







Report on wages, working and living conditions of Mica workers in India







Executive Summary

This report is the outcome of a project carried out by the Fair Wage Network (FWN) under the direct request of the Responsible Mica Initiative. The triple objective of the study was first to define a living wage¹ for mica workers, second to better identify wage and working conditions of workers involved in mica collection and processing activities in Bihar and Jharkhand states - India, and finally to highlight some of the internal pricing mechanisms in the mica supply chain.

For this purpose, surveys were carried out by the FWN in the summer of 2021 among actors of the very upstream of the mica supply chain. First mica collectors living in villages of the mica belt in Bihar and Jharkhand were interviewed, as well as workers in mica processing activities located in Jharkhand. These workers' surveys were complemented by interviews of other actors such as managers of processing units and intermediaries (also called transporters) who buy mica out of the mica collectors, and then sell it to processing units or to other actors such as aggregators and brands.

Price surveys among local markets and local shops were also carried out to accurately capture the prices of basic commodities.

As a results of the field surveys, FWN was able to capture an accurate overview of the financial situation of a typical mica-dependent household, that is described in the full report. The key takeaways of the study are as follow:

- Overall living wage for a typical family of two adults and three children in rural areas of Bihar and Jharkhand states, hence for mica pickers' families is estimated to be 15,000 INR/month (around 190 €/month).
- Overall living wage for a typical family of two adults and three children in urban areas of Jharkhand state, hence for families of a mica worker in processing unit is estimated to be 17,000 INR/month (around 210 €/month).
- In both states Bihar and Jharkhand, **mica pickers** and their family are living in a precarious situation, the families earning overall wages (~3,800-5,600 INR/month) that are significantly lower than the living wage (~15,000 INR/month). Individual mica pickers also earn far less (~2,800-4,200 INR/month) than the legal minimum wage for unskilled workers (~8,500-8,800 INR/month). Accounting for the revenues from mica-related activities only, the gap in living wage reaches 81% for mica pickers in Bihar, 72% for mica pickers in Jharkhand. Their income is not stable nor coming from a secured source, they usually don't have access to social security benefits.
- In Jharkhand, the conditions of workers in processing units were found to be slightly better compared to mica collectors. Indeed, mica workers in processing units receive a regular wage and social benefits. Individual workers were however also found to receive a wage (8,000 INR/month) lower than the legal minimum wage (INR 8,800 INR/month) and lower than the living wage for a typical family of two adults and three children (17,000 INR/month) living in an urban area (gap of 53% versus family living wage).
- Mica pickers in Bihar and Jharkhand are currently and respectively earning 10 and 8 INR/kg.
 To reach the minimum legal wage while collecting the same daily amount of mica, they should earn respectively 30 and 18 INR/kg. A high-level estimate of a fair price for mica

¹ The living wage is defined as the total income that income earners in a household would need to cover the entire household's basic needs. It depends on several variables and parameters, like the size of the family, the number of income earners in the household, the price of local goods and services, ... It varies with time and space for a given supply chain.







enabling mica pickers to reach a living wage would be 52 INR/kg in Bihar and 30 INR/kg in Jharkhand.

- Mica related activities (mica collection or working in a mica processing unit) do not represent the only source of income for the workers' households. The total revenue also relies on farming and other activities (small shop, ...). Mica related activities nevertheless represent approximately 75% of the total family income. Additional revenues from other activities than mica sightly close the gap in living wage to 75% for mica pickers in Bihar, 62% for mica pickers in Jharkhand and 38% for workers in mica processing units in Jharkhand.
- This, coupled with the above conclusions, explains the living difficulties reported by mica collectors and mica workers. They lack sufficient and stable enough incomes to cover all their basic expenditures, they are not able to make any saving, nor to face unexpected expenditures and have to recourse to additional loans in case of unexpected event.
- As reported by the vast majority of actors mica collectors, processors, and intermediaries the revenue redistribution within the mica supply chain was found to be greatly unbalanced, where a few actors have a stronger bargaining position than others. It was found that the stronger the financial situation of a specific actor is, the stronger its bargaining power. In other words, the sales seem to be controlled by those who have liquid cash: the aggregators over intermediaries, the intermediaries over the mica collectors, all the more as they need immediate money for day-to-day subsistence.
- Finally, aggravating factors were identified such as the lack of clear legal regulations or the sufficient knowledge of workers on the supply chain, mica quality, ...

In conclusion, a few leads were presented as possible improvements:

- The development of a clear legal framework and its enforcement is a key prerequisite on the path toward the improvement of wage and working conditions of mica workers. In such regulation, one could imagine that a minimum price for mica or minimum wage for mica pickers would be set up, depending on their ability to excavate, collect, and pick mica over a given duration. Pricing mechanisms could be modeled based on best practices identified in other supply chains.
 - In any case, regulations should ensure a minimum price control to avoid underpaid mica to pickers.
- In order to guarantee the protection of the health and safety of mica pickers, transportation means could also be made available for mica pickers who travel long distances from home to mining sites. The location of collection centers needs to be thought through, so the mica pickers/collectors do not have to carry back heavy bags manually. The provision of PPEs would be required to mica pickers, and training or awareness raising campaigns should be set up so that mica pickers are aware of health and safety risks and ways to be protected against them.
- Empowering mica-dependent households to come out of the poverty situation they are living in is a key prerequisite to eradicate child labor. As part of this empowerment, the payment of a living wage would contribute to enable households to cover their basic needs without requiring to the additional revenue coming from the children's work. On top of ensuring the payment of a living wage, awareness raising on the importance of education, access to a quality education for all children and linkage with the government services mica pickers are eligible to are a few contributions to the systematic change that is required in the mica belt to eradicate child labor.







- The global level of knowledge and awareness of mica pickers and mica workers in processing units should be addressed, through trainings or dedicated sessions. They should be trained on price determination mechanisms.
- Finally, the set-up of collective organizations of pickers and/or workers would contribute to improve their bargaining power upstream of the mica supply chain. Increased mica quantity to sell would be leveraged when negotiating with intermediaries.

Similar surveys are planned to be carried out in Madagascar in the course of 2022, with the same objective to estimate the living wage of a typical mica picker in the south of Madagascar, his/her current wage, and the potential gap there is with the living wage.







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Introduction

The aim of the study is to complement the work that is done by the Responsible Mica Initiative on working conditions of workers in mica supply chains by a series of surveys on wages and living conditions in India.

Main objectives

The aim of the study was to collect empirical evidence to better identify:

- The wages and working conditions of workers involved in both mica collection and mica processing units,
- Current practices and mechanisms for paying mica workers and artisanal collectors, and workers in processing units,
- The potential gap between workers' income and living wage thresholds,
- The root causes of current level of wages and prices,
- The barriers and constraints to paying a living wage notably through a description of the payment and trading activities of mica.

The Fair Wage Network is a non-profit organization with expertise in wage issues, that enjoys international recognition for its impartiality and quality of research. This field work has been done in partnership with Sentio Advisory, which is the representative of Fair Wage Network in India and other South-East countries².

Methodology and outline of the full report

The main source of data is a series of interviews carried out with mica collectors, intermediaries (transporters), workers and managers in processing units, with the objective to collect the view of all actors involved in mica related activities and to better identify the good practices and possible areas for improvement.

The report will first present the results coming from the mica workers involved in mica collection, before looking at those involved in mica processing units where management was also interviewed to have the full picture. Additional interviews of intermediaries (transporters) allowed us to capture an additional segment of the mica supply chain.

Based on the different outcomes providing one perspective of the internal functioning of the Indian mica supply chain, policy recommendations are suggested to improve mica workers' wages and working conditions and to lead to a better trading and redistribution process within the mica supply chain.

