

Report on

Evidence-Based Assessment of Living Income Gaps in the Mica Sector of Jharkhand, India



Report conducted on behalf of Terre des Hommes Netherlands by:

Acknowledgements

This report is part of the action-oriented study [“How downstream companies can use their leverage and have a positive impact in their supply chain to work towards a living income for mica pickers in Jharkhand/India”](#).

The study as well as this report are financed by Mercedes-Benz, Germany as part of a three-year project in 30 mica villages in Jharkhand/India from 2023-2025. We are very grateful for their contribution to make these reports possible.

Whereas the above-mentioned action-oriented study shows concrete actions for downstream companies to work towards a living income, this report indicates the gap between the current and the living income for mica-picking families. Since one of the concrete actions for downstream companies is to calculate this gap, we are very pleased to have this done and being able to provide the most recent living income gap for 2026 with the corresponding recommendations.

List of Acronyms/ Abbreviations

Particulars	Full Form
FAO	Food and Agriculture Organization
FTE ¹	Full-Time Equivalent
HCES	Household Consumption Expenditure Survey
ICMR ²	Indian council of Medical Research
NFHS ³	National Family Health Survey
NIN	National Institute of Nutrition ⁴
NSSO	National Sample Survey Office
OHS	Occupational Health and Safety
PPE	Personal Protective Equipment
RDA ⁵	Recommended Dietary Allowance
UDISE+	Unified District Information System for Education Plus ⁶
WHO	World Health Organisation

¹ It is a standard unit of measurement used by businesses to quantify the total number of hours worked by employees—including part-time and contract workers—into equivalent full-time units.

² It is India's apex government body for formulating, coordinating, and conducting biomedical research to improve public health, translating innovations into products, diagnostics, and treatments.

³ National Family Health Survey is a comprehensive, large-scale, multi-round survey conducted by India's Ministry of Health and Family Welfare to provide high-quality, disaggregated data on health, nutrition, and population dynamics. The most recent finalized report, NFHS-5 (2019–21), covers 707 districts, offering crucial insights into maternal/child health, fertility, and family planning to guide policy.

⁴ The National Institute of Nutrition (NIN) is an Indian public health, nutrition and translational research centre under the aegis of ICMR. The NIN is a globally recognised institution for its pioneering studies on various aspects of food and nutrition and discovering practical solutions to nutrition problems that can be applied within the existing socio-economic framework.

⁵ Recommended Dietary Allowances (RDAs) are the average daily dietary intake levels sufficient to meet the nutrient requirements of nearly all (97–98%) healthy individuals, classified by age, sex, and life stage. They are crucial for planning nutritionally adequate diets, with specific values set for protein, vitamins, minerals, and other nutrients.

⁶ The Unified District Information System for Education Plus is a web-based platform that enables schools to efficiently record and submit data related to its profile (infrastructure & facilities), individual students and teachers' details for each academic year.

Table of contents

Abstract	08
1.0 Introduction	10
1.1 Background	10
1.2 Concept of Living Income and Living Wage	10
1.3 Anker Methodology	11
1.4 Family size to be supported by the Living Income	12
1.5 Field Work and Data Source	14
1.5.1 Desk Review of Secondary Data	14
1.5.2 Focus Group Discussions	15
1.5.3 Key Informant Interviews	15
1.5.4 Household Survey - Observation	16
1.6 Data collection	17
1.6.1 Scoping Visit	17
1.6.2 Field Data Collection	17
2.0 Context	19
2.1 Economy of Koderma & Giridih Districts	20
3.0 Estimation of Living Income	21
3.1 Estimating Food Costs	21
3.1.1 Standards for adequate food and nutrition	21
3.1.2 Average Calorie Requirement	21
3.1.3: Average Calorie requirements for Vigorous/Heavy work	22
3.1.4 Preparation of Preliminary Model Diet	24
3.1.5 Data collection approach for estimating the cost of the model diet	24
3.1.6 Nutritional Contents of Food Items	28
3.1.7 Conversion of purchased grams to edible grams	28
3.1.8 Additional Cost of Model Diet	28
3.1.9 Nutritional adjustment to construct model diet for the model	28
3.1.10 ICMR-NIN Guidance to achieve a Balanced Diet	31
3.2 Estimating the cost of the Model diet	32
3.2.1 Model Diet	34
3.2.2 Value of children's free lunch (mid-day meal) at school	35
3.2.3 Cost of Food for the Family	36
3.3 Housing	36
3.3.1 Norms of acceptable houses	36
3.3.2 Housing Conditions in Koderma and Giridih districts (rural areas)	37
3.3.3 Observation- Housing and Transport in Koderma and Giridih Districts	42
3.3.4 Cost of Housing	43
3.3.5 Rental Cost of Basic Acceptable Housing	43

