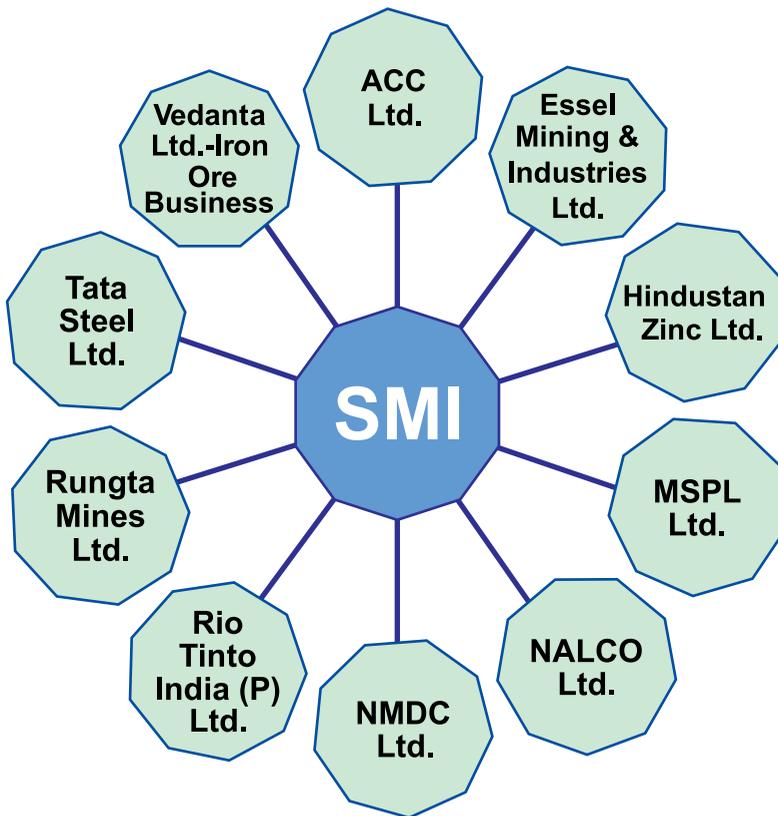
3. Membership

Mining companies have become the member of SMI by voluntarily adopting the Code of Conduct, comprising of ten sustainability principles. As on 31st March, 2018, 26 responsible mining companies have adopted the Code and have become SMI members.

Founding and Governing Council Members

Ten of the premier mining companies were the first ones to come together and support the formation of SMI. These ten companies are the **Founding and Governing Council Members** of SMI. Subsequently, sixteen more mining companies have joined SMI as **Associate Members**.

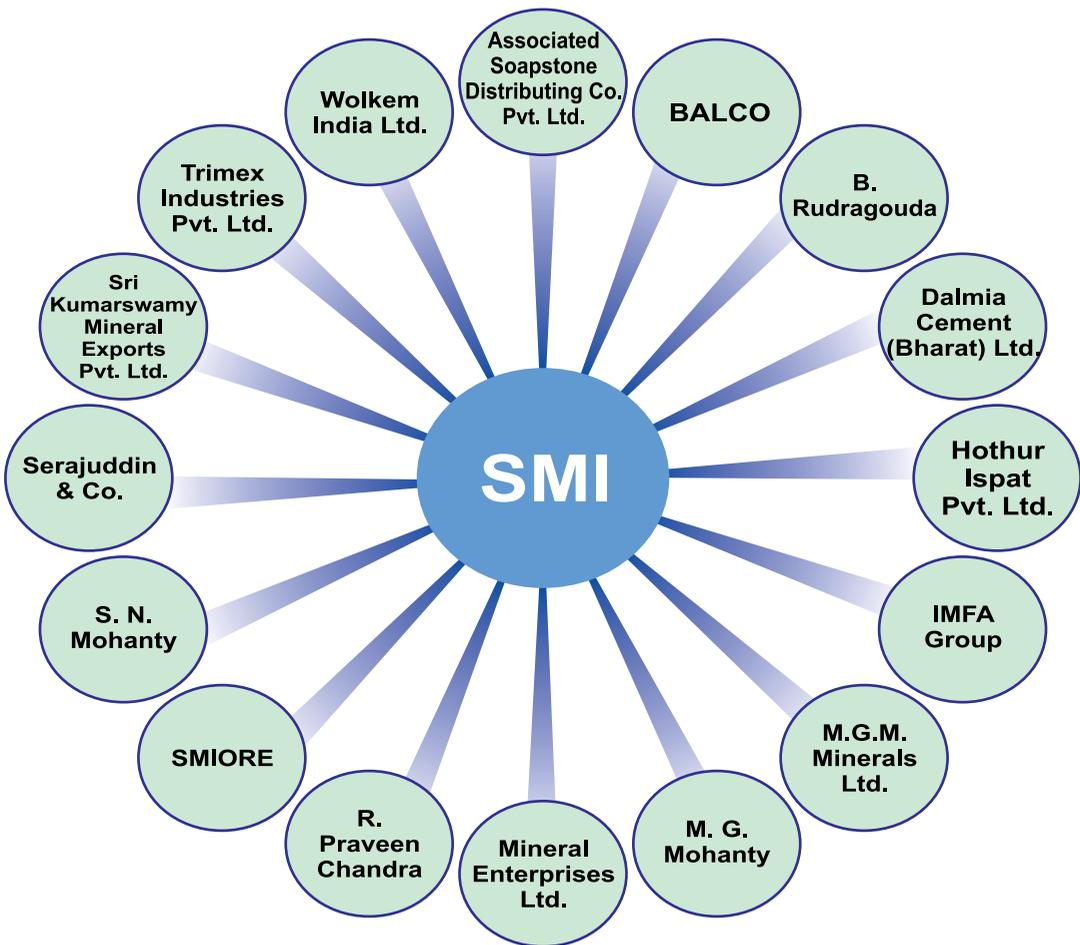
Governing Council Members of SMI



The Governing Council of SMI comprises of the ten founding members and the President, Vice-Presidents and Secretary General of FIMI as permanent ex-officio members. The Governing Council meets quarterly to review SMI's progress towards achieving its objectives and to provide guidance/direction for undertaking new programmes to accelerate the process. During the year 2017-18, the Governing Council meetings were held on the following dates:

- 19th April, 2017 at Hotel Cidade-De-Goa, Panjim, Goa
- 22nd May, 2017 at FIMI Office, New Delhi
- 28th November, 2017 at FIMI Office, New Delhi
- 26th February, 2018 at FIMI Office, New Delhi

Associate Members of SMI



4. Code of Conduct and Sustainable Mining Principles

SMI launched its 'Code of Conduct' (CoC) on 4th August, 2012. The CoC is a set of 10 sustainable mining principles meant for voluntary adoption by FIMI members and on adopting the Code, the FIMI member becomes a member of SMI.

This CoC aims to provide a framework to mining companies and entrepreneurs to demonstrably adopt 'good behavior', open themselves to measurement and scrutiny, and reduce the negative perceptions about the mining sector so widely prevalent today.

Member companies have made a commitment to advance their sustainability performance and are required to report against their progress on an annual basis.



The CoC has evolved in line with the expectation of the stakeholders, and is aligned with international statements like ICMM's Sustainable Development Framework, with suitable modifications to suit Indian requirements.