Field work and interviews of mica pickers/collectors

The field work was carried out in July 2021 in the two states of Bihar and Jharkhand, and more precisely in the mica belt (see Figure 1). Two districts were especially targeted in Jharkhand: Giridih and Koderma, and two in Bihar: Navada and Jamui.

² Report lay-out, most texts and infographics created by the Responsible Mica Initiative, based on data and preliminary report provided by the Fair Wage Network.







Interviews were carried out in two phases: first with groups of a few workers who were then individually interviewed.³ Since workers involved in mica picking activities are coming from several different villages, these workers were regrouped in selected villages for conducting the interviews.⁴ In total, 140 workers participated in our survey (see the sample and its features in Table 1 below).

Villages were selected based on the local knowledge and feedbacks of the Country Manager of the Responsible Mica Initiative and RMI's local CSO partners⁵, on the most active mica collection sites and most representative mica-dependent villages.⁶ Eight villages were selected to carry out the interviews, according to the availability of mica workers. Access to mica mines was not permitted.

Additionally, market surveys were undertaken in both rural as well as urban areas to verify the cost-of-living goods.



Figure 1. Map of India, and location of the study in Bihar and Jharkhand states

³ The anonymous nature of the interviews was explained to the workers, with the commitment that individual workers' name, or any other identifying information would not appear alongside their responses that will rather be analyzed with the responses of other respondents to form the basis of the present report. Workers were free not to answer a question and could end the interview at any time. The interviews lasted roughly 40 minutes and were kept flexible according to workers' responses since the objective was to get the most accurate picture of workers' individual situation.

⁴ For Jharkhand, interviews in the district of Giridih (21-23 July 2021) of workers from the following villages: Rajpura; Dharve; Bendro. Interviews also in the district of Koderma (25-26 July) for workers coming from the villages: Dhab; and Sewatand. For Bihar, interviews in the district of Nawada (27-28 July) for workers coming from the villages: Gopalpur; and New Singer. Interviews also in the district of Jamui (29 July) for workers from the village Mariam Pahari.

⁵ CSO: Civil Society Organizations. RMI has 8 local CSO partners - local NGOS - which are implementing Community Empowerment Programs in mica-dependent villages.

⁶ The FWN would like to thank Mr. Vijay Jain from RMI India who coordinated this exercise and his local contacts.







Table 1. Basic information about mica field workers and processors in Bihar and Jharkhand who were interviewed during the study

Bihar (Field Workers)	Jharkhand (Field Workers)	Jharkhand (Processors)
45	55	40
2.6	2.5	2.1
36.3	38.3	41.8
11.6	16.5	8.8
1.9	3.9	1.7
3.0	2.8	2.6
Males: 28.9% Females: 71.1%	Males: 56.4% Females: 43.6%	Males: 42.5% Females: 57.5%
Married: 100%	Married: 98.2%	Married: 97.5%
Not Educated: 97.8% High School: 2.2%	Not Educated: 58.2% Primary School: 12.7% Secondary School: 1.8% High School: 25.5% University: 1.8%	Not Educated: 65% Primary School: 30% High School: 5%
Unskilled: 100%	Unskilled: 100%	Unskilled: 82.50% Semi-skilled: 15% Skilled: 2.50%
Locals: 100%	Locals: 100%	Locals: 100%
Digging/ Collecting: 100%	Digging/ Collecting: 83.64% Filtering/ Segregating: 16.36%	Grinding: 15% Sorting: 52.50% Others: 32.50%
NA, Self Employed	NA, Self-employed	Permanent: 100%
NA, Self Employed	NA, Self-employed	Direct: 100%
Owned: 100%	Owned: 100%	Owned: 97.50% Rented: 2.50%
12.67 km	4.24 km	NA
3 hours 41 min	1 hour 3 min	NA
	Workers) 45 2.6 36.3 11.6 1.9 3.0 Males: 28.9% Females: 71.1% Married: 100% Not Educated: 97.8% High School: 2.2% Unskilled: 100% Locals: 100% Digging/ Collecting: 100% NA, Self Employed NA, Self Employed Owned: 100% 12.67 km	Morkers Jankhand (Field Workers)

* About the average number of children per household:

^{• 18-}year old or younger children of a given household who rely on adults' wage are accounted for when estimating the living wage. The number of children per household from the census data was considered in the report and estimates instead of the estimate from the interviews.

Adult offspring of parents who are not reliant on their parents' income or who have their own source of income are not
considered children for the purposes of estimating the living wage.







1. Mica workers' activities

Type of work and location

The survey first aimed to understand the type of activity carried out by the pickers - mostly selfemployed workers and a majority being women - as well as the location of the workplace (distance between their home and the workplace).

Though all interviewed workers were involved in mica activities, there were differences between the two states:

- In Bihar, the field workers were mainly working in Dhibras (98%) in open cast rather than working in ancient mine sites (2%). All (100%) were involved in digging.
- In Jharkhand, it was more diversified between Dhibras (38%) and working in ancient mine sites (62%), with a majority working underground (77%). 84% were digging while the remaining 16% of the workers were also involved in filtering / segregating (Figure 2).

Risks related to work

Several risks were identified in association with mica-related activities:

- Pickers / collectors need to carry back home heavy weights manually, with 20 kg to 30 kg in bags mounted on their heads. And this has to be done over several kilometers from their home to their workplace, workers are walking 1 hour in Jharkhand and up to 4 hours in Bihar (4 km on average compared to nearly 13 km).
- Working conditions were found to be hard: exposure to dust and to several health risks (joints and muscular aches and pains, skin abrasions, tuberculosis, asthma and breathing disorders were common ailments many of them suffered from).
- In interviews with workers (mica pickers and mica collectors), some workers indicated that government officials from the forest department and the police confronted workers for illegal excavation and collection of mica. Since no license nor lease are issued by the government for mica sites, all mica-related activity in these locations is deemed illegal. Pickers and collectors reported having to pay bribes to Government officials. Workers reported that intermediaries may also deduct a percentage from the saleable weight due to assumed impurities⁷.
- Finally, the older kids often accompany their mothers /parents and help them in the process.⁸ It was found that one of the villages did not have a school. In the others, the schools were barely functional or located far away.
- Workers in processing units also encounter difficult working conditions. Despite the dust generated by grinding, sorting, and sifting operations, workers engaged here were not wearing appropriate PPEs. Here as well, it was also found that tuberculosis, cough, asthma were common ailments.

⁷ Considering these allegations, RMI is working towards improving the conditions for mica workers via three pillars (Responsible Workplace Standards, Community Empowerment Program and Legal Frameworks). RMI has not independently verified these allegations or discussed them with government representatives and takes no position as to their veracity, but notes that these allegations are a concern of mica collectors.

⁸ This process cannot be quantified since these were responses from the villagers during the random interviews conducted at the villages.







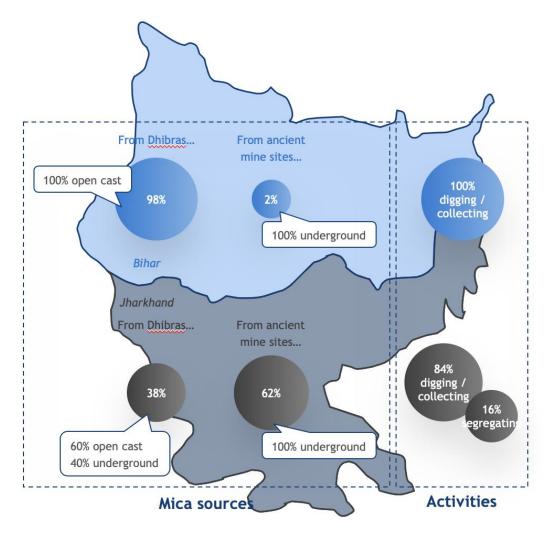


Figure 2. Source of collected mica, mining location and type, processes mica workers are involved in (2021 estimates)







2. Basic Pay and working arrangements

Differences between pickers and processors

In Bihar, most pickers are paid on a daily basis (61%), the remaining ones being paid on a weekly basis (39%), while in Jharkhand, 100% of pickers are paid on a weekly basis (Figure 3). In both regions all pickers are paid based on the weight of collected mica (Figure 4).