3.4 Utilities and Other Housing Cost	45
3.4.1 Cost of Water	45
3.4.2 Cost of Electricity	46
3.4.3 Fuel for Cooking and Heating In Winter	46
3.4.4 Summary of Housing and Utilities Cost	47
3.5 Non Food and Non Housing (NFNH)	47
3.5.1 Post Check for Health Care and Education	47
3.5.2 Estimates for Health Care and Education Included in Preliminary NFNH	47
4.0 Health Care Post Check	51
5.0 Education Post Check	53
6.0 Provision for unexpected Events to ensure Sustainability	56
7.0 Living Wage in Koderma and Giridih Districts (Jharkhand)	57
7.1 Living Wage Facts & Figures	57
7.1.1 Number of FTE Workers in Reference Family Providing Support	57
7.1.2 Mandatory Pay Roll Deductions and Income Tax Due on Living Wages	59
7.1.3 Cost of Decent Living: Living Wage and Living Income	59
7.2 Living Wage Comparison and Wage Ladder	62
7.2.1 Minimum Wages In Jharkhand	62
7.2.2 Minimum Wages for Mica Scrap Collectors/Dhibra Pickers	63
7.2.3 World Bank Poverty Line and Poverty Line Wage	64
7.2.4 National Poverty Line And Poverty Line Wage	64
7.3 Wage Ladder	65
7.3.1 Wage Ladder for rural Jharkhand (in INR per month per worker)	66
8.0 Estimating Gaps Between Living Income and Actual Income	68
8.1 Comparison of Prevailing Incomes in Jharkhand's Mica Sector with Living Income Benchmark	68
8.2 Estimated PPE & Safety Cost	71
8.3 Estimated Cost of Production Tools	72
8.4 Estimated Income from Dhibra/Mica Mining Production	73
8.5 Estimated Income from On-Farm Production	73
8.6 Estimated Income from Off-Farm Activities and Miscellaneous Sources other than Mica	74
9.0 Conclusion	75
10.0 Key Recommendations	77
10.1 Recommendations for Downstream Companies	77
(A) Adopt Time-Bound Living Income Commitments	77
(B) Responsible Pricing & Value Redistribution	77
(C) Shift from Audit-Driven Compliance to Income Adequacy	77
(D) Long-Term Procurement Commitments	77
(E) Transparent Wage Ladder Disclosure	77

Annexure 1: Living Income & Wage Dashboard	80
Annexure 2: About Terre des Hommes Netherlands: tackling child exploitation	87
Annexure 3: About Children of India Foundation	88
Annexure 4: About the Lesure Incorporation	89
Annexure 5: Consolidated Findings of Focus Group Discussions	90

Abstract

This report presents a Living Income and Living Wage benchmark study for mica-dependent households in Koderma and Giridih districts of Jharkhand, India, with a focus on informal mica scrap collection (Dhibra picking). The study was conducted between December 2025 and February 2026 using the internationally recognized Anker Methodology®, combining normative standards with local price data to estimate the income required for a basic but decent standard of living.

The benchmark is based on a reference family size of five members, derived from Jharkhand's rural demographic profile⁷ (Total Fertility Rate 2.5; Under-Five Mortality Rate 49 per 1,000 live births). Considering seasonal employment patterns, underemployment, and women's labour participation, the study estimates 1.557 full-time equivalent (FTE) workers per household. This conversion factor is critical in translating total household living income needs into a per-worker living wage.

The estimated **Living Income benchmark for a reference household is ₹31,629 per month**. This covers the cost of a nutritious diet providing 2,488 kcal per person per day (aligned with WHO and ICMR-NIN norms for vigorous activity levels typical of mica picking), decent housing meeting national standards, utilities, healthcare, education through secondary level, transport, clothing, essential non-food non-housing needs, and a modest provision for unforeseen events.

