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An Assessment of Illegal Mica Mining in Jharkhand

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ABSTRACT

Mica is a substance that gives a shiny appearance to cosmetics and paints. Koderma and Giridih are two districts in Jharkhand richly endowed with good quality mica deposits. The socio-economic and human development indicators indicate that the region suffers from a classic 'resource curse' case. Mica mining is an illegal activity; however, the impoverished people working here have no other means of livelihood. The mining industry is also notoriously known for engaging rampant child labor. Instead of going to school, children who exemplify "innocence" are forced to work in hazardous conditions. The paper highlights the impact of this illegal activity on the communities living in these areas, particularly children. The analysis of labor laws, mica policies and environmental regulations offers greater insight into the problem. The authors have recommended several measures to improve the hazardous situation. The role of various stakeholders in this ecosystem has also been extensively discussed.

Keywords: *Child labor, Illegal Mica Mining, Labor Laws, Environmental Regulations, Corporations.*

I. INTRODUCTION

"All that glitters is not gold."

Ever wondered where that shimmer in car paints and every cosmetic item come from? Mica (locally known as dhibra) is a silver-coloured, crystalline mineral that has gained prominence recently as an environmentally-friendly material. It is used by major global brands in the automobile sector, electronics and cosmetics. It gives cosmetics, and car paints that characteristic shimmer. However, behind that glitter, the growing demand for mica is fuelling a dangerous and deadly trade. Many companies source their mica from India since it is one of the world's largest producers and exporters of this mineral, accounting for almost 60% of the net mica production in the world. 95% of India's mica comes from Jharkhand, Andhra Pradesh and Rajasthan. Jharkhand is home to the world's largest deposit of mica.

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Koderma and Giridih districts of Jharkhand are richly endowed with high-quality mica deposits. Ironically, the poorest people live on the lands richest with natural resources. The terrain is unfit for agriculture; hence, locals are drawn to descend into mines looking for mica scrap in the absence of an alternate source of livelihood. The process is based on slave labor, often involving child exploitation, given that mica picking is a delicate process. People descend rickety paths into shafts scraping silicate off the ceilings, while children as young as six search among the glittering rocks scouring with their bare hands for shiny, brittle mica flakes. The sharp shards of the mineral lead to cuts, bruises, which, if left untreated, can lead to severe infection, and inhaling the fumes causes oncological diseases like lung cancer.

Mica picking and mining became illegal after the Forest Conservation Act, 1980. Mica collection was deemed a non-forest activity and cannot be undertaken without permission from the Union Ministry of Environment, Forest and Climate Change. Mining companies started to wind up their operations in these districts as they stopped issuing fresh leases. By 2000, mica mining came to a complete halt, but the locals, without any alternative, started collecting ‘dhibra’ from the moulds and selling them in local markets.

In recent years, there has been an international uproar against employing children in mica mines and illicit mining in India. Children go deep inside the caves to scrape where there is little oxygen, putting their lives at risk. Because this entire activity is unlawful (mica mining and recruiting children), no labour regulations are followed, no suitable remuneration is provided, and no significant steps to alleviate the health risks are ever made.

A survey by Terre des Hommes revealed that more than 22,000 children are 'employed' in the mica mining sites of Jharkhand and Bihar. Child labor is a serious threat to realizing India's demographic dividend. Given the poor development of the regions and awry public infrastructure, there is a crouched inclination towards children's education. The poverty-ridden, illiterate families prefer to employ their children rather than send them to school.

This paper intends to highlight the less discussed parameters of illegal mica mining and investigate how it impacts residents, particularly children in these at-risk locations. The paper further aims at understanding the following;

- The industries and companies where different grades of mica are used extensively and the entire supply chain.
- Performance of these districts in various human development indicators and reasons for the persistence of child labour.
- The existing environmental regulations, labour laws and policies for mica enacted by

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the state and the centre, the amendments proposed and gaps in these regulations

- Notable initiatives taken by the media, CSOs, international NGOs, corporations, and a few recommendations.

II. MICA INDUSTRY OF INDIA AND ITS LAWS

Mica is a widely distributed and internationally important resource. It is malleable and has a unique blend of various properties like flexibility, toughness, transparency, and elasticity. It is immune to sudden changes in temperature and high heat. As a result of these properties, mica is used in Rubber Industry, Plastic Industry, Automobile Industry, Cosmetics Industry, Construction sector, etc. (Uses, grades, and types of mica are discussed in detail later in the paper.)

India is one of the largest producers and exporters of mica globally. As of 2015, India's total mica reserves were estimated to be 6,35,302 tonnes, with 1,14,433 tonnes falling under the Reserves category and 5,20,869 tonnes under the Remaining Resources category. 60% of the world's mica is produced in India. Mica reserves are found in India, including Rajasthan, Andhra Pradesh, Bihar, Jharkhand, and Odisha. As per the government data, mica is produced mainly in Rajasthan and Andhra Pradesh with 28% and 41% of the country's total mica resources, respectively, while Jharkhand has only a 'small quantity'. However, independent studies and reports for organizations suggest that Jharkhand is one of India's largest producers of mica. Because mica mining is prohibited in Jharkhand, this indicates the existence of an underground economy. Child labour is widespread and unabated.

(A) Problems

- **A regional brief of Koderma and Giridih**.

Two districts of Jharkhand are the leading producers of Mica- Koderma and Giridih. Koderma, commonly known as India's Mica Capital (locally known as Abrak Nagri, a town of gleaming elements), is a world-class mica producer. The population of Koderma is 7.16 lacs, or 0.7 million people (2011 census). It borders the Nawada district of Bihar. Over half of the Koderma district's population lives in the four mica-rich blocks, and forests occupy around 42.42 per cent of the area. The district of Giridih has a population of 24.45 lacs (2011 census), with 460,251 children aged 0 to 6 years (18.8% of the population). It lies in the Mica belt that extends from Jharkhand to Bihar and has rich reserves of mica and coal. About 10% of the Giridih district's population lives in mica-rich blocks (2011 census), and almost 17.41% of Giridih is covered in forests. Predominantly, the Santhal tribe resides in Koderma and speaks

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the santhali language, while Hindi is also spoken. Koderma and Giridih have poor social indicators, and in fact, Giridih has been mentioned in the list of India's most backward districts. Due to the prevalent social injustice against the Scheduled Tribes, the tribals are illiterate, unaware, and extremely poverty-stricken.