Not surprisingly workers involved in processing activities in Jharkhand, a more formalized manufacturing activity, were mostly paid through salaries on a monthly basis (70%, the remaining 30% were paid on a weekly basis). All were paid on a time basis (Figure 4).

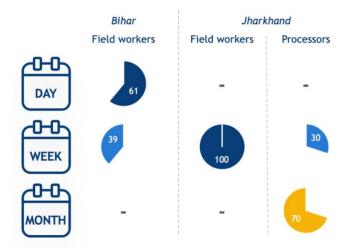


Figure 3. Payment frequency of field workers and processors in Bihar and Jharkhand (%, 2021 estimates)

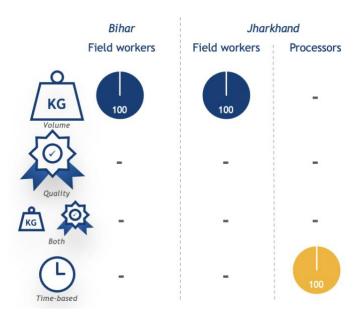


Figure 4. Basis for payment of field workers and processors in Bihar and Jharkhand (%, 2021 estimates)







Differences by location

Pickers in Bihar work in average 6.6 hours a day, when pickers in Jharkhand work almost 8 hours a day. The quantity of daily collected mica was found to be higher in Jharkhand (19 kg) compared to Bihar (11 kg).

The difference of quantity is assumed to be a direct consequence of the difference of daily working hours which in turn is assumed to reflect the different distances from home to work in the two states. Indeed, as already stated above, the average distance between home and workplace in Bihar was found to be 13 km when in Jharkhand, it was found to be 4 km.

As a result, the effective working hours including transportation are found to be 10.25 hours for pickers in Bihar and 9 hours for pickers in Jharkhand, for a lower quantity of mica collected during the day. Pickers in Bihar obviously encounter a key issue related to time dedicated to commuting (home-workplace transportation) which is not contributing to the household's income.

For workers in processing units, the regular working time is 8 hours a day (Figure 5).

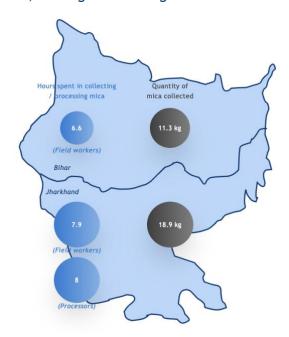


Figure 5. Hours spent in collecting or processing mica, associated to quantity of mica collected per day, in Bihar and Jharkhand (2021 estimates)







3. Mica/Dhibra collection: Quality, variety, and size

What quality?

Interviewed mica pickers are collecting crude mica and not waste mica in both states of Bihar and Jharkhand (Figure 6).

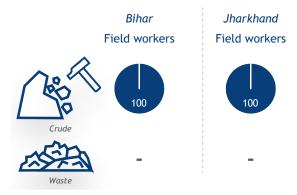


Figure 6. Quality of mica collected by mica field workers in Bihar and Jharkhand (2021 estimates)

What variety?

In both states, mica pickers report to collect mica of medium quality (Figure 7), with interestingly no worker reporting mica of low quality or mica of high quality. As it is later demonstrated in the report, this result might have come from the limited knowledge of mica pickers regarding the type of mica and the quality differences that may arise among different deposits. This lack of awareness could unfortunately influence their bargaining position when selling the product of their work.

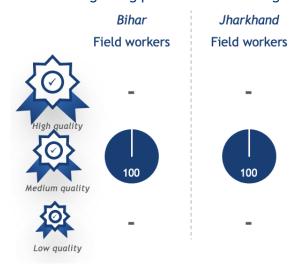


Figure 7. Variety of mica collected by field workers in Bihar and Jharkhand - high, medium, or low quality (2021 estimates)







What size?

Mica pickers generally reported mica of small size, with an exception in Jharkhand where 15% of workers reported mica of medium size (between 2 and 6 inches) (Figure 8).

Smaller pieces of mica are usually cheaper ones. Therefore, it seems that the large majority of mica pickers in Bihar and Jharkhand are collecting small, hence cheap, mica pieces, which does not contribute to enhance their revenue.

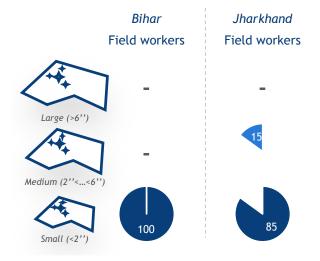


Figure 8. Average size of pieces of mica collected by mica field workers in Bihar and Jharkhand (2021 estimates)







4. In-depth investigation of wage levels and the living wage

One important objective of the study is to understand in detail not only pay practices but also whether the total income of mica workers was covering their basic needs.

Two sets of questions were asked to reach that goal: first on wage levels and second on workers' household expenditures. The semi-directive interviews were complemented by price surveys in local markets to get an accurate estimate of the prices of basic commodities.

The combination of interviews and price survey in local markets enabled to estimate the eventual living wage gap for mica workers presented in this section. The FWN methodology is detailed in annexes.

A survey among workers to get their family's structure of consumption

Workers reported the income they individually receive from all kinds of activities (mica related or not), and reported the regular expenditures supported by the household with regards to housing, food, education, healthcare, transportation etc. According to the Fair Wage Network methodology, typical costs are then estimated thanks to a set of assumptions. For example, housing accounts for an acceptable quality of accommodation according to UN-Habitat. Food costs should cover a daily diet of 2,200-3,000 kilocalories / adult / day. Childcare, education, and healthcare are also accounted for. A last is left for leisure and / or for some precautionary savings to face potential unexpected expenditure.

A survey among local markets to get the right prices of basic goods

Two local markets were surveyed in each state, one in a rural area and one in an urban area, hence four in total.

Different vegetable & fruit vendors and essential commodity stores were covered in the market surveys as follows (see accurate list in the Annex), in each of the two states:

- 1. General Stores / Kirana Shops (two to three each in rural and urban areas) selling food rations, toiletries, and house-hold rations.
- 2. Vegetable/ fruit markets (multiple vends in rural and urban areas) mostly open-air markets where vendors display fruits / vegetables on the ground or on carts, occasionally in shops.

Assumptions to estimate the living wage of a typical household9

The assumptions to estimate a living wage are critical since the living wage directly depends on them. In Bihar and Jharkhand, the following assumptions were made for a typical household:

- The household is composed of two adults and three children.
- One income earner works full-time in a mica-related activity (mica picking or mica processing). Other household members than the one working in a mica related activity, are

⁹ The term 'income' is used for mica pickers since they get their revenues from selling the mica they collected to intermediaries in an unformalized manner, the term 'wage' is used for workers in mica processing units since they get a regular monthly wage from their employer







working for an equivalent of 1.5 full time job in an income earning activity that is different from mica.

Living wage of a typical mica dependent household

Based on the above assumptions, on workers' interviews, and on local markets surveys, the monthly living wage for a family of two adults and three children was estimated to the below levels (Figure 9):

- 15,055 INR/month for a mica picker's family in rural Bihar,
- 14,881 INR/month for a mica picker's family in rural Jharkhand,
- 17,157 INR/month for a mica worker's family in urban Jharkhand.

The difference is mainly due to higher cost of living in urban compared to rural areas.