Sustainable Mining Principles

Principle 1	Integrate sustainable development considerations within the corporate decision making
Principle 2	Conduct business with ethical practices and sound systems of corporate governance
Principle 3	Implement risk management strategies based on valid data and sound science
Principle 4	Seek continual improvement in health and safety performance
Principle 5	Seek continual improvement of our environment performance based on a precautionary approach
Principle 6	Uphold fundamental human rights and respect cultures, customs and values in dealings with employees and others who are affected by our activities
Principle 7	Contribute to conservation of biodiversity and integrated approaches to land use planning and management
Principle 8	Facilitate and encourage responsible use, reuse and recovery of mined materials including associated natural resources
Principle 9	Contribute to the social, economic and institutional development of the communities in which we operate
Principle 10	Implement effective and transparent engagement, communication and verifiable reporting arrangements with our stakeholders

Key action points in respect of each of these principles are mentioned in Annexure-I

Adoption of these principles is expected to result in improved sustainability performance of the Indian mining sector, thereby improving the society's perceptions about the mining industry and reduce the tough stance of government, judiciary and society in general.

SMI annually conducts performance assessment of its member companies, through desktop assessment and site visit (optional), against the Code of Conduct to ensure the commitment of the companies to move towards sustainable development. The annual performance assessment report is published in SMI report and uploaded on the website. Members' performance assessment against Code of Conduct has been completed for 2016-17 and published on SMI website www.fedmin.com/smi.

Assessment Report

Assessment Report 2016-17											
Sl. No.	Members	1	2	3	4	5	6	7	8	9	10
GOVERNING COUNCIL MEMBERS											
1	ACC Limited										
2	Essel Mining and Industries Ltd.										
3	Hindustan Zinc Limited										
4	MSPL Ltd.										
5	NALCO										
6	NMDC Ltd.										
7	Rio Tinto India (P) Ltd.										
8	Rungta Mines Ltd.										
9	TATA Steel Ltd.										
10	Vedanta Ltd. - Iron Ore										
ASSOCIATE MEMBERS											
11	Wolkem Industries Ltd										
12	M/s. Praveen Chandra										
13	M/s. M.G. Mohanty										
14	Mineral Enterprise Ltd										
15	MGM Minerals Ltd										
16	M/s. S. N. Mohanty										
17	BALCO										
18	Associate Soapstone Distributing Co. Pvt Ltd										
19	Hothur Ispat Pvt Ltd.										
20	Sandur Manganese and Iron Ores Limited										
21	BKG Group										
22	M/s. Sri Kumaraswamy Mineral Exports (P) Ltd										
23	Trimex Industries Pvt. Ltd.										
24	IMFA Group										
25	Serajuddin & Co.										
26	Dalmia Cement (Bharat) Ltd.										
INDEX FOR COLOUR CODE											
	Policies framed and Implementation substantially progressed										
	Policies framed and Implementation in progress										
	Policies framing in progress, Implementation substantially progressed										
	Both Policy framing and implementation in progress										
	Information not provided for desktop assessment										

5. Activities of SMI

SMI undertakes various activities to achieve its objectives, viz., mainstreaming scientific and sustainable mining practices, promoting ethical behavior and ensuring responsible extraction of minerals, thereby enhancing mining sector's contribution to sustainable development in the country.

There are many ongoing activities and projects, which have been undertaken to support the sustainable mining agenda of SMI.

5.1 Implementation of Sustainable Development Framework & Star Rating Scheme

SMI assisted the Ministry of Mines to implement Sustainable Development Framework at individual mine level and has played an integral role in formulating and finalizing the Star Rating Scheme for the Ministry of Mines.

Owing to SMI's contribution in formulating and finalizing the Star Rating Scheme, the Ministry of Mines has particularly recognized SMI's capacity and appreciated its work. During 2017-18, Ministry of Mines in consultation with SMI has finalized the Star Ratings for minor minerals and requested the states for its proper implementation.

SMI continues to be part of the 5-member Executive Committee constituted by Ministry of Mines to monitor the Star Rating Scheme across India.

SMI has also assisted various mines to improve their star rating through its Sustainability Reviews.

5.2 Sustainability Reviews and Technical Consultancy

As part of its objective to integrate sustainability concerns into the mining business and to ensure responsible extraction of minerals in India, FIMI-SMI has been assisting and advising mining companies to continually improve their environmental, social and economic performance through its Sustainability Review System.

SMI undertakes Sustainability Review assignments for mining leases belonging to its members as well as non-members. The objective is to review the operational

environmental, socio-economic, health & safety performance of mines (both from compliance as well as a sustainability perspective), to identify and appraise the best practices, suggest measure for further improvement in these areas and help companies reduce long term risks. SMI's Sustainability Review also assists various mines to leverage on various opportunities to enhance their overall sustainability performance and help to improve performance for achieving required Star Rating.

SMI has a team of domain experts having hands-on rich experience, knowledge and insight into the regulatory & policy framework and international sustainable mining practices.

SMI undertakes these reviews at various levels:

1. Sustainability Review
2. Environment Review
3. Health & Safety Review
4. Customized report as per client requirement
5. Technical Consultancy
6. Preparation of Geological Report, Environment Impact Assessment (EIA) and Environment Management Plan (EMP) for mines

❖ **Sustainability Review**

Sustainability Review is the balanced assessment of the sustainability performance of a mine and measures for further improvement. SMI sustainability review covers the following aspects:

- Consents & Compliances status
- Study of operations and processes in the mine
- Review of operational performance
- Environment Review
- Health & Safety Review and Risk Assessment

-
- Social Performance of the mine
 - Appraise the best practices
 - Biodiversity Impact Assessment and Management Plan
 - Recommendations for performance improvement
 - Suggest measures for achieving higher Star Rating of the mines

❖ **Environment Review**

The environment review is a systematic and objective evaluation of environmental compliance and the environment performance of the mine.

The scope of the review is mentioned below:

- SMI analyses and evaluates the Environment Impact Assessment and Environment Management Plan (EMP) effectively and suggests further action plans.
- To check whether the mining company is following all conditions and compliances and other related statutes as mentioned in Environment Clearance, Forest Clearance, Consent to Operate etc.
- Management of Top Soil
- Mitigating environmental impacts of mining operations
- Dump Management
- Water Quality Management
- Air Quality Management
- Noise/Ground Vibrations
- Waste Management
- Energy conservation
- Suggestions and Recommendations

❖ Health & Safety Review

Health & Safety review identifies and ranks the safety risks or hazards in the mine and suggest measures for mitigation, so as to enable the Mine Manager prioritize his/her action for enhanced safety performance of the mine. SMI prepares Health & Safety review in line with the DGMS circular. These safety review covers safety management systems as suggested in DGMS circulars 13 of 2002, 8 of 2009 and 2 of 2011.