- **Geography, topology, and lack of alternatives.**

Giridih and Koderma districts lie on the Chota Nagpur Plateau, which is rocky terrain. The land is covered with sal forests and is covered under The Forest Conservation Act, 1980. Appropriate irrigation means are insufficient, which tends to be the case with such terrains. Additionally, the area is dry throughout the year, and Jharkhand has experienced more intense heatwaves in the past decade. All this makes the sustainability of agricultural activities inexpedient.

There is limited industrialization in the area, and people have no employment opportunities even after implementing MGNREGA 2005 (Mahatma Gandhi National Rural Employment Guarantee Act). This necessitated the workers to venture into the dangerous mines searching for mica. It is a valuable substance in the world economy, and while it fetches around Rs. 1,00,800/kg ($1400) at a global scale, the miners, are paid within the range of Rs.3 -Rs.15/kg. Lack of labor laws and the legal predicament of the activity enables this injustice that results in the poverty-stricken community of Koderma and Giridih.

- **Health indicators of Giridih and Koderma**

The following table summarizes the health statistics of Giridih and Kodarma districts of Jharkhand for the year 2020-21:

Indicators	Kodarma	Giridih
Improved sanitation facilities (%)	54	59.2
Households with any usual member covered by a health scheme or health insurance (%)	56.8	52.4
Children under 5 years who are stunted (height-for-age)12 (%)	34.8	31.9
Children under 5 years who are wasted (weight-for-	18	27.8

height) (%).		
Children under 5 years who are severely wasted (weight-for-height) (%)	5	14.5
Children under 5 years who are underweight (weight-for-age)(%)	31.7	34.3
Children age 12-23 months fully vaccinated based on information from either vaccination card or mother's recall	73.8	70.6
Children aged 6-59 months who are anaemic (<11.0 g/dl)22 (%)	60	62.8

As the data indicates, the public health system is sparse with insufficient health infrastructure. This worsens their chance of survival or a chance at higher life expectancy as the people then have to move to cities to get treatment for their ailments principally caused by mica mining.

- **Health hazards of mica mining**

Mica is on the Hazardous Substances List, cited by the American Conference of Governmental Industrial Hygienists (ACGIH). Prolonged Exposure to Mica can cause many health hazards, including cancer, fibrosis, tuberculosis, shortness of breath, etc. The labourers spend more than half of their day in the mica mines, scavenging for scraps of this element with no knowledge of its dangers or protective equipment. They are exposed to the dust-filled with hazardous substances like quartz that cause lung-related diseases and are at risk of cancer by coming in contact directly with the substance for a prolonged time.

Collapsing of mines and people being buried alive, people getting lost, and starving to death in the 'rat holes' are a few other dangers of working in these mines. Children as young as 5-15 yrs old have died while working in the abandoned mica mines. Since mica picking is illegal, officials hold no accountability for the deaths, nor is an official number of fatalities released. Between 2018 and 2019, 19 people had died in the mica mines, while the authorities reported only 6.

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(B) Mica Industry of Jharkhand

- **Uses of Mica**

Due to mica's exceptional physical, chemical, and electrical qualities, it is used in many applications across many consumer, manufacturing, and industrial sectors. As per Transparency Market Research (TMR), a prominent market research organization in India, the mica market has been segmented into paints & coatings, electronics, construction, cosmetics, and others. The graph below shows the end-users value share of major industries in the mica market from 2015 to 2024. The electronics industry dominates the global mica market, followed by the paints and coatings industry. Construction and cosmetics are the world's third and fourth-largest mica importers, respectively.

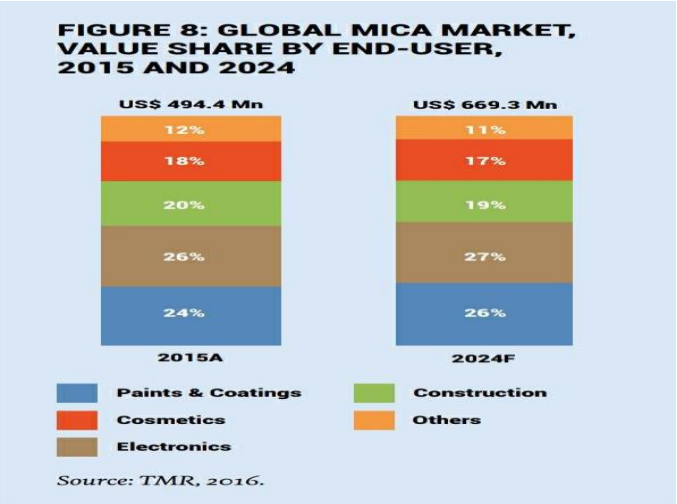

FIGURE 8: GLOBAL MICA MARKET, VALUE SHARE BY END-USER, 2015 AND 2024

Source: TMR, 2016.

Grades of Mica

Mica comes in several forms or grades, each with its own set of terminology. A unique industrial code is assigned to each grade, which is utilized in import and export data. Mainly three grades of mica are traded globally.

1. *Ground mica/ Scrap Mica*: Ground Mica is flakes and powder of mica. Mica scraps are crushed or ground into mica flakes or powder. Ground mica is used in the rubber and plastic Industry and, wet ground mica is employed in the paints and cosmetics industry.
2. *Sheet mica*: The second most prevalent form of mica is sheet mica. This particular grade of mica is abundant in Koderma's reserves. The quality of sheet mica is determined through visual inspection and judgment (clarity, color, flatness, etc.). Because of its malleability, natural sheet mica is most commonly used in the electronics and computer industries.
3. *Built-up mica*: Built-up mica, also known as micanite, is made from mica splittings and is a subset of sheet mica. Built-up mica is primarily employed in electrical equipment as an insulating material.

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According to the TMR report of 2016, which shows the global market value of mica by grade:

- ➢ Ground mica is the dominant segment of the major mica grades utilized, accounting for 53% of the global market in 2015. Due to the worldwide expansion of businesses that use this grade of mica, this category is predicted to develop at a compound annual growth rate (CAGR) of 2.8 percent in volume and 4% in value.
- ➢ Ground mica accounted for 53% of the global mica market in terms of market value in 2015.
- ➢ The sheet mica segment is expected to grow at a CAGR of 2.6 % in volume and 3.8 % in value over the projected period 2016-2024. Mica demand in the Asia Pacific area is predicted to rise due to the increased use in the electronics industry and increasing demand for electronic equipment.
- ➢ Between 2016 and 2024, the built-up mica segment is predicted to grow at a volume Compound Annual Growth Rate (CAGR) of 1.9 % and a value of 3.1%.
- ➢ Sheet mica and Built-up mica accounted for 47% of the global mica market.