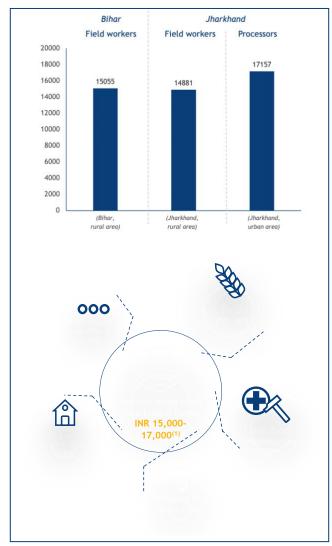


Figure 9. Living wage for mica field workers' and processors' typical families in Bihar and Jharkhand (gross, INR/month, 2021 estimates)







Current level of mica workers' wage

Based on the results of interviews, the monthly gross wage for mica workers in Bihar and Jharkhand was estimated to the levels presented in Figure 10.

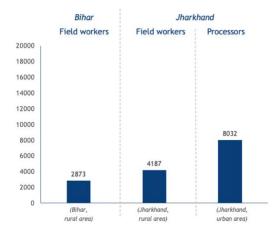


Figure 10. Average wage earned from mica activities only of individual mica field workers and processors in Bihar and Jharkhand (gross, INR/month, 2021 estimates)

Table 2 is making the distinction between the different components of mica workers' wage:

- Mica pickers do not benefit from any other bonuses nor from any overtime hours that would be paid more than the average hourly rate.
- Workers in mica processing units were found to enjoy a regular annual bonus of 2,623 INR/year (218 INR/month, averaged). Overtime is found not to be declared nor paid at a higher hourly rate.

Table 2. Components of mica field workers' and processors' wage in Bihar and Jharkhand

	Bihar, Field Workers	Jharkhand, Field Workers	Jharkhand, Processors
Gross monthly wage, excluding OT (Overtime)	NA	NA	INR 8,032.10
Net monthly wage, excluding OT	NA	NA	INR 7,294.98
Average net monthly OT income	NA	NA	NA
Annual bonus	NA	NA	INR 2,623.20
Monthly value of annual bonus	NA	NA	INR 218.60
Additional monthly allowances	NA	NA	NA
Net monthly income from mica	INR 2,873	INR 4,187	INR 7,513







Mica workers' wage is lower than the living wage, and even lower than the minimum legal wage

It appears that the income of workers related to mica activities is significantly lower than the living wage for a typical household (one worker involved in mica-related activities and 1.5 worker-equivalent involved in other paid activities). The gap is particularly high for mica pickers in Bihar with a monthly income related to mica activities representing only 19% of the household living wage. For mica pickers in Jharkhand, their monthly income represents 28% of the household living wage (Figure 11).

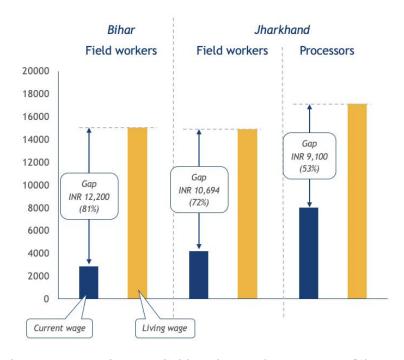


Figure 11. Monthly living wage gap for mica field workers and processors in Bihar and Jharkhand (gross, INR/month, 2021 estimates)

The situation is slightly better but still not satisfactory for workers in mica processing units since their income related to their work in processing units is also lower than the living wage and represents only 47% of the latter.

One key root cause explaining the low level of the current wage earned by mica workers is that most workers seldom logged hundred percent working days/hours during any month. Should they be paid at the legal minimum wage for unskilled workers on hourly basis, it would not be sufficient to reach the legal minimum wage on monthly basis. This assessment could unfortunately be worsened when the legal minimum wage is not even paid. At a processing unit in Koderma (Jharkhand), the lowest level of wages (mostly women) was based on prevailing industry rate and was lower than the applicable minimum wage rate for the state.

The significant living wage gap leaves mica-dependent households with insufficient resources for an individual worker to sustain the basic needs of his/her family when this worker is the only income earner of the household and involved in a mica-related activity.







The above preliminary conclusion could be completed by one observation made during the interviews: the average number of income earners in a typical household was greater than only one. And that the mica-dependent household had sometimes developed additional sources of livelihood to sustain the needs of the family.

The relative importance of these additional sources of livelihood was therefore considered (see next section).

The comparison between the average monthly wage currently received by mica workers and the minimum legal wage (unskilled worker, 8 hours a day) is presented below (Figure 12).

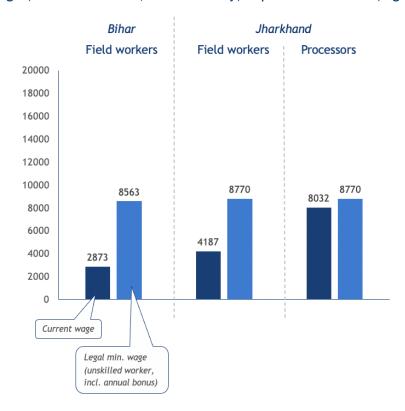


Figure 12. Comparison between current average wage and legal minimum wage for mica field workers and processors in Bihar and Jharkhand (gross, INR/month, 2021 estimates)

A key outcome is that the monthly wage currently received by interviewed mica workers, regardless of their activity and of their location, is significantly lower than the legal minimum wage for unskilled workers.

The result of the interviews interestingly shows that mica workers are not aware of the legal minimum wage: 100% of mica pickers did not know about it, when only 7.5% of mica workers in mica processing units know about it (Figure 13).

As described above, the situation appears to be slightly better for mica workers in processing units, where the average income almost reaches the minimum legal wage. One might even consider that the minimum legal wage is reached when accounting for mandatory deductions for







social security (while the minimum wage rate was INR 8,769, it is reduced to INR 7,063 after these deductions).

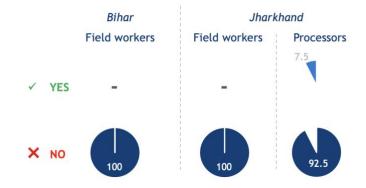


Figure 13. Answers, by the mica field workers and processors in Bihar and Jharkhand, about the question "do you know what is the legal min. wage that you should be earning?" (2021 estimates)

High-level estimate of a fair price for mica at mine / collection level

Based on the gathered data, it is possible to end up with a high-level estimate of the earnings of mica field workers by kilo of mica they collected. As well, based on the legal minimum wage and based on the estimate of the living wage, it is possible to estimate the price that would enable mica field workers to have a decent life, keeping in mind that the volume they would collect in one day would remain the same.









5. Workers' living conditions and dependency on mica activity

Though the surveys confirmed that picking and collecting mica is a main source of livelihood for the tribal villagers of Jharkhand and Bihar who are spending a significative time on this activity, mica workers reported also other complementary sources of livelihood.

Other sources of income for mica workers

Based on the information collected during the interviews, the additional sources of income were identified as follow (Figure 14):

- 1. Grow vegetables and staple food largely for their own consumption, leading to lower expenditures towards buying such food items,
- 2. Pick firewood from the forest and sell it,
- 3. Collect leaves from the forest and weave them into plates and bowls, and sell these manufactured products,
- 4. Break tender branches of "Neem" tree and cut them to even size of 6" to 7" and sell them (this serves as a substitute for toothbrush and paste),
- 5. Odd jobs as drivers, helpers in local shops and road-side eateries, cook, loading-unloading in nearby township,
- 6. Instances of self-employed tailor: repairing and stitching basic items of clothing.

It is interesting to note that all mica pickers in Bihar declared to have additional sources of livelihood, and almost all in Jharkhand (13% only had no additional sources of income). Farming is, by far, the most widespread source of income after mica picking.