- DGMS Circular 13 of 2002: The main aim of this guideline is to implement Safety Management System in mines.
- DGMS Circular 8 of 2009: Third party study and safety audit should be conducted once in every year or after major accident or disaster or dangerous occurrence.
- DGMS Circular 2 of 2011: The main aim of this guideline is to introduce new methods to assess and manage hazards in mines.
- Risk assessment and ranking

❖ Customized review report as per client requirement

SMI also prepares customized report based on client's requirement. These review assignments will help various mines across the country to –

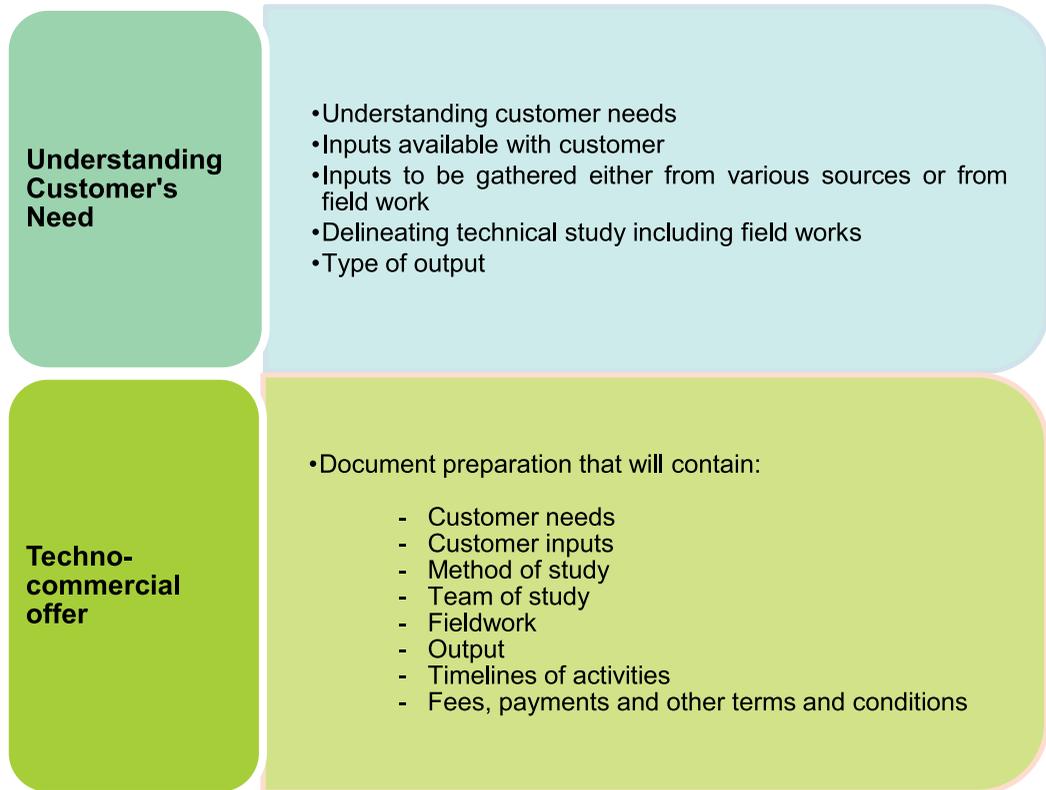
- Evaluate compliances to various applicable statutes and regulations
- Evaluate the current environment and operational condition of the mines
- Rank the associated risks
- Aid and advise the lessees to improve continuously on the sustainability front
- Highlight the areas of excellence in the mine
- Keep abreast with the recent developments and global best practices

During the year 2017-18, SMI completed 4 sustainability reviews and including previous years, SMI has cumulatively completed 75 sustainability reviews (including health & safety reviews and customized review for 2 mines as per client's requirement). SMI has helped these mines to identify critical areas, manage key

risks, comply with the statutes and leverage on various opportunities to enhance their environmental, social, economic and safety performance.

SMI's Sustainability Review also facilitates to improve the Star Rating for mines.

TECHNICAL CONSULTANCY PROCESS



Similar steps are also followed for the sustainability review assignments.

SUSTAINABILITY REVIEW SYSTEM



“Minerals are the wealth of earth, constitutes the precious gift from the earth that is/will be used for thousands of years. Indeed, minerals are fundamental to many sectors of human life and activity.”

List of Sustainability Reviews completed

S. N.	Name of the Company	No. of Mines
Sustainability Review		
1.	Ambuja Cements Ltd., Himachal Pradesh, Maharashtra, Chhattisgarh, Rajasthan, Gujarat (Limestone)	9
2.	Vedanta Limited, Goa & Karnataka (Iron ore)	5
3.	Mineral Enterprises Limited, Karnataka (Iron ore)	2
4.	Mahavir Trading Company (Soapstone)	1
5.	S N Mohanty, Odisha (Iron ore, Manganese, Bauxite)	4
6.	Wolkem Industries Ltd., Rajasthan (Wollastonite)	2
7.	H L Nathurmal, Goa (Iron ore)	1
8.	BALCO, Chhattisgarh (Bauxite)	2
9.	ACC Limited, Karnataka (Limestone)	1
10.	Magnum Minerals, Goa (Iron ore)	2
11.	Penguin Trading & Agencies Ltd., Odisha (Iron ore)	1
12.	Rungta Group, Odisha (Iron ore, Manganese)	5
13.	Ultratech Cement Ltd, Karnataka and Andhra Pradesh (Stone quarries for aggregates)	2
14.	MGM Minerals, Odisha	3
15.	National Enterprises	2
16.	Hindustan Zinc Limited – Sindesar Khurd Mine, Rajasthan	1
17.	Golcha Associated Group, Rajasthan (Soapstone)	2
18.	S N Mohanty, Odisha – Follow up Audit (Iron & Bauxite)	3
19.	Balasure Alloys Limited, Odisha (Chromite)	1
20.	NMDC Limited - Bachel Complex and Kirandul Complex (Iron Ore), Chhattisgarh	6
21.	MGM Minerals, Odisha (Iron & Manganese)	1
22.	S N Mohanty, Odisha (Iron ore, Manganese, Bauxite)	3
23.	M G Mohanty, Odisha (Iron & Bauxite)	2
24.	Hindalco Industries Limited (Bauxite)	2
25.	Hindalco Industries Limited (Coal)	2
Sub Total		65
Customized review report as per client requirement		
26.	NALCO, Panchpatmali Bauxite Mine, Odisha	2
Health & Safety Review		
27.	Karnataka State Minerals Corporation Limited	8
Grand Total		75

Our Hosts



Balalore Alloys Limited



Karnataka State Minerals Corporation Ltd.
(Formerly Mysore Minerals Ltd.)

5.3 Brand building for the Mining Industry

Realizing the need to highlight exemplary efforts by the mining industry and to counter the negative perception of mining in the society, a Core Committee was constituted to strategize the brand-building exercise for mining industry. The Core Committee was constituted under the chairmanship of Mr. S. Vijay Iyer and comprised of the following members:

Mr. S. Vijay Iyer (ex-Vice President, FIMI and ex-MD, Rio Tinto India Pvt. Ltd.)
Mr. M.C. Thomas (Tata Steel Limited)
Mr. Arun Kalra (De Beers India Pvt. Ltd.)
Mr. P.S. Upadhyay (N H Consulting)
Mr. Akshaydeep Mathur (Federation of Mining Associations of Rajasthan)
Mr. R.N. Bhargava (Ecomen Laboratories Pvt. Ltd.)
Ms. Anubha Taneja (Genesis Burton Marsteller)
Mr. B.K. Bhatia (FIMI)
Mr. Ashis Dash (FIMI)

The Core Committee met several times and finalized a tentative action plan for improving the public perception of mining in India. Following issues were identified:

1. The challenges that mining sector is facing includes scale of mining, complexity in regulatory regime, non-captive mines expiring in 2020 and penalty imposed due to Hon'ble Supreme Court's order dated 02.08.2017.
2. Develop a well-defined communication strategy.
3. Engage with States, Ministry of Mines and regional associations to expedite star rating for mines across India, possibly starting with a pilot project with State of Rajasthan to develop and implement best sustainable practices for minor minerals.
4. Capacity building of SMEs and creating resilience in industry to withstand and counter allegations by NGOs with right facts, infographics etc.
5. Engaging with other sectors which have successfully managed their public perception, to learn from their experience.