Figure 6: Global market value of mica by grade
Source: TMR, 2016.

Source: SOMO report

- **Capitalist Interest and Underground Economy.**

The state, not the private sector, should control the means of production, as per Marxian economic theory. The case of mines in Jharkhand is peculiar because the means of production, i.e. the mines, are directly under the Government of India. Still, however, it is serving the purpose of the private capitalists pertaining to the illegal framework that exists. The private means are even better off because not only do they acquire and accumulate the entire surplus,

they are not concerned with the safety measures, well-being or a fair remuneration at the least of the workers. 11,6874 tonnes of mica were exported, valued at Rs.49,09,146 for 2019-20, while about 7,456 tonnes of mica were traded domestically, as stated by the government reports. This is in sharp contrast to the data given by independent organizations like the Centre for Research on Multinational Corporations, SOMO, according to which only about 15,000 tonnes of mica was produced in India. This indicates the existence of an underground economy/shadow economy that sources its mica from Jharkhand. Now an underground economy not only misinterprets the Gross Domestic Product (GDP), rendering any or all policies in the said direction meaningless or even having a worse impact. (Due to the numerous robust networks of shadow economies, the 2016 demonetization was a resounding failure. The intention was to flush out black money from the economy, but evidence suggests it failed to achieve its purpose. Thus, a shadow economy has the potential to influence the outcome of fiscal and monetary policy.)

This is particularly dangerous in an industry like mica mining because it is harmful and dangerous for the workers and the residents in the vicinity of the mines, but also because these mines lie in an environmentally vulnerable zone, and excessive mining could have irreversible disastrous repercussions. Due to the cloaked nature of any underground economy, the government data fall short of accuracy. No reliable data can be collected, making it difficult to ascertain the actual extent of the issue. Since mica is extensively used in the automobile sector, electronics, and cosmetics, many companies of the said industries source their mica from India. German Chemical giant Merck has a direct operation and is perhaps the only company to claim that it sources its mica from the legal operations in India. Automobile giants like BMW, Toyota, Hyundai, Volkswagen, and cosmetic brands L'Oreal, Sugar, Mac, and Faces source mica from India. Mica is responsible for the shimmery appearance of automobile paints and cosmetics.

Sheet mica is sourced by many MNCs like Samsung, Panasonic, and Chhaperia due to its extensive usage in electronic goods. L&T and Dalmia Bharat are a few cement companies that use mica. Private businesses typically want to maximize their profits by reducing taxes, salaries, and employee benefits. Marx states that "when the means of production are privately owned, the profitability determines the technical advancements of the sector". Many of these businesses have refused to acknowledge the likelihood of a shady supply chain and have declined to reveal where their mica comes from. The Marxian argument is thus supported.

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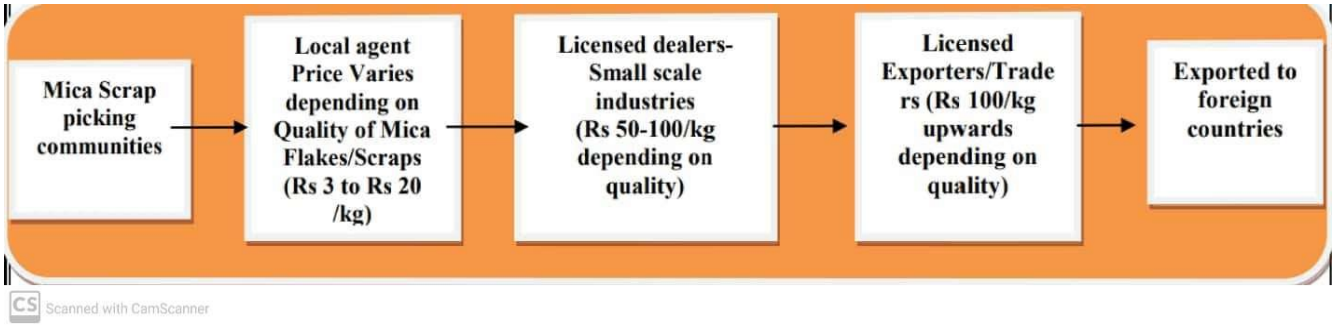
2.2.3 Supply chain

The following flowchart depicts the supply chain of mica along with the remuneration received by each agent in this chain.



Source: CINI report

Mica pickers in Koderma and Giridih sell baskets full of mica scrap to middlemen, locally known as 'abrik/dhibra dalal,' who subsequently sell it to the processing units in Jharkhand for more than Rs.150/kg (almost ten times of what they pay to the poor miners). Jhumri Telaiya, a small district near Koderma, is home to these traders. The mineral is then treated into different grades before being exported. It is collected from all across India, primarily Rajasthan and Odisha, and then processed in Jharkhand before being blended with the mica illegally extracted from the mines of Koderma and Giridih. It is sold at 0.24$ per kilogram on the ground in Jharkhand and almost 1400$ on the global market.

- **Environmental Regulations (why exactly is mica mining illegal)**

The Atharva Veda states:

"Oh, Earth, whatever we dig out from you must have to be filled up again and restored as fast as possible. Oh, pure one, we do not intend to hit you at your heart of hearts."

Modern civilization is heavily dependent on exhaustible and non-renewable natural resources. Extraction of minerals creates ecological imbalances and adversely affects the fisheries, wildlife, water balance, local climates, and rainfall pattern. To meet the rising demand for mica, trees are gradually cleared to develop more land for mica mining. Deforestation coupled with sedimentation and land erosion has devastating effects on biodiversity and the health of the residents. A few regulations by the government to combat the negative consequences of mining are:

1. *Indian Forest Act,1927* - This was enacted to protect Indian forests. It attempted to regulate the movement of forest produce and dutiable forest produce in India. It outlined the steps necessary to designate an area as Reserved Forest, Protected Forest, or Village

Forest. This Act outlines forest offences and fines for violating the Act's restrictions. According to the Act, when found in or brought from a forest, substances like surface soil, peat, rock, and minerals are considered forest produce.

2. *Forest Conservation Act,1980* - *"*An Act to provide for the conservation of forests and matters connected therewith or ancillary or incidental thereto." This Act consolidates all the laws for forest preservation and forest produce transportation. It was framed considering India's rapid deforestation and resulting environmental degradation. Mica was deemed non-forest produce and cannot be undertaken without prior permission from the Union Ministry of Environment, Forest and Climate Change. *Scheduled tribes and other traditional forest dwellers (Recognition of Forest Rights) Act,2006* - This Act requires the government to return traditional forest land rights to tribals and other forest dwellers who have lived in the area for generations. They can lay claims before authorities through a laid down process in the Act. It aims to give power to the local tribes residing in mining to protect them from exploitation and displacement.