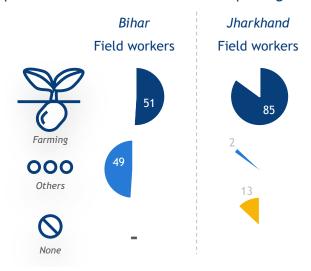


Figure 14. Other sources of income for mica field workers in Bihar and Jharkhand (2021 estimates)

These additional sources of income are unstable and of lower importance relatively to mica-related income

From the information collected during interviews, workers were on average earning 75% of their full income though mica-related activities. Plus, farming, which most of the workers are involved







in (Figure 14), is a seasonal or need-based activity and does not contribute more than an average of 25% of annual average earnings. 10

The full income including all sources of income remains lower than the living wage

Even after the addition of other sources of livelihood to mica-related incomes, the total revenue of mica picker remains lower than the living wage (Figure 15). The total revenue of mica pickers' households in Bihar remains at 25% of the living wage (a gap of 75%). Mica pickers in Jharkhand and their family earn 38% of the living wage (a gap of 62%). Households of workers in processing units in Jharkhand, though having access to a higher level of income, earn also less than the living wage (a gap of 38%).

These low family incomes explain why most families of mica workers are living in extreme poverty situations. To be noted that nearly 13% of collectors in Jharkhand reported not to have any other source of income which signifies a 100% rate of dependency on mica activity and a total revenue remaining significantly low.

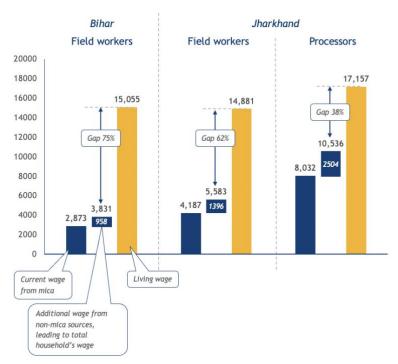


Figure 15. Total wage from mica and non-mica activities earned by the whole household, compared to the household living wage, for mica field workers and processors in Bihar and Jharkhand (gross, INR/month, 2021 estimates)

¹⁰ This 25% was defined from the villagers' reporting, and would correspond to an over-estimate rather an under-estimate of the real income coming from non-mica activities







Families highly dependent from mica activities

40% of the interviewed workers in Jharkhand declared that more than 50% of family members (but not all) are involved in mica activity. In Bihar, 100% of the workers declared that less than 50% of members are involved (Figure 16). It is in general the spouse being involved (in 89% of cases for collectors in Bihar, and 77% of cases for collectors in Jharkhand, Figure 17Figure 16).

Nearly 5% of workers involved in mica collection in Bihar reported children also to be involved in mica activity, compared to 0% in Jharkhand (this question was answered by all workers). It shall be noted that this number might be under-estimated since some workers might have not wanted to disclose that their children were involved in mica picking.

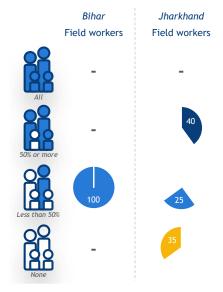


Figure 16. Share of family members involved in mica collection in Bihar and Jharkhand (2021 estimates)

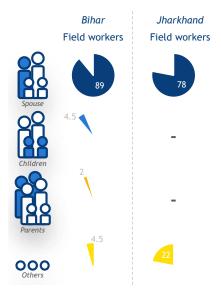


Figure 17. Other household members involved in mica collection in Bihar and Jharkhand (2021 estimates)







Difficulties to face unexpected expenditures

A set of qualitative questions was asked to better capture living conditions of workers and their household.

Unexpected expenditures are not so frequent...

20% of surveyed mica pickers in Jharkhand (9% among pickers in Bihar and 10% among mica workers in processing units in Jharkhand) reported having encountered unexpected expenditures (mostly for medical reasons) over the last six months (Figure 18).

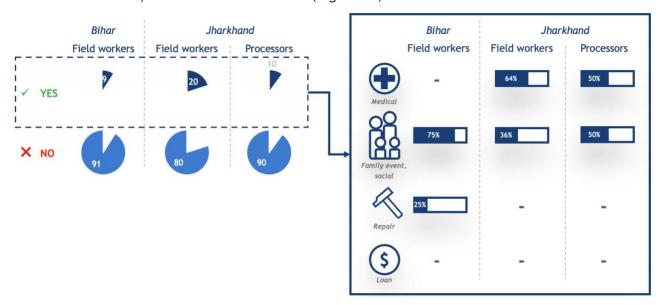


Figure 18. Share of mica workers and processors in Bihar and Jharkhand who faced an unexpected expenditure in the last 6 months, and nature of this unexpected cost (2021 estimates)

... but when they occur, most of the households struggle to cover the full amount.

Only 25% managed to fully fund these expenditures, while 75% and 100% respectively could find only part of the funds and 9% among pickers in Jharkhand could not (Figure 19).

No workers could use their own savings to do so for the only reason that they seem not to have any savings (except 9% among collectors in Jharkhand). Most workers had to rely on loans from the family or eventually from the bank (25% among processors in Jharkhand thanks to their more regular job) to face such unexpected expenditures (Figure 19).







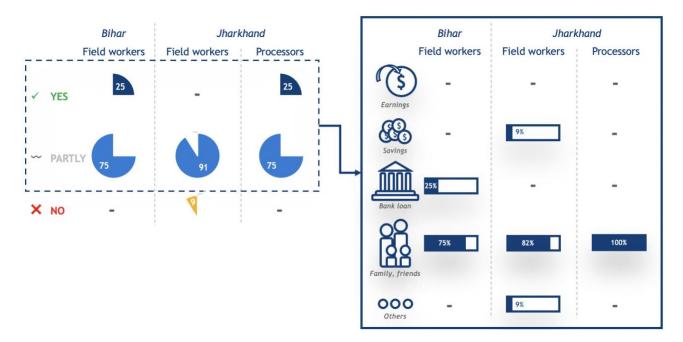


Figure 19. Ability of mica workers and processors in Bihar and Jharkhand to cover unexpected expenditures and the nature of the funds they were able to mobilize (%, 2021 estimates)

Mica pickers do not have access to social insurance/benefits, some mica workers do

As shown in Figure 20, no worker involved in collecting mica receive any social security benefits, which could seem logical considering that they are self-employed people. However, this gap might be explained too by the apparent lack of linkages between mica picking communities and government schemes.

70% of the workers in processing units receive social security benefits.

	Bihar	Jhark	hand
	Field workers	Field workers	Processors
Provident fund	-	-	-
Employee's State Insurance	-	-	7.5%
Both PF & ESI	-	-	62.5%
None	100%	100%	30%

Figure 20. Share of mica field workers and processors receiving social security benefits in Bihar and Jharkhand¹¹ (%, 2021 estimates)

¹¹ These are Social Security benefits for which there are deductions from the employees' wage and contribution by employer. PF is the Provident Fund, also known as Employees Provident Fund, towards retirement benefit and accumulates interest year on year. ESI is

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6. Mica workers' perceptions on redistribution

Workers' interviews but also interviews of intermediaries (transporters) enabled to better capture the root causes of low wages of mica workers, and to investigate current pricing practices and mechanisms for paying artisanal mica pickers and workers in processing units.

Mica pricing mechanisms reported by workers

When asked about their perceptions on their income and the prices of mica, workers first reported the price they get for mica they sell to intermediaries (Figure 21).