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6. Leverage events better through panel discussions, roundtables. Need to go beyond the usual audience and invite guest speakers from across sectors, think tank, and academia.
 7. Explore the possibility of engaging credible third party agencies to highlight the contribution of mining and best practices.

5.4 Drone Applications in Mining

The unmanned aerial vehicles (UAV) commonly known as Drones are equipped with digital cameras to capture, high resolution aerial imagery which can be further processed to produce 3D models. This technology has wide applications in the field of mining sector especially producing virtual images, maps, plans and aerial photographs of mines.

In India, drones can be used for mine survey and plan preparation, aerial inspection and supporting mineral exploration. Ministry of Mines is carrying out research to discover the use of drones, considering the facts of its quick, easy and advance technology. Drone can easily survey the whole mining area, analyze the area belonging to dumps or to the green area, assess the depth to which the miner can go, tracking production of minerals with the help of aerial images and tracking movement of raw material on day to day basis. It helps to provide fast, reliable and timely management information system (MIS) for the company to take up strategic decision faster so that mine productivity can be improved significantly.

FIMI-SMI has signed MoU with drone technology partners to collectively address the need for drone-based survey and monitoring business and locational intelligence applications for mining industry. Meanwhile, several mining companies have shown keen interest in taking up the services offered by SMI for both greenfield and brownfield projects.

Drone is preferred over conventional manual surveying techniques because it can complete the entire mine survey 72 times faster than manual survey. This technology saves sufficient time and provides desired output. Drone has the ability to map 60 acres of land in less than 15 min. It aviates at a lower height without disturbing the mining operations and neighboring inhabitants. In addition to this, it provides solutions for stockpile and waste management, reclamation and refilling management, pre/post blast design, haul road design, property rights definition and conveyor belt inspection. It has the potential to simultaneously capture geo-locations

and imagery of the region from multiple view-points and provides information about the region.

5.5 Environmental Change Detection Study for Mines

FIMI-SMI undertakes comprehensive study for individual mines to assess the impact of the mining project on the environment over a period of years. The study involves Land Use Land Cover (LULC) change studies over a period using satellite imageries, in addition to field surveys, extensive primary and secondary data collection.

The study is helpful in correlating the impact of the mine on the environment and its various components viz., green cover, air, water (ground as well as surface water), land, noise, ground vibration, etc.

5.6 Support to mining industry in the Aravalli Hills matter in the Hon'ble Supreme Court

Taking cognizance of the unique ecology of Aravalli hills, heightened environmental awareness, and history of litigations and absence of a regional assessment of impacts of mining on the Aravalli, FIMI-SMI has been entrusted by the mining industry of Rajasthan to coordinate the Aravalli Hills case in the Hon'ble Supreme Court. FIMI-SMI has been supporting the industry with strategy in the case, managing stakeholder interaction, consultation with experts and Government agencies, preparing notes, etc.

To support the Court case, SMI has also prepared a comprehensive scientific study titled "*Strategic Assessment & Management Plan for mining in Aravalli range of Rajasthan*". The study covered 15 districts of Rajasthan through which the Aravalli range is passing. This study is the first of its kind to scientifically establish the impacts of mining on environment and bridge the existing knowledge gap between the facts and the preconceptions of the regulators and the society at large. Methodology included Land Use Land Cover (LULC) change studies over a decade (2000-14) using satellite imageries, in addition to field surveys, extensive primary and secondary data collection.

The study has brought out the ground-truth about mining and other anthropogenic activities in the region. Some of the key findings are highlighted below:

-
- It is observed that mining has a very insignificant role in the alleged wanton damage to the ecosystem.
 - Loss in forest cover in the 15 districts is primarily due to its conversion into scrubs and agricultural land; and this phenomenon is observed even in areas devoid of any mining activities.
 - The study has also established that there is no eastward march of the Thar desert and most of the sand dunes have been stabilized over the years.
 - Study of the gap areas in Aravalli range also suggests that there is hardly any apparent signs of Trans-Aravalli sand drifting.
 - The study also brought out the role mining has played in socio-economic development in the Aravalli region.

The study was well appreciated by the Aravalli Stakeholders group.

5.7 Preparation of R&R Plans for Iron-ore leases in Karnataka

On recommendations of Central Empowered Committee (CEC), SMI was entrusted by the Hon'ble Supreme Court of India in 2011 for preparing Reclamation & Rehabilitation Plans (R&R Plan) and Supplementary Environment Safeguard Plans (SESP) for Iron-ore mining leases located in three districts – Bellary, Chitradurga and Tumkur – of Karnataka, based on which the mines are allowed to reopen subject to their respective category, CEC approval and compliance of other conditions prescribed by the Hon'ble Supreme Court of India.

SMI has prepared & submitted R&R reports of 99 leases of A & B category mines. Out of these, 34 mines are operating after implementation of R&R measures with a total production capacity of 33.010 MT, as on 10th July, 2018.

5.8 Evaluation of Production Enhancement Proposal

CEC has directed SMI to evaluate 44 production enhancement proposals of leases of A & B category mines of Karnataka. The proposals are from the mines which have resumed the operations after successful implementation of R&R plan, enhanced resource base by exploration and/or addressed issues related to dump and road capacity. Out of 44 proposals, SMI has evaluated 40 proposals and submitted the

reports to CEC, whereas 4 evaluation assignments are pending for want of response from concerned lessees.

Out of these 40 proposals whose observation reports have been submitted to CEC:

- 31 proposals have been approved by CEC based on Technical Committee's report on SMI's evaluation.
- 09 proposals are pending at various levels at ICFRE/Technical Committee/CEC

The work done by SMI has been well acknowledged and appreciated by all quarters including the Government of India as well as the industry.

5.9 Environment Committee Meetings

SMI has constituted an Environment Committee (EC) comprising of experts in mining and environment domain nominated by SMI member companies and representatives of Regional Mining Associations. SMI-EC has had 11 meetings so far till March, 2018.

The EC deliberates primarily on sustainable mining issues faced by the mining industry, with the following aims: -

1. To exchange information regarding environmental laws, issues, circulars, amendments etc. and seeking inputs from the members on regulatory scenario in various regions and how to comply
2. To exchange knowledge/information on best practices
3. To discuss and arrive at consensus on policies, technologies and methodologies for improved compliance with regulatory requirements and best practices on environmental and social issues affecting mining industries.

Presently, SMI-EC is constituted with the following members:

From Governing Council of SMI		From Regional / Industry Associations	
ACC Ltd.	NMDC	EZMA	FOMAR
Essel Mining & Industries Ltd.	Rio Tinto India Pvt. Ltd.	GMOEA	FIGSI
Hindustan Zinc Ltd.	Vedanta Ltd.	CMA	Ecomen Laboratories Pvt. Ltd. (special invitee)
MSPL Ltd.	Tata Steel Ltd.		