Implementation of Forest Conservation Act, 1980 deemed mica mining illegal in Jharkhand. Since mica mining activity now required licensing and permits from the government and the prevalent red-tapism made it an arduous process, many companies had to withdraw from the industry due to the unavailability of permits by the government. This led to the mushrooming of intermediaries who started sourcing mica from laborers, scavenging for mica scraps in the innards of forests, or re-entering abandoned mines and mica dumpsites.

(D) An assessment of Labor laws and policies

- **Labor laws**

Labor is included in the constitution's concurrent list, which means that the federal government and the states can implement these legislations. Various sectors of labor and employment, such as labor disputes, working conditions, pay, and social security, are governed by over 100 state and federal laws. As a result of the existing legislation's complexity and archaic provisions, the National Commission proposed that current labor regulations be consolidated into broader divisions such as (i) industrial relations, (ii) wages, (iii) social security, (iv) safety, and (v) welfare and working conditions. Consequently, three labor codes were introduced in the Parliament in September 2020 to simplify the country's various labor laws and give impetus to economic activities without compromising workers' interests. These include:

- Industrial Relations Code Bill,2020
- Code on Social Security Bill,2020 (SS code)

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- Occupational Safety, Health, and Working Conditions Code Bill,2020 (OSHWC code)

The SS and OSHWC Codes deal with workers employed in non-industrial firms in the informal sector. The key characteristics of the SS Code are:

1. It merges existing social security laws and attempts to bring more informal workers within the ambit of social security administration.
2. The provisions of eight current central labor regulations have been rationalized and combined. Employment Benefits such as employees' provident fund, employees state insurance, maternity benefit, and gratuity are all reserved exclusively for workers in the organized sector, even with the current arrangement.

Basic features of OSHWC Code are:

- It subsumes 633 provisions of 13 major labor laws into one single code. It also harmonizes the definition of "employee" as it existed across previous labor laws, including people employed by an establishment to do any unskilled, semi-skilled, skilled, manual, operational, supervisory, managerial, administrative, technical, clerical or any other work.
- It permits the Central Government to constitute a National Occupational Safety and Health Advisory Board. This allows the Central Government to direct the board to inquire into certain "extraordinary events" in factories currently involved in hazardous activities and make advisory recommendations related to health and safety standards based on the same.

- **Central government policies for mica**

Various central government regulations govern the mica ecosystem. Some of these are as follows:

1. *Mines Act, 1952* - The Act defines 'Mining' as any evacuations or extraction operated upon the earth's crust to obtain minerals. The primary goal of the Act is to ensure safety in the mines and regulate the legislation for the betterment of workers employed.
2. *Mines and Minerals (Development and Regulation) Act,1957 (MMDR)* - TThis Act governs the management of mining leases in the country. The actual objective of the leases should be recorded and followed, and the leaseholders should protect the well-being of the people who live in the areas where mines are auctioned.
3. *2019 National Mineral Policy* - It aims to improve policy effectiveness by increasing

transparency, regulation, and enforcement by keeping track of mineral resources. It encourages the private sector to enter this 'business' by promoting the industrialization of mining activities.

4. *MMDR Amendment Bill,2021* - The bill aims to bring more transparency to the auction process of the mines. The principal objective of the amendment is to generate employment in the mining sector and enhance the contribution of this sector to the country's total GDP.

- **Jharkhand government policy for mica**

1. *Tribal and community development-related regulations*

Jharkhand has around 23 Scheduled Tribes (STs). Hence, most of the labourers working in the mines are 'Adivasis' or tribal people or Dalits. Very few people in these communities own the land on which they work; they usually have to pay for the lease or mining rights. The Jharkhand District Mineral Foundation (Trust) Rules, 2016, was established to improve the socio-economic situations of populations directly or indirectly affected by mining in each district. Mining leaseholders are required to contribute to the Trust Fund, which is used for different public programmes like as education, sanitation, and healthcare.

2. Regulations governing mica as a minor mineral

The Government of India may declare it to be a 'minor mineral' based on its prescribed use. These minor minerals fall outside the Mineral Conservation and Development Rule (MCDR), and the State Geological Departments collect their statistics. Classifying mica as a minor mineral allows the state government to introduce relevant management changes and develop guidelines and rules to formalize the price fixation of the mineral. Some key regulations are Jharkhand Minor Mineral Concession Rules, Jharkhand Mineral (Prevention of Illegal Mining, Transportation, Storage Rules 2017, and Jharkhand Minor Mineral Concession (Amendment) Rules, 2017. Some other relevant regulations include:

❖ *Jharkhand District Mineral Foundation (Trust) Rules, 2016*

District mineral foundation is a non-profit statutory 'Trust' for every district affected by mining operations to protect the interests of communities and benefit the people in those areas. Scheduled tribes and other forest dwellers who have lost any of their forest rights under the Forest Rights Act, 2006 because of land acquisition are also under the ambit of this Act.

❖ *Jharkhand State Sand Mining Policy (For minor mineral), 2017*

This policy was promulgated in response to the need for a comprehensive, environmentally

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sustainable, and socially focused sand mining policy that meets the state's developmental needs while also ensuring a consistent and sufficient supply of sand at a fair price for the people.

III. CHILD LABOR IN MICA MINING

(A) The Prevalent Condition

According to the International Labor Organization (ILO), around 152 million children aged 5 to 17 years worked in 2017. Mica is a widely distributed, precious, and hence a regulated mineral. However, behind the production and supply of this shiny material lies the story of black pits, dark caves, and little children mining mics from there. Around 18,000 children are engaged in child labor in Koderma and Giridih. These children venture into these dark caves and go as deep as 20 ft underground in thin tunnels. Having delicate, small hands, they can also scrape off whole sheets of micanite and get premium quality mica. Child labor is exacerbated by a lack of educational facilities and illiteracy in the impoverished society. In a single year, more than 45 persons working in mines have died.

Collapsing of mines, accidents, snake bites, and scorpions are occupational hazards of working in mica mines. Inhalation of quartz dust, Dehydration, asthma, etc. are other risks borne by children as young as 5 yrs old who go into the dark pits in search of mica. According to Vijay Mohan and Bharati Hazari, exports of an industry that uses child labor absorb child labor. Since the companies pay extremely less to the children and accumulate profit, the expansion in surplus accumulation and employment of children results in higher exports, raising the GDP of an economy, thus making most, if not all, agents better off. This comes at the cost of the lives of children.