Mica price was significantly higher in Bihar than in Jharkhand. This apparent difference might partly reflect a better quality of the Bihar mica. However, according to the interviews, it rather reflects the demand / supply balance, slightly more favorable to mica pickers in Bihar. 12

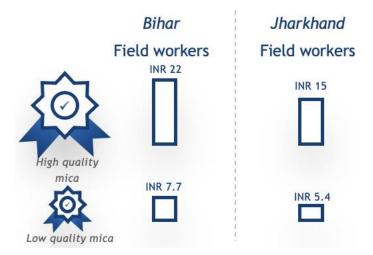


Figure 21. Average price mica field workers in Bihar and Jharkhand are selling mica, depending on quality (INR/kg, 2021 estimates)

Regarding remuneration fairness, no picker reported to receive a fair remuneration for their work (that ensure decent standards of living) while only 12% among workers in processing responded positively (Figure 22).

Interestingly, most collectors reported that the prices had gone down over the last two years while collectors in Bihar reported constant prices (Figure 23).

The feeling of a low, unfair, and not understood remuneration prevails to all pickers, both in Bihar and Jharkhand.

the Employees State Insurance, towards medical and maternity benefits. PF was not applicable in one out of the four processing units in Giridih (Jharkhand) as they had 15 workers and PF kicks in when the number of workers is at least 20. The processing unit in Koderma (Jharkhand) was neither paying Minimum Wages, nor providing the Benefit of Provident Fund & Employees State Insurance, and were thus in violation of the legal requirements

¹² Here, it could be interested to note that workers in Bihar were more vocal and their level of awareness was found to be higher, something that might be associated with better negotiation skills.







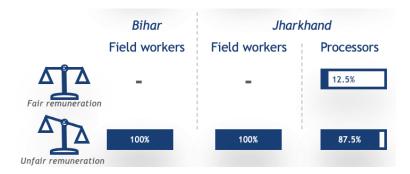


Figure 22. Share of mica field workers and processors in Bihar and Jharkhand who considered receiving a fair / unfair remuneration for their work (%, 2021 estimates)

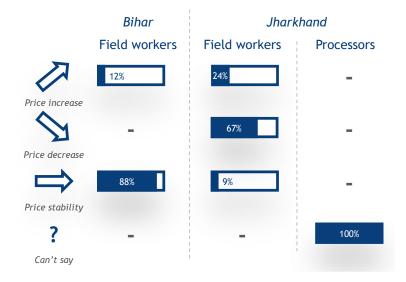


Figure 23. Share of mica field workers and processors in Bihar and Jharkhand considering price changes over the last 2 years (%, 2021 estimates)

Workers are aware of the unequal redistribution of revenues in mica industry

100%

of mica workers, independently of location and activity reported an unequal income sharing of mica-related revenues

When asked about who was earning the most in the mica Industry, a majority especially in Bihar reported intermediaries and transporters. Among workers involved in processing, a majority designated exporters/retailers (Figure 24).







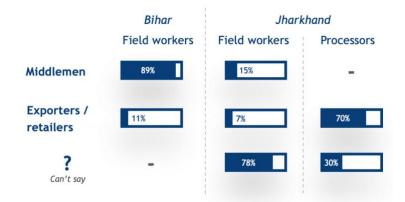


Figure 24. Actors along the supply chain considered by mica field workers and processors in Bihar and Jharkhand to earn the most in the mica industry. None of the other categories - intermediaries, brands, retailers, processors - were considered as earning the most in the mica industry (%, 2021 estimates)







7. Which root causes explaining low prices for collectors?

When asked about their position in the value chain and their bargaining power, all mica workers report a fairly low knowledge about the supply chain, as well as a low level of awareness regarding price setting mechanisms. Similarly, mica workers report to be in an unfavorable bargaining position against their counterpart (intermediaries / transporters) to which they sell mica.

Poor workers' knowledge and awareness

100%

of mica workers, independently of location and activity reported not to know how prices were determined

Almost 100%

of mica workers, independently of location and activity reported **not to know which other actors are involved in the mica supply chain***

Similarly, workers were not aware of the different uses of mica or of the other industries that are using mica:

100%

of mica workers, independently of location and activity reported not to know the different uses of mica*

100%

of mica workers, independently of location and activity reported not to know what the industries using mica are

Low bargaining position

100%

of mica workers, independently of location and activity evaluated their **bargaining power as low**

^{*} Except for a few collectors in Jharkhand (7%)

^{*} Except for a few collectors in Jharkhand (7%)







Possible levers for better pricing

When asked about possible solutions mica workers believed could help getting a better price for collected mica, 100% of collectors in Bihar mentioned 'Selling to different actors' as the possible solution while collectors in Jharkhand identified 'Selling collectively' as a way to obtain better prices from buyers (Figure 25).

Structuring mica pickers in collective, legal and recognized entities could be a first step toward an improved bargaining power. The collective strength could support an improvement of the mica pickers' position as well when negotiating for prices.

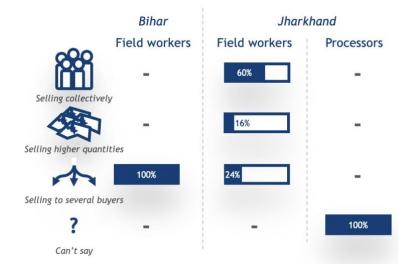


Figure 25. Factors identified by mica field workers and processors that may help them get a higher price (%, 2021 estimates)







8. Pricing and value-added redistribution: Intermediaries' point of view

To complement workers' points on pricing and redistribution in the mica supply chain, 8 intermediaries in Giridih and 4 in Koderma were interviewed (see sample of the survey in Table 3).

Description of intermediaries' activity

Intermediaries purchase mica either at the collection site or from the villages. Mica pickers sometimes hand over their day's picking at the intermediaries' premises on their way back from the sites.

Intermediaries then transport mica to the aggregators, or the aggregators have it collected from them. As an order of magnitude, multiple intermediaries around a group of villages might be considered, when only one or two aggregators are present in the region.

All transactions are cash driven, although there was an instance where pickers would barter collected mica for rice with the intermediary.

In terms of distribution of earnings:

- Mica pickers are at the lowest end of the spectrum and have the least earnings,
- The intermediaries who buy from 25 to 30 pickers, earn significantly higher revenues, based on larger quantities collected,
- The aggregators are benefiting the most as they buy from several intermediaries in bulk and have the ability to hoard and manipulate the market, which leads to a relative control on prices. The aggregators therefore extract the maximum profit from this supply cycle, often with the support of the government authorities.

No/almost no value is added along the local supply chain: mica only moves from pickers and collectors to intermediaries to aggregators. Intermediaries are sometimes segregating mica based on quality. A second level of segregation happens in processing units, where mica is transformed. Here, value is added to mica via a various set of processing steps, before being exported or sold to the domestic market.

Since the trade is considered illegal, the intermediaries also have to pay bribes to forest officials and the local police. Most intermediaries stated that if the government could legalize the picking, collection, excavation and trade of mica and lease sites to them, they would be able to do away with the aggregators and sell directly to processing units while the government could fix fair prices (that would ensure a living wage to mica workers) or wages for the pickers and collectors. The nexus between the aggregators ("stockists") and the authorities needs to be addressed.

Last but not least, since the outbreak of the pandemic, business was believed to have dropped on an average by 30%. This unfavorable current context encourages market tensions and does not help in establishing a fair price for mica nor does leave space for bargaining power improvement in the short term.