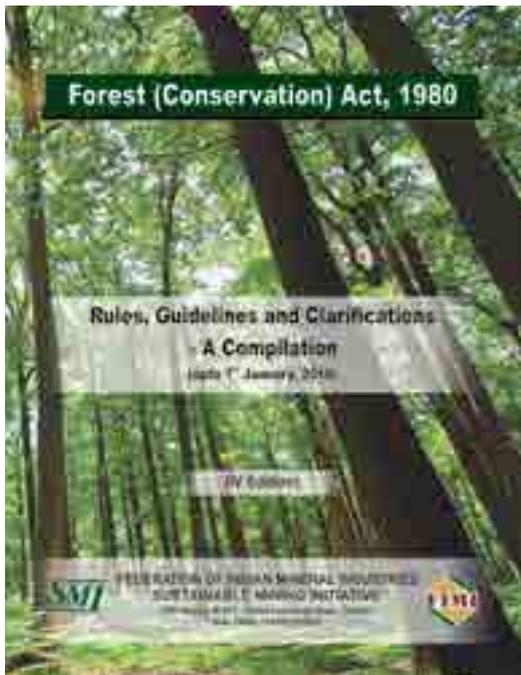
5.10 Publications and Knowledge Sharing

SMI acts as a nodal agency and works constantly in collaboration with various mining companies, think-tanks and regulators. It also engages with various international bodies such as ICMM, IUCN, WB, IFC, PDAC, Minerals Council of Australia, etc. on development of sustainable mining, which enables SMI to improve networking and share information to capture international best practices.

All these enable SMI to be at the forefront of knowledge related to sustainable mining, which SMI disseminates within its members. SMI also gathers information from GRI, UNEP, WEF, EITI, etc. and disseminates information to its members.

Apart from the above knowledge sharing activities, SMI also brings out publications on a variety of topics for the benefit of the mining industry and other stakeholders, with an aim to keep them updated with the dynamic mining scenario in India and to provide relevant information in an easy and readily accessible manner.

During the year 2017-18, SMI brought out the following two priced publications which includes all the relevant Rules, Guidelines, Circulars and Gazette Notifications issued by MoEFCC from time to time:

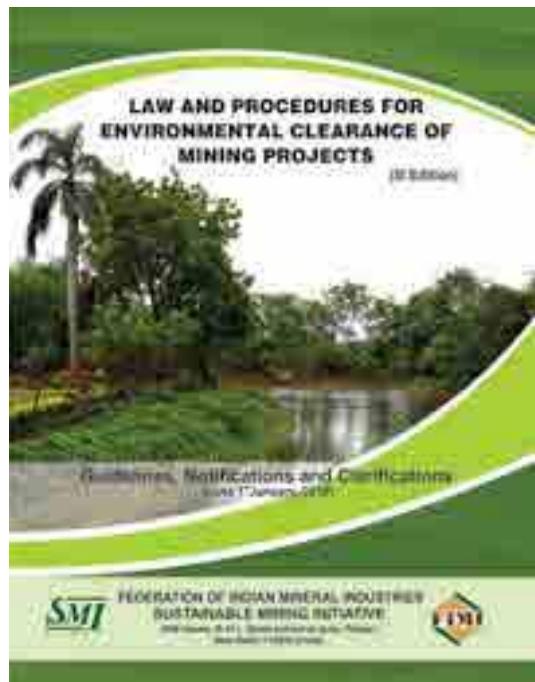


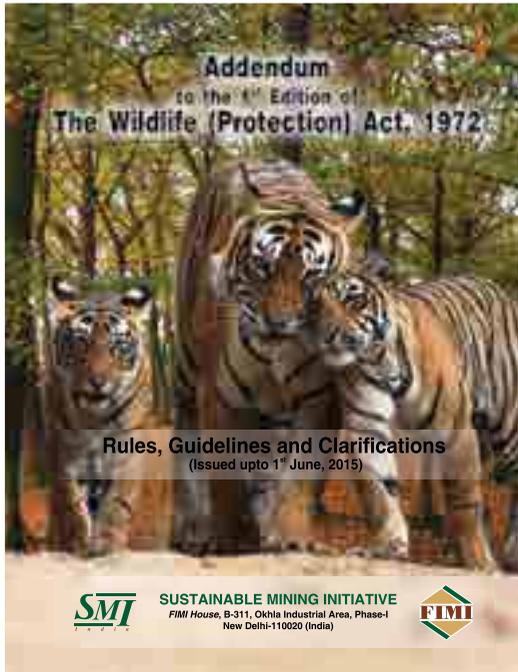
**Forest (Conservation) Act,
1980 – Rules, Guidelines and
Clarifications – A Compilation
(IV Edition) (upto January, 2018)**

*Compilation of all the amendments
in the Act and guidelines*

**Law and Procedures for
Environmental Clearance of
Mining Projects (III Edition) –
Guidelines, Notifications
and Clarifications
(upto January, 2018)**

*Compilation of all the amendments
in EIA Notification, 2006 and
guidelines pertaining to mining
projects.*





**Addendum to the 1st edition of
The Wildlife (Protection)
Act, 1972 : Rules, Guidelines
and Clarifications**

*Compilation of all the
amendments in the Act and
guidelines*

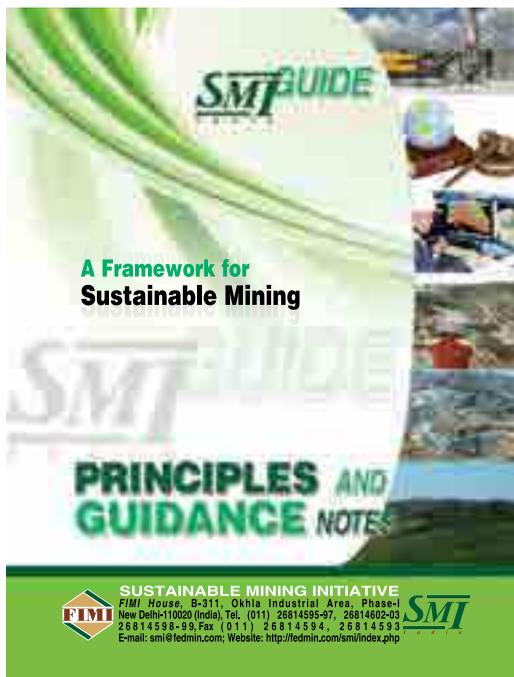
**Environment Management &
Social Initiatives
by Indian Mining Industry**

*Highlights the best practices in
environment management, R&R and
socio-economic development by mining
industry. Aims to bring out the positive
aspects of mining and improve the
public perception towards mining.*



**ENVIRONMENT MANAGEMENT
AND SOCIAL INITIATIVES
BY
INDIAN MINING INDUSTRY**





SMI Guide: A Framework for Sustainable Mining

'Practical tips & guidelines for carrying out sustainable mining'

We intend to continue updating these publications periodically and also bring out more such publications in future.

5.11 Regulatory Interventions

At SMI, we believe that regulatory environment - laws and regulations including enforcement thereof – plays an extremely crucial role in determining the performance and behavior of individuals and industry sectors. SMI believes that laws should be rational, implementable, and cost-effective (in the sense that benefits to the society should exceed the cost to the society due to the additional regulation).

SMI has long been striving to persuade the government to simplify regulations and improve its enforcement leading to much better levels of compliance. While Fraser Institute's Survey for 2016 ranks India at the 97th position out of 104 jurisdictions globally in a comprehensive assessment of the attractiveness of mining regulations and policies, India has been altogether dropped from the Fraser Institute's Survey in 2017. These are definitely not the indicators of a progressive mining jurisdiction.

We believe that the complex regulatory scenario governing mining sector in India runs counter to the objective of promoting sustainable mining practices. SMI, therefore, while advising its members to strictly comply with the existing regulations – in letter and spirit – advocates for a simpler regulatory framework which will be easier to comply and enforce. Such a framework should also be associated with integration of laws – currently in the domain of various ministries and departments of State and Central Governments – and with tighter enforcement and stringent and prompt punishments.

The representations are finalized taking into account the comments and inputs from the members and dedicated efforts are made to help solve the problems. These interventions have received positive response from the Ministries in the form of representations in their Committees and amendments to various regulations, which has been appreciated by the members as well.