According to a study, malnutrition in children prevents the full development of the prefrontal cortex of their brains that manages their ability to distinguish right from wrong or develop an alternate path of thinking. This is a significant reason why the areas lag, with criminality rife on every street.

(B) Child Labor Policies

With a mean lifespan of 29 years, India is one of the world's youngest countries. As this enormous pool of young people enters the labor force, a demographic dividend may emerge. One of the most serious dangers to India's demographic dividend is child labour. Under the Child Labor (Prohibition and Regulation) Act 1986, everyone under the age of 14 is considered a "child." The government has enacted laws, policies, plans, and programmes to fight the issue of child labour. Some key regulations are:

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1. Child Labor (Prevention and Regulation) Act, 1986

"An act to prohibit the engagement of children in certain employments and to regulate the conditions of work of children in certain other occupations." The Act strives to eliminate all forms of child maltreatment in the workplace. It prohibits the engagement of children under the age of 14 in any hazardous occupation and in fact, makes it illegal to employ children in specific occupations and processes. Processes that are prohibited for children under the age of 14 are listed under the schedule in Part B of the Act that includes mica mining and splitting.

2. National Child Labour Project,1988 (NCLP)

This aims to rehabilitate the working children in the few identified child labor endemic districts. The strategy involved withdrawing these vulnerable children from work and putting them into special schools for a period of a maximum of 3 years to provide them with:

- Non-formal/Bridge education
- Skilled/Vocational training
- Mid Day Meal
- A stipend of Rs 150 per child per month

A survey should be conducted to identify children employed in hazardous activities or practises. These kids would subsequently be brought under the umbrella of this scheme. The children would then be integrated into the formal schooling system via Sarva Shiksha Abhiyan. Working children aged 9 to 14 would have to be rehabilitated through the NCLP schools run by the Project Society.

1. *Right to Education Act,2009*

"An act that guarantees free and compulsory education to all children aged 6 to 14".

The Act mandates neighbourhood surveys to identify children in need of education and provide facilities. Children should not be held back, expelled, or compelled to pass a board examination until they have completed elementary education. There is also a provision for school dropouts to receive special training to bring them up to pace with students their age. The Act requires private schools to give easy and free access to children from low socio-economic backgrounds, thereby preventing child labor and boosting education.

2. *Child Labor (Prevention and Regulation) Amendment Act, 2016*

“An Act to prohibit the engagement of children in all occupations and to prohibit the engagement of adolescents in hazardous occupations and processes and the matters connected

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therewith or incidental thereto." It enforces a complete ban, ensuring that all children under the age of 14 attend school under the Right to Education Act. It also authorizes the government to prohibit adolescent workers from working in dangerous settings. Strict punishments will be imposed on the employers who violate the rules of the amendment.

IV. ADDRESSING THE GAPS IN THE LABOUR LAWS AND POLICIES

There is a risk that the mica mining industry will be unregulated if the governance in a mica-producing country is poor or non-functioning or if the state is fragile, corrupt, or in a conflict situation. This opens the door to illegal mining, child labour, and mine operators exploiting the most vulnerable workers. Countries with poor governance frequently lack the resources to handle child labour and violate children's rights. Thus, it is recommended that existing policies be reviewed and amended regularly and that a strong ground force is in place to ensure last-mile implementation.

(A) Labour laws

The three labour code bills are a start in the right way in consolidating the country's present patchwork of labour rules. (see section 2.4.1). However, there have been some reservations about the codes' ability to deliver universal social security coverage. A few concerns specific to the mining sector are:

- The onus of registering for these programs lies on the informal workers. Due to a lack of awareness, computer literacy, and connectivity, many workers could remain beyond the ambit of these schemes.
- Workers at these clandestine mines cannot complete the registration process because they lack all necessary papers. Since most workers are on the go and self-employed, it's challenging to offer verification of wage and other information.
- The OSHWC code states that mining is not a dangerous process. As a result, adolescents beyond the age of 16 are permitted to work as mining apprentices. This contradicts the Child and Adolescent Labour Act of 1986, which defines adolescents as those aged 14 to 18.

(B) Mica policies at the centre and state level

Due to the high global demand for mica, international companies are working in Jharkhand to build a long-term mica supply chain. A sustainable mica policy framework and creating a joint public-private partnership will help revive mica production and mica-related industries in Giridih and Koderma. However, there are concerns about the slow and incremental policy

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adjustments at both centre and state levels. Simple policy pronouncements and a gradualist approach could hinder the purpose of the policies around mica mining.

- ➢ Despite the amendments at the central level, it is observed that domestic and international investments in high-risk mining businesses continue to be insufficient. The mining sector attracted around 0.63 per cent of total FDI inflows into the country between 2000 and 2011.
- ➢ Illegal mining has increased dramatically in recent years due to procedural delays and administrative inefficiencies and rising mineral prices (since 2004). The issue is further affected by a lack of law and order, inept police administration in mining areas, and insufficient infrastructure.
- ➢ Mica-related terminology differs in state laws, and Jharkhand's local implementation and enforcement capabilities is a severe shortcoming. The measures have not been successful in reviving mines that have been abandoned for decades; illicit mining in some regions continues unabated.
- ➢ The state administration has yet to respond to the request by the central government to modify the Mines and Minerals Act of 1957, which proposes to limit the scope of the term "illegal mining" from the current practice of extracting minerals in violation of rules and regulations to extraction which occurs outside of the mining lease area. Under this definition, any breach within the mining lease area will no longer be classified as "illegal mining" under this definition. This allows the government to reclaim 100% of the value of illegally extracted minerals.

(C) Limitations of Environmental Regulations and amendments

The existing environmental rules (see section 2.4.3) were intended to avoid the ecological damage caused by mica mining, but they have reinforced the hardships faced by communities in these areas.

- ➢ These acts provide great discretion and power on the forest bureaucracy, which is claimed to be frequently corrupt and leads to persecution of forest dwellers, nomads, and tribal people. Several tribal settlements have not been issued forest rights patta and are at risk of being evicted due to forest officials' indifference.
- ➢ More immediate concerns, such as preventing soil erosion, sustaining vegetation cover, and biodiversity, seem to be overshadowed by the cash earning opportunity of timber and forest products.