Table 3. The sample of interviewed intermediaries / transporters

	Jharkhand (Intermediaries)
Number of Intermediaries Surveyed	12
Average Age	44.67
Average Tenure of Current Employment in Years	7
Male to Female Ratio of Workers Surveyed	Males: 91.67% Females: 8.33%
Average Number of Family Members Providing Assistance	0.42
Percentage of Locals and Migrants amongst Intermediaries Surveyed	Locals: 100%
Percentage Distribution by Designation/ Position of Intermediaries Surveyed	Buying: 100%
Percentage Distribution by Type of Employment: Permanent/ Temporary	NA, 100% Self Employed
Percentage Distribution by Employment Category: Direct/ Contractor	NA, 100% Self Employed
Average Daily Hours Worked in Mica Handling	5.67
Average Quantity of Mica Handled Daily, in Kilograms	404.17
Average Number of Pickers/ Collectors Sourced From	25.42
Average Purchase Price of Highest Quality Mica, per Kilogram	INR 112.88
Average Purchase Price of Medium Quality Mica, per Kilogram	INR 30.45
Average Purchase Price of Lowest Quality Mica, per Kilogram	INR 8.82
Average Selling Price of Highest Quality Mica, per Kilogram	INR 128.63
Average Selling Price of Medium Quality Mica, per Kilogram	INR 39.55
Average Selling Price of Lowest Quality Mica, per Kilogram	INR 11







Intermediaries' buying and selling process

When asked about the quality of mica, the size of mica bought and sold by intermediaries, intermediaries generally confirmed workers' responses presented earlier in the report, with mica of different quality and mainly of small and eventually of medium sizes (Figure 26).

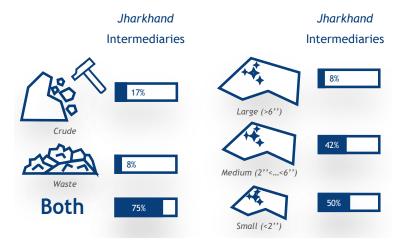


Figure 26. Quality and average size of mica collected by intermediaries interviewed in Jharkhand (%, 2021 estimates)

of intermediaries reported to buy mica

from individual pickers (and neither from pickers' groups, other intermediaries, processors, buyers or retailers)

Mica is reported to be bought only from individual pickers, generally on a daily basis and without a contract immediately after individual pickers end their working day (Figure 27).

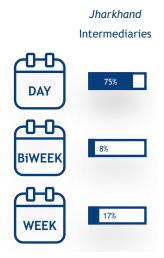


Figure 27. Frequency of mica purchases by intermediaries interviewed in Jharkhand (%, 2021 estimates)







100% of intermediaries reported to regularly change of mica supplier

Intermediaries do not sell to processing units directly but instead 100% of intermediaries are selling mica to aggregators, on a weekly, fortnightly, or monthly basis (Figure 28). 75% of them report not to sell to the same buyer while 25% generally sell to the same buyer (Figure 29).

The dependency to one buyer could be considered as a binding constraint hindering price negotiation and confirms the high bargaining power aggregators have on the rest of the actors.

100% of intermediaries reported not to sell mica directly to processors but to aggregators

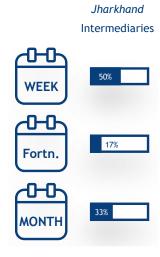


Figure 28. Frequency of mica sales by intermediaries interviewed in Jharkhand (%, 2021 estimates)

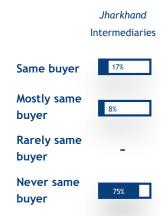


Figure 29. Intermediaries interviewed in Jharkhand answering to the question " do you sell mica to the same buyer?" (%, 2021 estimates)







Intermediaries' perceptions on internal value-added redistribution

100% of intermediaries reported an unequal income sharing in the mica industry

Workers' perceptions of unequal redistribution of value added within mica supply chain was confirmed by all interviewed intermediaries.

To the question on the actors getting the highest share of the pie, 55% reported processing units, and 45% reported intermediaries, that is the aggregators to which they sell (Figure 30).

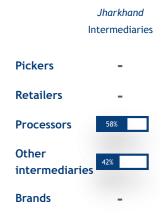


Figure 30. Actors who are getting the highest share of the pie, according to the intermediaries interviewed in Jharkhand (%, 2021 estimates)

Intermediaries' limited awareness of the supply chain

Only **17%**

of intermediaries reported to **know the different uses of mica and the industries using mica**

Interviews' results also revealed a limited knowledge of intermediaries of mica supply chain in terms of use (only 17% of them were aware of the different uses of mica) and different actors/industries (also 17%) behind mica activities.

But being aware of price determination mechanisms

At the same time, most of intermediaries (67%) reported to be aware of price determination of mica. They generally consider market prices as the main factor for the buying/selling price and the quality of mica (Figure 31).

¹³ Some intermediaries were not comfortable discussing about price determination and did not answer to the questions.







As other drivers of the buying price, intermediaries retained the profile of the seller. Intermediaries also reported to change selling prices according to buyers but along slight variations only (Figure 31).

25%

of intermediaries reported the need to have government's support and initiative in the mica industry

While most intermediaries could not say what improvements would be needed, 25% reported the need to have government's support and initiatives in this industry.

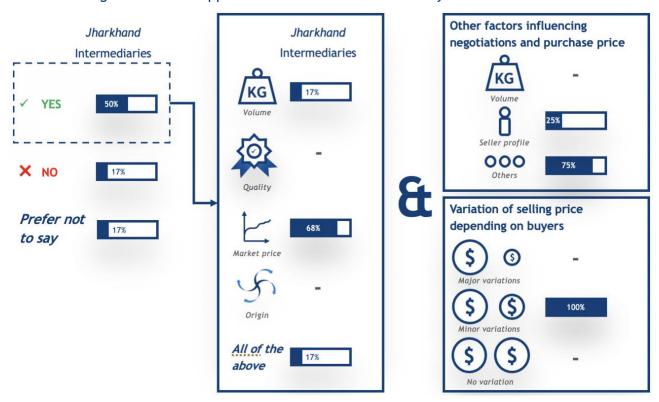


Figure 31. Share of intermediaries interviewed in Jharkhand who declared knowing about mica price determination mechanism, and which main factors are used in determining their own buying and selling prices, as well as other factors influencing negotiations, and purchase and selling price (2021 estimates)

Intermediaries' negotiation power and place in the chain

100% of intermediaries evaluated their bargaining power as low

Overall intermediaries evaluated their bargaining as rather 'low'.







Government incentives was retained as the main levers that could help them in their trading activity while the rest highlighted the need to shift their activity towards higher quality of mica (Figure 32).

Overall, a majority reported profits did not change while the remaining intermediaries were equally split between those who experienced increasing profits and others who suffered from declining profits (Figure 33).

Their final evaluation of mica supply chain as our last question was rather bitter, with 83% of them reporting that the mica supply chain was dominated by a few actors, while 8% highlighted again disbalanced negotiations, and 8% reported the need to have a shorter chain, with less intermediaries taking their margin (Figure 34).

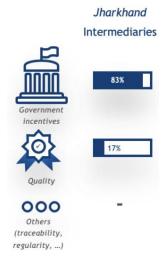


Figure 32. Main levers identified by intermediaries in Jharkhand that would help improve their negotiation power (2021 estimates)

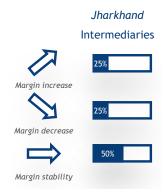


Figure 33. Evolution of the profit margin of intermediaries interviewed in Jharkhand, according to them, over the last two years (2021 estimates)







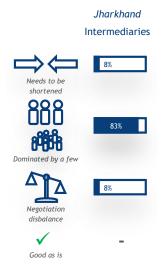


Figure 34. Intermediaries view on the mica supply chain, as it is currently structured (2021 estimates)







Conclusions and policy perspectives

Thanks to a series of interviews and surveys carried out in the mica belt in Bihar and Jharkhand, the living wage of a typical worker's family in the mica industry was estimated. The living wage, the minimum wage that workers and their family should receive to cover their entire family basic needs, was estimated for typical workers in three areas of the mica belt:

- 15,055 INR/month for a mica picker's typical family of two adults and three children in rural Bihar,
- 14,881 INR/month for a mica picker's typical family of two adults and three children in rural Jharkhand,
- 17,157 INR/month for a mica worker's typical family of two adults and three children in urban Jharkhand.