Among numerous representations, some of the important regulatory interventions undertaken by SMI-FIMI during 2017-18 are listed below:

1.	Clarification regarding release of Bank Guarantee in case of mining leases expiring on 31 st March, 2020 – A representation was sent to Secretary, Ministry of Mines for issuing clarification with respect to the release of financial assurance and mine closure plan for leases expiring on 31 st March, 2020 and subsequently to be granted through auction route.
2.	With less than 3 years for many non-captive mining leases to expire in 2020, SMI had requested to various States DMGs (representation dated 04 September, 2017) regarding the basic information about leases expiring in accordance to Section 8A of the MMDR Act, 1957.
3.	<p>IBM has sought the comments from the mining industry on the following:</p> <ul style="list-style-type: none"> <li data-bbox="232 1243 1208 1379">i. Draft report on IBM Manual for Appraisal of Mining Plan 2017 - Based on the inputs received from our members, SMI has sent its comments to IBM on 8th August, 2017 and additional comments were sent on 24th August, 2017. <li data-bbox="232 1403 1208 1539">ii. Self-Assessment Templates for Star Rating of Mining Lease for Category 'A' and "B' mines - Based on the inputs received from our members, SMI has sent comments on 10th August, 2017 and additional comments were sent on 22nd August, 2017.

4.	A representation dated 21 st June, 2017 was addressed to Controller General, Indian Bureau of Mines, Nagpur regarding difficulties being faced by the Manganese ore mines in filing-up the online monthly and annual returns on Indian Bureau of Mines portal and therefore requested IBM to update the Forms F-1 and H-1 for submission of monthly and annual returns in the online portal.
5.	FIMI-SMI has represented to the Director General of Forest and Special Secretary, Ministry of Environment, Forest and Climate Change on 3 rd July, 2017 with respect to doing away with FAC recommendation of requiring additional degraded forest land for Compensatory Afforestation (CA) over and above the equivalent amount of non-forest land proposed for CA and issue necessary guidelines in this regard.
6.	A representation was sent to Secretary, Ministry of Mines dated 5 th July, 2017 requesting the Ministry to consider amending the sub-rule 10(b) of Rule 7 of MCR, 2016 such that performance security is estimated as 0.50% of the value of saleable ore in respect of Beach Sand Minerals.
7.	A representation was sent to the Secretary, Ministry of Mines dated 7 th July, 2017 regarding Issuance of Star Rating Certificates to all the 19 mines awarded during the National Conclave on Mines and Minerals held at Raipur on 4 th – 5 th July, 2016.
8.	A representation was sent to Controller General, Indian Bureau of Mines, Nagpur seeking information / data regarding leases expiring in accordance to Section 8A of the MMDR Act, 1957.
9.	Safety Zone: Subsequent to our representation and regular follow up, the MoEF&CC has acceded our request and issued clarification thereby making its guidelines issued earlier on 27 th May, 2015 to be effective prospectively. It was clarified that the safety zone being maintained outside mining lease area prior to 27 th May, 2015 will continue to be permitted. However, user agency in such cases has to seek approval of the forest land in the safety zone area maintaining outside the mining lease up to 31 st March, 2018.

5.12 Conferences and Workshops

SMI organizes conferences and workshops around the country to promote sustainable mining. The events focus on updating stakeholders about legal requirements & compliance matters in mining projects, sustainable mining practices adopted in different parts of the world, other aspects of sustainable mining stakeholders' engagement processes, social and environmental issues etc.

Events

SMI events have been receiving active support of the industry and government. SMI organizes the Sustainable Mining Summit every year, with an objective to share views and issues of the sector including regulations, technical aspects, etc.

2012: The “Sustainable Mining Summit 2012” was organized in Goa on 13th-14th January, 2012. Theme: Mining for Sustainability- Beyond Compliance

2013: The “Sustainable Mining Summit 2013” was organized in Goa on 22nd-23rd April, 2013. Theme: Raw Material Security for metal industries and Sustainable Mining

2014: The “Sustainable Mining Summit 2014” was organized in Goa on 17th-18th July, 2014. Theme : Raw Material Security and Sustainable Mining

2015: The “Sustainable Mining Summit 2015” was organized in Goa on 17th-18th April, 2015. Theme: Sustainable Mining for Unlocking Indian Mineral Resource.

2016: The “Sustainable Mining Summit 2016” was organized in Bhubaneswar on 10th-11th May, 2016. Theme: Environmentally sound practices and technologies in the mineral sector.

2017: The “Sustainable Mining Summit 2017 “ was organized in Goa on 20th – 21st April, 2017. The Summit was deliberated through the following sub-themes:

1. Mining: Global and Regulatory Scenario
2. Sustainability in the changed regulatory economic scenario
3. Sustainable development framework

The Summit was inaugurated by Shri Ranjan Sahai, Controller General, Indian Bureau of Mines and Guest of Honour was Shri Deepak Kumar Sinha, Inspector General of Forest, Ministry of Environment, Forest and Climate Change. Shri Tuhin Mukherjee, Managing Director, Essel Mining and Industries Ltd. also addressed the gathering. Mr. Carlos Jimenez, Dy. Chief of Mission and Head of the Economic Section, Embassy of Peru presented the scenario of Peru mining industry and initiatives taken in the area of sustainable mining. It was attended by more than 150 delegates across the country and 15 technical papers were presented and deliberated during the Summit.



Other Conferences & Workshops:

SMI also actively participates and shares its views in other forums, mining conferences and seminars to promote sustainability in the sector. Some of the seminars attended by delegates of SMI in the year are:

2nd International Workshop on Fostering Resource Efficiency by Securing Sustainable Resources and Utilization of Secondary Raw Materials

Mr. Ashis Dash, Director, FIMI-SMI attended the 2nd International Workshop on 20th April, 2017 at Shangri-La Eros Hotel in New Delhi organized by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH jointly with MOEFCC.

Brainstorming meeting on —Securing Critical Resources Commensurate with the size of the Country

Mr. Ashis Dash, Director, FIMI-SMI attended the Brainstorming meeting on — Securing Critical Resources Commensurate with the size of the Country on 1st May, 2017, organized by Technology Information, Forecasting & Assessment Council (TIFAC) at TIFAC, New Delhi

National Summit on Extractive Industry and Sustainable Development

International Institute of Corporate Sustainability and Responsibility (IICSR) with support of FIMI on 9th September, 2017 organized a national summit in Hotel Taj Mahal, New Delhi, inaugurated by Chaudhary Birender Singh, Hon'ble Minister of Steel and Shri A N Jha, Secretary to the Government of India, Ministry of Environment, Forest and Climate Change was guest of honour. Mr. R.K. Sharma, Secretary General, FIMI gave a Valedictory Address. Mr. Ashis Dash, Director, SMI-FIMI made a presentation on Mining and Sustainable Development'. Mr. B.K. Bhatia, CEO, SMI and Mr. A.K. Bhandari, CEO, SCMS also attended the Summit.

Meeting of Council of Indian Employers (CIE) with International Organization of Employers (IOE) Geneva

Mr. B.K. Bhatia, CEO, SMI attended the Meeting of Council of Indian Employers (CIE) with International Organization of Employers (IOE) Geneva on 12th September, 2017 organized by International Labour Organization at Yamuna Hall, ILO Office, New Delhi. Dr. (Ms.) Thannaletchimy Housset, Adviser (Asia), IOE, Geneva made a presentation on Promotion of Sustainable Enterprises.