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- ➢ Mica is still categorized as a non-forest product, requiring many communities to return to abandoned mines to collect mica in deplorable working conditions for dismal remuneration. India's export potential is unexplored, and intermediaries continue to take advantage of miners.

Mica flakes may be categorized as "forest produce" in Jharkhand after state legislative assembly member Neera Yadav demanded it during a session on March 16, 2020. Such laws are complicated, and legalizing mica mining is challenging. A multifaceted approach that considers the ecology and the economic well-being of local populations would go a long way in combating this issue.

(D) Child labour laws

The majority of the children that work in the mica mines are employed by their families as additional help. Over the last few years, there has been a lot of pressure to change child labour laws to reconcile them with the RTE Act's provisions. The new Child Labour (Prohibition and Regulation) Amendment Act, 2016, according to experts, offers little to cheer about.

The new rules state clearly that children cannot work in any industry that would jeopardize their entitlement to an education. This is a move in the right direction, and it is in accordance with the RTE Act. Including adolescent labour in this bill is a significant step and deserves recognition. However, the underlying assumption of the amendment is that the family would defend its children's rights and interests and that the state will not be required to enact rules to protect children from economic exploitation and hazardous job situations inside the family structure. This is concerning, considering that there is no clear definition of a dangerous job, and the term "family" is likely to be misinterpreted.

V. STEPS IN THE RIGHT DIRECTION BY DIFFERENT STAKEHOLDERS

This section explores some of the noteworthy initiatives made by various stakeholders in the mica mining ecosystem.

(A) Role of Media

Illegal mica mining is a well-kept secret in Jharkhand, but it has gotten little attention in the mainstream media. Five years ago, the uninvited and unattractive side of mica's glitter was documented by RT Documentary, a Russian free-to-air YouTube channel. It highlighted the harsh working conditions of children and adults who collect mica, as well as the little pay they receive. It demonstrated how mica is harvested and processed in small-scale processing facilities, which then seek legal licences and export high-quality mica at higher costs after

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obtaining legal licences. There are a few schools in these regions, but they lack adequate teachers and facilities.

The series titled 'Shady" on YouTube by Refinery29, an American feminist digital media and entertainment website uncovers the dark side of the beauty market. It has an episode about the unethical source of mica, which is used in many cosmetics. The video, which has received over 15 million views, highlights the lack of transparency in the mica supply chain. Mica is scavenged in deep trenches by children as young as ten, who then sift the mica from the pebbles. The trade is based on a facade, and it is impossible to tell whether children were involved once the mica had left the mine. The discussions with the state ministry highlighted how little higher-ranking officials know about the realities of the industry on the ground. The video concludes on a positive note, showcasing Kailash Satyarthi Children's Foundation's "Child-friendly village" initiative, which connects parents to other income streams so that their children do not have to work in mines.

The first step toward resolving a problem is to become aware of it. Coverage by such media outlets disseminates knowledge about less-discussed subjects to the general public. People are compelled to examine, argue, and hold themselves and other stakeholders accountable. People passionate about a cause are given the opportunity to participate in and contribute to the change through the media. Consumer and producer decisions can have a significant impact on the life of these communities. As a result of this awareness, consumers and businesses would question if the components are sourced lawfully and if child labour is used.

(B)Role of Local Communities and Civil Society Organisations

Civil societies and local communities work at the grassroots level. They engage and work directly with the recipients, providing them with an advantage because they are more familiar with the beneficiaries. They work to safeguard and recognize people's rights and civic and welfare facilities to solve their problems. The Responsible Mica Initiative and the Kailash Satyarthi Children's Foundation are two notable civil society organizations that address the gaps in the mica ecosystem and develop a sustainable mica ecosystem with a holistic approach to children's issues.

1. *Responsible Mica Initiative*

   The Responsible Mica Initiative works with many stakeholders from various disciplines and organizations to effectively implement its three programme pillars:

   - Mica supply chain mapping, mica collection and processing workplace standards

- Community empowerment in villages providing the mica workforce
- Legal frameworks for the mica sector.

These stakeholders provide their experience and commitment to address the mica conundrum. To address the lack of a holistic approach to the issue of sustainable mica mining and supply chain concerns in the state, the 'Jharkhand Sustainable Mica policy framework and vision' was developed by the RMI through meetings with members of civil society, industry, and local community groups. It was presented to Jharkhand government representatives on July 15, 2020, during a virtual consultation with 45 stakeholders. A few recommendations by the organization were:

a. Constituting a 'Jharkhand sustainable mica taskforce'.

The formation of a mica-focused task force by the Jharkhand government should be prioritized, including participation from industry representatives, local community members, and civil society organizations. The main goal of the 'Jharkhand Sustainable Mica Taskforce' is to serve as the state's mica-focused development and planning organization.

b. Defining 'Sustainable mica' supply chain

A sustainable mica supply chain is inclusive and ethical and ensures that economic actors adhere to responsible social, economic, and environmental policies. Through multi-stakeholder engagement, it should target long-term development and growth of the mica ecosystem. It should endeavour to "formalise" and acknowledge informal labour activity in the mica upstream/collection stage, eradicate child labour throughout the supply chain, ensure that all members of the supply chain follow the law of the land, safeguard the environment, and provide for mica traceability.

c. Creating mica Self Help Groups to 'Formalize' the upstream

- The task force should assist in establishing mica SHGs (supervised by Gram Panchayats) or a similar cooperative model in and around mica-rich blocks, which will serve as the formal collection point for registered mica-pickers.
- Mica SHGs shall keep a written record of all mica pickers who work/register with them at any one moment and wage payments received to verify that all employees are paid the highest legal minimum wage. Mica traders and processors will be required to obtain and purchase mica from legally recognized mica SHGs.
- Mica pickers who are registered (and have a Mica Worker Card) will be entitled to state welfare payments based on their children's attendance in school and social and health

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benefits at public health centres. This would economically incentivize parents to send their children to school. The Mica Worker Card would also provide subsidized access to public health facilities.