The comparison of the living wage with the revenue actually received by the mica workers and their family depicts a situation far from rosy for mica-dependent households. Although mica activities do not represent the only source of income for workers' households that also relies on other activities like farming, they represent up to 75% of total household income.

All revenues considered (mica and non-mica), current wage is significantly lower than the living wage: the gap reaches 62% to 75% for mica pickers' families respectively in Jharkhand and Bihar, and 38% for mica workers' families in processing units in Jharkhand. The current wage of individual mica workers in all areas appears to be even lower than the legal minimum wage.

On top of lacking resources to meet their current basic needs, mica workers in rural areas don't benefit from a stable and secured source of income nor from social security benefits. In urban areas, mica workers in processing units benefit from a more regular income and receive social benefits. Mica workers reported to live in a difficult situation where facing unexpected expenditures might put the household in extreme poverty. Savings are a luxury that only few can afford.

Mica pricing mechanisms and the internal redistribution process within mica supply chain was also evaluated to better understand the root causes explaining the low level of mica workers' wages. As reported by all actors from mica pickers to processors passing by intermediaries, the balance of power along the upstream mica supply chain is uneven: a few actors - aggregators and intermediaries - are placed in a dominant position compared to others, and mainly mica pickers. Price setting mechanism seems to be controlled by those who detain cash. The aggregators seem to have the ultimate control on price making mechanism and rule over intermediaries. The intermediaries in turn, financially stronger than mica pickers, rule over them. At the extreme upstream of the supply chain, mica pickers have almost no bargaining power as they need money for subsistence.

Aggravating factors such as the lack of information/awareness of mica workers, and the lack of legal regulations leading to a blur market space dominated by political influences and corruption (between officials and aggregators for instance), finalize the picture.

To cope with the rather gloomy perspective that came out of the surveys and interviews, concrete areas for improvement and related actions were identified:







- The development of a clear legal framework and its enforcement is a key prerequisite on the path toward the improvement of wage and working conditions of mica workers. In such regulation, one could imagine that a minimum price for mica would be set up, that a minimum wage would be set up for mica picker, depending on their ability to excavate, collect, and pick mica over a given duration. Pricing mechanisms could be modeled on other supply chain example, like the tea plantations: a fixed daily wage would be paid when a bag of a certain weight (for example 20 kg) is collected and checked. An additional incentive for every extra kg is paid thereafter. Deductions in weight, if any (for impurities, moisture etc.) should be scientifically defined and properly communicated to mica pickers. Another option could be to pay mica pickers based on the minimum daily wage (defined in the law for 8 hours of work in a day), independently of the weight of collected mica. Overtime beyond this would be compensated at a premium rate.
 - In any case, regulations should ensure a minimum price control to avoid underpaid mica to pickers.
- In order to guarantee the protection of the health and safety of mica pickers, transportation means could also be made available for mica pickers who travel long distances from home to mining sites. The location of collection centers needs to be thought through, so the mica pickers/collectors do not have to carry back heavy bags manually. The provision of PPEs would be required to mica pickers, and training or awareness raising campaigns should be set up so that mica pickers are aware of health and safety risks and ways to be protected against them.
- Empowering mica-dependent households to come out of the poverty situation they are living in is a key prerequisite to eradicate child labor. As part of this empowerment, the payment of a living wage would contribute to enable households to cover their basic needs without requiring to the additional revenue coming from the children's work. On top of ensuring the payment of a living wage, awareness raising on the importance of education, access to a quality education for all children and linkage with the government services mica pickers are eligible to are a few contributions to the systematic change that is required in the mica belt to eradicate child labor.
- The global level of knowledge and awareness of mica pickers and mica workers in processing units should be addressed, through trainings or dedicated sessions. They should be trained on price determination mechanisms.
- Finally, the set-up of collective organizations of pickers and/or workers would contribute to improve their bargaining power upstream of the mica supply chain. Increased mica quantity to sell would be leveraged when negotiating with intermediaries.

Working conditions and pricing mechanisms are the two sides of the same coin. Tangible progress toward a fair distribution of wealth within the mica supply chain will not be possible without improvements on those two fronts. Efforts and commitments of all possible actors are required: from the civil society to the government, passing by the private sector, including brands and retailers as major actors in this process.







Annex: Note on the FWN living wage methodology

- The living wage is defined by the FWN as a level of income that allows an individual worker to meet his/her basic needs and those of his/her family, at decent standards.
- The list of goods and services in the basket retained for the calculations of the living wage reflects this objective and includes all necessary and basic areas of expenditure of a worker and his/her family, and in particular:
 - Housing (with an acceptable quality of accommodation according to UN-Habitat, UN criteria),
 - o Food (also should be enough to ensure 2,200-3,000 kilocalories/adult/day),
 - o Childcare,
 - o Education,
 - Healthcare,
 - A percentage is left for leisure and for precautionary savings to face unexpected expenditure.

The surveys for this project were undertaken in mica pickers' villages and at the processing units wherein each worker was individually asked about his/her monthly earnings, work experience and expenditure. Details on expenses are presented in the following table, in percentages¹⁴:

Item	Bihar	Jharkhand
Household Expenses		
Rent	0%	0%
Electricity	3.3%	2.4%
Cooking Gas	6.1%	7.7%
Water	0%	0%
Internet	0%	0%
DTH TV	0%	0%
Furniture & Soft Furnishings	2.2%	2.9%
Repairs & Maintenance	1.1%	2%
Consumables/ Groceries (Grains, Pulses, Lentils, Vegetables, Fruits, Cooking Oil & Butter, Dairy Products, Nonvegetarian Products, Salt, Sugar, Herbs & Spices, Tea & Coffee)	38.4%	34.7%
Toiletries (Bathing & Handwash Soap, Shampoo, Dental Care, Personal Hygiene & Sanitary Items)	3.2%	3.5%
Household Rations (Detergent, Dishwash, Floor Disinfectant, Floor Mop & Broom)	1.8%	2.5%
Miscellaneous	1.1%	1.9%
Expenses on Self & Family		
Mobile Phone	2.6%	1.7%
Travel & Transport	3.3%	3.9%
Clothing	4.4%	4.6%
Medication & Healthcare	3.3%	4.3%
Education	3.9%	4.8%
Yearly Vacation/Visiting Hometown	2.5%	2.2%
Entertainment (Fairs, Movies, Dining out, etc.)	3.5%	1.5%
Additional precautionary savings to face unexpected expenditure	8%	8%
Mandatory wage deductions	12%	12%

 $^{^{14}}$ Totals may not be exactly 100% due to rounding

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Furthermore, such expenditure data were complemented by the FWN team conducting market surveys in the nearby market areas to confirm that the information obtained was accurate. In each state, the following sites were visited:

- General Stores/Kirana Shops (two to three each in rural and urban areas) selling food rations, toiletries, and house-hold rations.
- Vegetable/Fruit market (multiple vends in rural and urban areas). These are mostly open-air markets where vendors display fruits/vegetables on the ground or on carts, occasionally in shops.

The additional following considerations were also accounted for:

- Rations including wheat, rice and sugar obtained from government shops at subsidized prices, based on quota sanctioned as per family ration card, where applicable.
- Home grown vegetables, where applicable.
- Seasonal income from part time occupations where applicable, some of these included:
 - Pick firewood from the forest and sell,
 - o Collect leaves from the forest and weave them into plates and bowls and sell,
 - Break tender branches of "Neem" tree and cut them to even size of 6" to 7" and sell (serves as substitute for toothbrush and paste). Discarded after each use,
 - Odd jobs as driver, helpers in local shops and road-side eateries, cook, loadingunloading in nearby township,
 - o Instances of self-employed tailor: repairing and stitching basic items of clothing).

These were mainly seasonal, part-time, or need-based activities and were found to contribute to an average of 25% of annual average earnings.