International Conference & Expo on Mining Industry Vision 2030 & Beyond:

Mr. Arun Kumar, Secretary to the Government of India, Ministry of Mines inaugurated the —International Conference & Expo on Mining Industry Vision 2030 & Beyond held on 6th to 8th December, 2017 at Nagpur, organized by MEAI-Nagpur Chapter. Mr. R.K. Sharma, Secretary General, FIMI submitted the Keynote Address for this Conference which is part of the proceedings of the Conference.

Mr. Ashis Dash, Director, FIMI-SMI made a presentation on Challenges and Way Forward for Sustainable Mining in India on 7th December, 2017.

Launch of Victoria's India Strategy

Mr. Ashis Dash, Director, FIMI-SMI attended the event — launch of Victoria's India Strategy by the Hon'ble Daniel Andrews MP, Premier of Victoria on 16th January, 2018 at Constitution Club of India, New Delhi, organized by State Government of Victoria, Australia and Australia India Institute.

Dissemination of the Flagship Report — The Web of Transport Corridors in South Asia

Mr. B.K. Bhatia, CEO, SMI, attended the event — dissemination of the Flagship Report —The Web of Transport Corridors in South Asia on 27th March, 2018 in Le Meridien, New Delhi, jointly organized by ICRIER and the World Bank.

5.13 Networking

Realizing the importance of sharing information in mining to move together towards sustainability, SMI regularly interacts and collaborates with national and international level organization. SMI collaborates and shares global information on development of sustainable mining & disseminates the same to the industry. Networking provides for a platform to absorb as well as share global best practices in the sector.

List of few organizations with whom SMI constantly interacts and networks is given below:

1. International Council on Mining & Metals (ICMM).
2. International Union for Conservation of Nature (IUCN)

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3. United Nation Environment Programme (UNEP)
 4. World Economic Forum (WEP)
 5. Extractive Industry Transparency Initiative (EITI)
 6. Global Reporting Initiative (GRI)
 7. International Finance Corporation (IFC)
 8. Xynteo

5.14 FIMI Awards

In order to motivate and recognize the efforts of the Indian mining industry for having addressed various sustainability challenges through exemplary ways, FIMI had constituted awards and SMI administers the FIMI Award Scheme. During the year 2017-18, FIMI instituted a new award “TATA STEEL MINING SUSTAINABILITY AWARD”, sponsored by Tata Steel Limited. This award aims to recognize and honour individual mines for their exemplary efforts towards biodiversity conservation and sustainable mining.

There are ten awards under various categories for the FIMI Award Scheme 2017-18:

Excellence Award

1. Bala Gulshan Tandon Excellence Award

Environment Awards

1. Subh Karan Sarawagi Environment Award
2. Abheraj Baldota Environment Award
3. Misrilall Jain Environment Award
4. Gem Granites Environment Award

Social Awareness Awards

1. Sita Ram Rungta Social Awareness Award
2. NMDC Social Awareness Award

Health & Safety Awards

1. Rio Tinto Health & Safety Award
2. Hindustan Zinc Health & Safety Award

Sustainability Award

1. Tata Steel Mining Sustainability Award

The Awards and the assessment process is overseen by a distinguished Jury comprising of national experts. The Awards help in benchmarking the excellent

standards adopted by the mining industry and in spreading the message of sustainable mining among the members. During 2017-2018, 58 applications were received from 43 mines for various categories of awards.

For FIMI Awards 2016-2017, following mines were considered as the Awardees:

1. Bala Gulshan Tandon Excellence Award - Noamundi Iron Mine of Tata Steel Limited (West Singhbhum, Jharkhand)



Truck mounted scissor lift



3 MW Solar Power Plant



Rainwater Harvesting Site at Noamundi



Reclamation and Rehabilitation of mined-out area



Sir Dorabji Tata Botanical Park



Promoting and Preserving Ethnicity of the local population

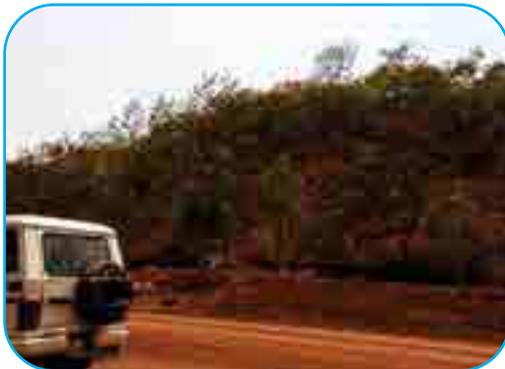
2. Subh Karan Sarawagi Environment Award – Koira Iron Mine of Essel Mining & Industries Limited (Sundargarh, Odisha)



Dust suppression measures with pressurized nozzle



Rain water harvesting structure



Geo-coir and plantation on dumps



Rehabilitated waste dump



Series of settling pits with gabion structures



Drinking water facility provided to fauna in the mine lease area

3. Abheraj Baldota Environment Award – Narmada Cement Mine of UltraTech Cement Limited (Amreli, Gujarat)



Surface miner in operation



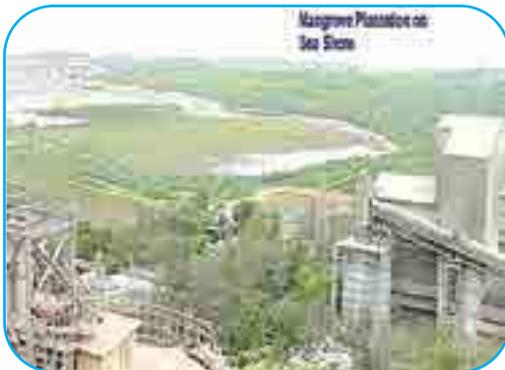
Rain water harvesting in mined-out pit



Fruit bearing plants in mined-out area



Water reservoir and plantation in mined-out area



Mangrove plantation on sea shore



Waste – oil barrels turned into beautiful furniture

4. Misrilal Jain Environment Award – Parsa East and Kanta Basan Opencast Coal Mine of Adani Enterprises Limited (RVUNL) (Sarguja, Chhattisgarh)



Tree Transplanter



Plantation done using tree transplanter



Geo-coir mat for dump slope stability



Fruit bearing plants and fixed sprinkling system in mined-out area



Surface Miner



Well maintained safety zone at mine

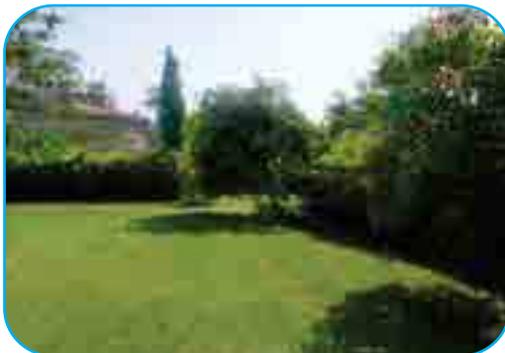
5. Gem Granites Environment Award – Morwad Marble Mine of Arora's J. K. Natural Marbles Limited (Rajsamand, Rajasthan)



Waste dump plantation



Drinking water facility for fauna at the waste dump



Well maintained garden area near mine lease



Fruit bearing plants in the garden area



Neatly maintained workshop area



Dust suppression using water tankers

6. Jury Special Environment Award – Durgmanwadi Bauxite Mines of Hindalco Industries Limited (Kolhapur, Maharashtra)



Vermi-Filter unit



Percolation pond



Rain water harvesting pond



Atomized dust suppression system at crusher



Environment cell for awareness



Restored mined-out area with grass lands

7. Sita Ram Rungta Social Awareness Award – Bailadila Iron Ore Mine, Kirandul Complex of NMDC Limited (Dantewada, Chhattisgarh)