Based on an average of 1.557 workers per household, the **estimated Living Wage is ₹20,314** per month for each full-time worker. However, field data from 208 households across eight blocks of Koderma and Giridih show that the average total household income is only ₹9,448 per month. When adjusted per full-time equivalent worker, this amounts to just ₹6,068 per month—leaving a wage gap of ₹14,214, or nearly 70% below the Living Wage benchmark. Income from Dhibra (Mica scrap) plays a significant role in household earnings, contributing ₹4,925 per month on average, which makes up about 52% of total household income. Even so, the overall monthly household income falls short by ₹22,181 compared to what is needed for a basic but decent standard of living (₹31,629 per month). The wage ladder analysis clearly shows that current Mica earnings, rural casual wages, statutory minimum wages, as well as national and international poverty line benchmarks, all remain well below the estimated Living Wage.

This persistent income deficit has direct implications: compromised dietary diversity, substandard housing conditions, limited healthcare access, education vulnerability, high exposure to shocks, and continued reliance on women's and children's labour contributions. Without structural improvements in price realisation, income stability, and supply chain responsibility, Mica-dependent households remain trapped below living income levels.

⁷ Source -NFHS (2019-2021)

The report concludes that bridging the living income gap in Jharkhand's Mica sector requires coordinated supply chain action, including responsible sourcing commitments, improved wage realisation, formalisation of work, occupational safety improvements, strengthened social protection coverage, and livelihood diversification. Addressing the 70% living income deficit is essential not only for poverty reduction but also for advancing child protection, human rights, and sustainable Mica supply chains in the region.

1.0 Introduction

1.1 Background

This report on Living Income for Koderma and Giridih districts of Jharkhand, was carried out in the district of Koderma and Giridih, where mica scraping/Dhibra⁸ picking is important. The study used Anker Methodology®, which is based on a judicious combination of qualitative and quantitative techniques. The study used secondary sources such as NSSO (2022–23)⁹, Census (2011)¹⁰, NFHS (2019–21)¹¹, and PLFS (2023–24)¹², along with primary data gathered from the field.

Detailed field investigations were carried out in multiple locations across 8 blocks (104 villages) in Koderma and Giridih districts of Jharkhand, during December 2025–February 2026.

1.2 Concept of Living Income and Living Wage

The interconnected concepts of living income and living wage refer to the quantum of income that is estimated to be earned by workers to meet the cost of necessary needs for themselves and their dependent family in order to lead a decent life. In other words, workers should earn adequate income within the normal working hours, without having to work overtime, which is sufficient to support themselves and their families and to maintain a basic lifestyle that is considered decent by society at its current level of development.

Living wage is defined by Anker and Anker (2017) and the Global Living Wage Coalition as:

“The remuneration received by a worker in a particular place is sufficient to afford a decent standard of living for the worker and her or his family. Elements of a decent standard of living include food, water, housing, education, healthcare, transport, clothing, and other essential needs, including provision for unexpected events.”

Living income is defined by the Living Income Community of Practice as:

“The net annual income required for a household in a particular place to afford a decent standard of living for all members of that household. Elements of a decent standard of living include food, water, housing, education, healthcare, transportation, clothing, and other essential needs, including provisions for unexpected events.”

⁸ *Dhibra* is a locally used term in Jharkhand for mica scraps or flakes that are manually collected from abandoned mica mining sites, waste dumps, and surrounding areas, and sold to local traders based on quality.

⁹ National Sample Survey Organization (NSSO) 2022–23 is a nationally representative household survey providing recent data on consumption, employment, and household characteristics in India.

¹⁰ Census (2011) is the population Census of India (2011), providing complete demographic and population data.

¹¹ National Family Health Survey (NFHS) 2019–21 is a nationally representative survey on health, nutrition, and fertility.