2. Kailash Satyarthi Children's Foundation

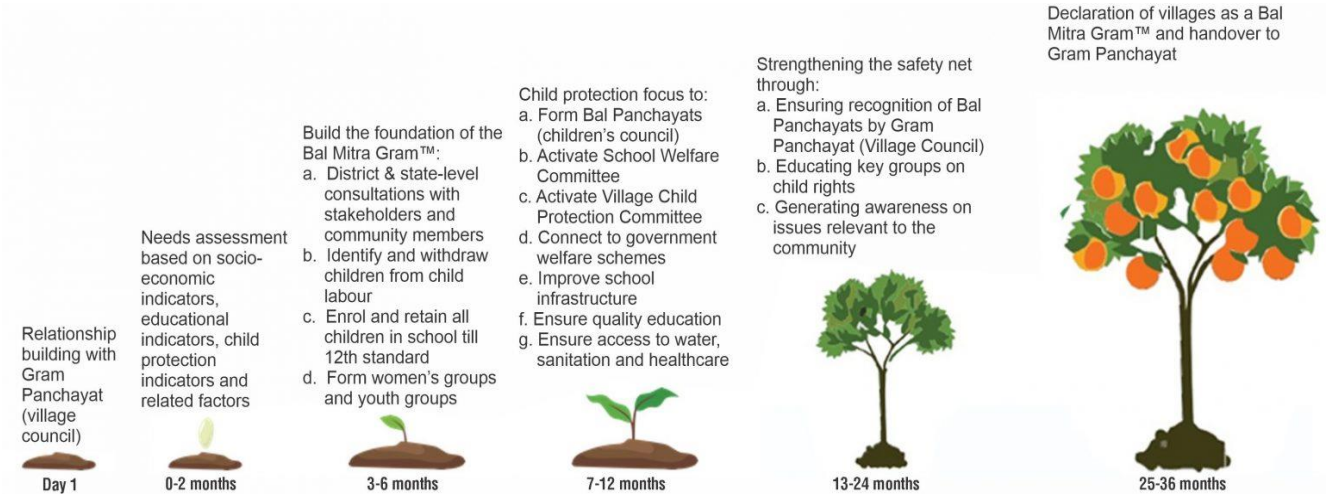
The Kailash Satyarthi Children's Foundation (KSCF) was founded in 2004 under the leadership of Nobel Peace Laureate Shri Kailash Satyarthi to create a child-friendly world and take a holistic approach to children's issues. The KSCF method is built on the foundations of spreading awareness, policy advocacy, and capacity building. The organization's strengths and drivers are a diverse team of professionals interested in child rights issues, internal expertise, and strong stakeholder collaboration. 'Bal Mitra Gram', or 'child-friendly village', is a KSCF effort that aims to eliminate child exploitation such as child trafficking, child labor, and child marriage at its source. It also deals with education and child sexual abuse, water, sanitation, hygiene, and livelihood. This methodology breaks the systemic barriers of oppression and injustice through democratic steps to empower community-based stakeholders through a rights-based approach. The KSCF cooperated with the Bachpan Bachao Andolan (BBA) Foundation to create a case study report that captures the backdrop of the mining sector and the circumstances in which government attempts or interventions to address illegal mining, among other things, have been implemented.

- In 2016, the Kailash Satyarthi Children's Foundation (KSCF) and its partners undertook a pioneering survey in the mica area of Jharkhand's Koderma and Giridih districts, as well as Bihar's Nawada district, which identified 22,000 working and out-of-school children. Based on the outcomes of this study, KSCF implemented the BMG model to launch a massive school enrollment campaign and a comprehensive anti-child labor campaign in mica mining districts.

- In 2018, KSCF signed a Memorandum of Understanding (MOU) with the State Government of Jharkhand to scale up the BMG model to eliminate child labor in the mica mines in the state. The Government of India's National Commission for Protection of Child Rights (NCPCR) took notice of KSCF's findings and commissioned a study to investigate the situation on the ground. Based on the NCPCR report, KSCF began a school enrolment initiative for out-of-school children in partnership with district administrations in the concerned districts. The state administration of Jharkhand has agreed to scale up and reproduce the Child-Friendly Villages concept in all of the state's villages to make the entire state free of child labor.

- In 2020, KSCF visited nearly 250 villages directly as part of the initiative and another 250 communities in conjunction with the government and helped save thousands of children

and their families from over 500 villages. The collaboration of KSCF and the BMG programme has resulted in the daily protection of 83,228 children, retention of over 40,000 children in schools. It has impacted over 35,000 families in the mica mining region. Over 21,000 out-of-school or irregular students have been integrated into schools.



Source: KSCF website

(C) Role of International NGOs and Development Organisations

International Development Organizations working closely with India have been critical of determining the scope of humanitarian problems in these vulnerable areas and are proposing initiatives to improve the inhabitants' lives. Norwegian based Policy Research Centre SOMO and Netherlands based Terre De Hommes are two very significant organizations that have collaborated with CSOs and corporations to address the impact of illegal mica mining on local communities.

Terre des Hommes, Netherlands (hereafter referred to as Terre des Hommes) is an international non-governmental organization dedicated to ending child exploitation worldwide. It has been defending children against exploitation, violence, child labor, human trafficking, sexual exploitation, poverty, and starvation since 1965. Terre des Hommes' target categories are children at risk of exploitation and children who have been exploited. Concerned about the prevalence of child labor, particularly in Jharkhand and Bihar, Terre des Hommes commissioned SOMO to investigate children's rights violations in these regions' mica mines in 2015. SOMO is a non-profit organization that investigates multinational corporations. Independent, accurate, critical, and with a clear objective in mind: a just and sustainable world in which the public good outweighs corporate profits.

Their initial investigations in 2016 revealed that approximately 300 villages in the states of Jharkhand and Bihar – home to the world's largest mica mining area and account for an

estimated 25 per cent of total global production – are involved in illegal artisanal small-scale mining (ASM). Their collaborative report "Global Mica Mining and their impact on Children's Rights' mentioned that 22000 children were engaged in the mica mines of these districts. For the National Commission for Protection of Child Rights, the data on child labor were eye-opening, so they took cognizance and launched an independent survey with input from these organizations. The commission's survey titled "Education & Wellbeing of Children In Mica Mining Areas of Jharkhand & Bihar" aimed to find the educational status of children and the presence of children in these areas.

The findings of these international organizations provided a foundation for additional research into these issues and prompted the federal and state governments to pay attention to the matter. Continued cooperation between governments and international non-governmental organizations is expected to pave the path for a brighter future for the communities in the mica mining areas.

(D) Role of Corporations and Corporate Social Responsibility

The attractiveness of the mica business in India has attracted buyers and traders from all over the world. According to the TMR analysis (see section 2.1.1), the global mica market will grow from over half a billion dollars in 2015 to nearly 700 million dollars in 2024. Increased demand and rising prices are driving this expansion. Many prominent corporations in the automobile and cosmetic industries (see section 2.2.2) source mica from India. Corporations are responsible for ensuring that child labor is not used in their supply networks. It is necessary to analyze the treaties and leading international standards that embody children's rights in order to understand the precise nature of this obligation.