Community awareness programme on personal health and hygiene



Rural women accessing services of 'Hospital on Wheels'



Stitching centre supported by NMDC at Palnar village



Farming activities for villager's livelihood



Residential School for children orphaned due to Naxalism



Smart classes provided for school children

8. NMDC Social Awareness Award – RAS II Limestone Mine of Ambuja Cement Limited (Pali, Rajasthan)



Water distribution system for the villagers



Farming using fixed sprinkling system



Training program for farmers



Exposure visit to farmers



Support housing for poor families



Bio-mass used as Alternate Fuels and Raw Materials (AFR)

9. Jury Special Social Awareness Award – Wadi Cement Works Limestone Mine of ACC Limited (Gulbarga, Karnataka)



Disha - Wadi (An Alternate Livelihood Hub)



Anganwadi Centre



Women SHG – Livelihood Program



Check Dam



Meditation Centre



Houses for victims of natural calamity

10. Rio Tinto Health & Safety Award – Amalgamated Periyagalur, Aminabad & Khairulabad Limestone Mine of Dalmia Cement (Bharat) Limited (Ariyalur, Tamil Nadu)



Scientific and safe mining



Fenced magazine area



Haul road improvement



Employee engagement towards safety



In-house first aid training court

11. Hindustan Zinc Health & Safety Award – Sukinda Mines (Chromite) of IMFA Limited (Jajpur, Odisha)



SOPs demonstrated through animation videos for improved safety and training



Well-maintained Magazine - Double fencing, extinguishers, display, etc



Mass Safety Meeting



A/C cabin with automatic fire detection and suppression system in HEMM



Stoppers at parking area



Convex mirror at the junction point of haul road

6. Way Forward

India, being the second most populated country with the largest percent of aspiring young generation, is witnessing a fast growth in middle class, leading to urbanization and infrastructure development. Mining is an important sector which can contribute significantly to our gross domestic product and generate employment in remote and far-off regions. India is endowed with abundant reserves of key minerals such as iron ore, coal, bauxite, dolomite, gypsum, limestone, mica, chromite, manganese, zinc and graphite which accords significant opportunities in mining sector. However, there are many areas that need to be explored.

Many mining companies are involved in various voluntary initiatives to go beyond the social and environmental performance set by the legislation. Innovation and adoption of new technologies help in the productivity of mining sector. While concerns for shortage of metals can be offset by improved technology but focus today is on other sustainability challenges such as access to land, mitigating the environmental impacts, maintaining high health and safety standards and managing community services. With the increase in rate of extraction, direct jobs in mining sector are also augmented.

Mining being a site specific activity needs to be more systematic to address the issues of its environmental and social impacts in a sustainable manner. The mining business has crossed geographical boundaries to face stiff global competitions. Fast and effective communication has increased the global networking and awareness. The complex regulatory system with poor governance and increased cases of illegal mining has disconcerted mining activities in the country. All these factors resulted in the following emerging issues:

1. Growing concerns of inequality, impacts of project affected families, mines safety, community health, water consumption, climate change, biodiversity loss, cultural diversity loss, etc.
2. “Concerns” shifting to “Rights” through intervention of judiciary system, green tribunals and NGO activities.
3. Increasing public pressure for transparency and accountability on business houses.
4. Antagonism up.
5. Thrust on collaboration approach by all industry members to resolve the issues.
6. Imperative innovation in mining.

Amidst these emerging trends, Sustainable Mining Initiative (SMI) envisages pivotal role to assist its member by updating critically on anticipating changes and emerging issues so that members can better understand evolving values, proactively address risks, avoid crises and serve in a leadership position in resolving issues of public concerns. It is necessary to improve the basic building blocks of governance required for the extractive industry to contribute to sustainable development.

Our focal thrust areas are:

1. Communicating the importance and contribution of mining and metal in the sustainable socio-economic development of the nation.
2. Facilitating the strengthening of mining industry and community relationship
3. Providing technical support for better environment & climate change management, and better health and safety performance over and above the regulations.

SMI will keep evolving itself in developing comprehensive programs and models which will help in identification and mitigation of sustainability related risks in the Indian mining industry.

KEY ACTION POINTS OF CODE OF CONDUCT

Principle 1

1. Integration of sustainable principles into company policies.
2. Plan, design, operate & close operations to enhance sustainable development.
3. Encourage and ensure good practice & innovation to improve sustainable performance.
4. Encourage customers, business partners and suppliers of goods and services to adopt principles that are comparable to our own.
5. Provide sustainable development training at all levels.
6. Support public policies and practices that foster open and competitive markets.

Principle 2

1. Develop and implement ethical business practices.
2. Comply with or continually exceed the requirements of the laws and regulations.
3. Work with the governments, industry and other stakeholders to evolve appropriate public policy, laws and regulations that contribute to national sustainable development.

Principle 3

1. Conduct base line survey.
2. Stakeholder's engagement in management of social, health, safety, environmental and economic impacts.
3. Undertake risk management systems.
4. Inform potentially affected parties of significant risks.
5. Develop and maintain effective emergency response measures.

Principle 4

1. Focused systems for improvement of all aspects of operations that could have impact on the health and safety.
2. Provide necessary medical facilities.
3. Talk all practical measures to eliminate workplace fatalities, injuries and diseases.

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4. Provide all employees and those of contractors with health and safety training.
 5. Implement regular health surveillance and risk based monitoring of employees.

Principle 5

1. Assess the positive and negative, the direct and indirect and the cumulative environment impacts of new projects.
2. Focused environmental management system to mitigate adverse environmental impacts.
3. Involve local communities and authorities to avoid or minimize local and regional environmental impacts.
4. Rehabilitate land disturbed or occupied by operations with appropriate post mining land uses.

Principle 6

1. Ensure fair remuneration and work conditions and ban forced, compulsory or child labour.
2. Provide for the constructive engagement of employees in upholding the freedom of association and right to collective bargaining.
3. Implement policies and practices to eliminate unfair discrimination.
4. Provide all staffs including subcontractors with appropriate cultural and human rights training.
5. Minimize involuntary resettlement and compensate fairly for adverse effects on the community where they cannot be avoided.

Principle 7

1. Respect legally designated protected areas and culturally sensitive sacred grooves.
2. Emphasis on restoration of natural ecosystems to rebuild local bio diversity.
3. Disseminate scientific data and promote practices in biodiversity assessment and management.

Principle 8

1. Advance understanding of the properties of mined out resources and their lifecycle effects.
2. Conduct and support research that promotes effective use of resources.
3. Develop and promote the concept of integrated resource management.
4. Provide regulators and other stakeholders with scientifically sound data.

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5. Support the development of scientifically sound policies, regulations, standards and material choice decision that encourage the safe use of mined out material.
 6. Provide for safe storage and disposal of residual wastes and process residues.

Principle 9

1. Engage community to discuss and respond to issues and conflict concerning the management of social impacts.
2. Involve affected communities in developing work programs and determining outcomes.
3. Encourage partnerships with governments and non-governmental organizations for effectively delivered of programmes.
4. Contribute to skill and capacity building of individuals and community groups.

Principle 10

1. Engage with and respond to stakeholders through open and a participative consultation process.
2. Constantly document and report on economic, social and environmental performance.
3. Exchange data, implementation procedures, and experiences even personal wherever necessary.
4. Provide information that is independently verifiable.