A few non-binding regulations that outline a risk management approach to human rights risks, and apply to all states and companies regardless of size, sector, location, ownership and structure are:

a. UN Guiding Principles on Business and Human Rights (UNGPs)

The UNGPs give states and businesses advice on avoiding and responding to human rights violations, including in conflict-affected areas. They define a company's responsibility to uphold human rights. Although the UNGPs do not explicitly address children's rights, they expound on corporations' obligations to protect all human rights, including children's rights.

b. OECD Guidelines for Multinational Enterprises

Governments' advice to multinational corporations operating in or from subscribing nations is

outlined in these guidelines. They provide non-binding principles and criteria for responsible global corporate conduct. According to the OECD Guidelines, businesses should take practical actions to contribute to the eradication of child labor. The OECD suggests a five-step methodology summarised in the diagram below for minerals in supply chains.

Depending on their sector, the grade of mica required, the complexity of the supply chain, the volume in which it is required, quality, and price, corporations have approached the issue of unethically acquiring mica from India in different ways.

1. Synthetic mica as a solution

   Natural mica and synthetic mica are the two forms of mica available in the market. Natural mica accounts for 90% of the global mica market, with synthetic mica accounting for the remaining 10%. Nearly all synthetic mica is produced for the cosmetics sector, with a minor percentage utilized in paints as pearlescent pigments.

   - *Pros*: Synthetic mica's development and use as a substitute for natural mica could minimize the need for mica mining. According to Lush Cosmetics, synthetic mica is brighter and more uniform than natural mica, making it ideal for makeup. Based on publicly available information, no human rights violations or environmental issues were discovered concerning the manufacture of synthetic mica. Given that children do not mine synthetic mica, some industry experts believe that a few purchasers might choose to pay a premium for it. This unique selling point justifies the synthetic mica's higher price.
   - *Cons*: According to industry analysts, there are no commercial indicators that automobile manufacturers are willing to switch to synthetic mica for their paints and coatings. Natural mica is said to have a higher quality when utilized in specific applications. Natural mica has complex and spectacular visual effects

that

- have yet to be duplicated in the lab.

2. Engaging in partnerships with Civil Society Organisations (CSOs)

As part of their corporate social responsibility model, many corporates have collaborated with CSOs working to end child labor in the global mica chain. They have committed to remain in India and ensure traceability and transparency in their supply chains. Companies such as Estée Lauder, L'Oréal, and Yves Rocher have been working on "child-friendly villages." The National Resources Stewardship Council (NRSC), a non-profit that promotes responsible sourcing and includes many of the world's largest cosmetics businesses, and the Indian NGO Bachpan Bachao Andolan (BBA) collaborated to create this concept in 2010. The cosmetic company L'Oréal is one of the founding members of the Responsible mica initiative(RMI) (see section 5.2), which ensures that the sector is ethical, responsible, and protects children. COTY and Sephora are two other prominent brands that have vowed to work with RMI to ensure a sustainable supply chain.

VI. RECOMMENDATIONS

In accordance with the findings of the studies, the writers suggest the following recommendations:

- ➔ There is an urgent need to resolve mica's definitional issues. Policies should be comprehensive and should aim to improve the lives of locals while minimizing the adverse environmental effects of mining.
- ➔ A child-friendly environment can be created in these areas by strengthening and raising awareness of community-based groups on topics such as child labour and other concerns affecting the child-friendly environment. Strengthening government programmes and services and greater execution of such programmes and services will aid in tackling the problem of child labour.
- ➔ Companies in these industries are at a high risk of being involved in the worst kinds of child labor in their mica mining supply chains. They should commit to eliminating child labor from upstream and downstream supply chains.
- ➔ Enterprises should not shun natural mica, but rather ensure that the households that supply mica to these companies are adequately compensated. Businesses should not practise risk avoidance. Rather than simply abandoning a high-risk circumstance, using synthetic mica, or avoiding risk countries, they should use their leverage.

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- ➔ To ensure proper implementation of the legislation, there should be a powerful bureaucracy and frequent inspections of these sites by both the government and enterprises. Legislations without proper implementations have a little practical impact.
- ➔ Consumers should look at the ingredient list and ask whether any of the materials are unlawfully sourced or if child labour is employed in the manufacturing process.
- ➔ There should be stricter regulations for companies to disclose their entire ingredient list, reveal the areas from where they source their ingredients and ensure transparency in the whole supply chain.

VII. CONCLUSION

Around 80% of the mines in Koderma and Giridih are illegal, and the mica generated from them is unaccounted for, indicating a blooming shadow economy. The workers are poverty-stricken with poor socio-economic conditions and an inadequate public infrastructure, which adds to their miseries. Due to lack of alternative sources of livelihood, these people are drawn into the black caves for mica mining and cutting which is highly hazardous especially when it falls out of the premise of any regulation. A plethora of laws and policies are in place to protect the mica resource-rich regions as they are environmentally vulnerable regions and excessive mining can prove to be catastrophic for the region's ecological system.

Both the federal and state governments have developed various rules and regulations to protect the rights and interests of the labour and workforce and the interests of the tribal communities. However, these are met with bleak implementation. Unfortunately, since the whole Act of mica mining and child labor are illicit, not only are these regulations blatantly ignored, but the children are not even paid a fair share. Child labor laws to prevent child labor and rehabilitate those who were previously engaged in the activity are also met with debilitated implementation by the government agents.

This previously unknown, unacknowledged issue has gained recognition from international organizations, policy research centres and media outlets. Various initiatives and non-profit organizations like Responsible Mica Initiative, Scandinavia based Policy Research Centre, SOMO, and Kailash Satyarthi Foundation have been actively working to reduce the employment of children in such hazardous activities. RMI has rehabilitated about 2600 children in the year 2016.

These organizations advocate the legalization of these mines so that all the activities could then come under the legal framework. They have also been successful in spreading awareness about

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the state of affairs. As a result, many Multinational Corporations have directed their share of Corporate Social Responsibility (CSR) towards the betterment of the communities. They have also extended their Research and Development department to advance their technology further and find suitable substitutes for mica. However, we are still a long way from actual development. Policies more suited to the society of these districts must be formulated and implemented correctly. Since the government is encouraging private players in the mining industry, they can collaborate and work towards a better public health and education infrastructure; and ensure a fair remuneration of the employees. All these recommendations may redress the circumstances of the community. There is still a long way to go before the shine of the mica lightens up the lives of the children living in Koderma and Giridih.

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