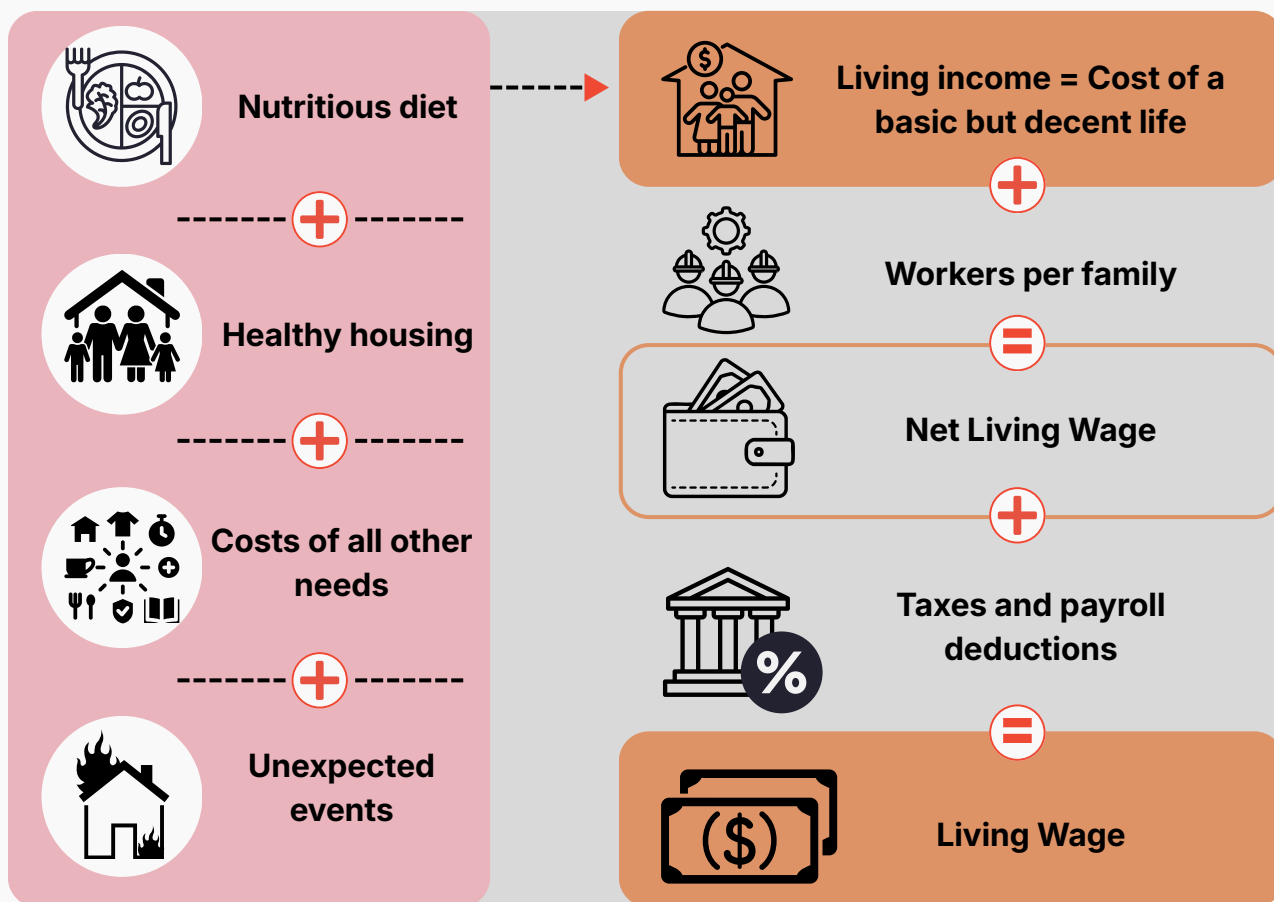
¹² Periodic Labour Force Survey (PLFS) 2023–24 providing recent estimates of employment and workforce participation.

1.3 Anker Methodology

The Anker Methodology® follows a rigorous and transparent process to estimate living income and living wage benchmarks that reflect local conditions. This methodology accounts for the cost of a nutritious and culturally appropriate diet, safe and healthy housing, adequate healthcare, education for children through secondary school, transportation, and other essential expenditures, including provision for unforeseen events.

The principles and innovative aspects of the Anker Methodology® include the following:

- All assumptions used to estimate living income and living wage are clearly stated, enabling stakeholders to understand how Anker Methodology® benchmarks are calculated and what farmers, workers, and their families would be able to afford, if they earned a living income or living wage.
- Living income and living wage estimates are based on normative standards, including a nutritious and palatable diet, safe and healthy housing, adequate healthcare, education for children through secondary school, and provision for unforeseen or unexpected expenses.
- Living income and living wage benchmarks are derived from realistic cost estimations calculated for a specific time and place. As a result, these benchmarks increase in line with economic development and rising living standards.
- Separate living income and living wage benchmarks are estimated for rural and urban areas, recognizing that living costs, consumption patterns, and expectations differ significantly between rural and urban contexts.
- Separate living income and living wage benchmarks are estimated for rural and urban areas, as living costs, consumption patterns, and expectations differ significantly between these contexts. Wages paid and incomes earned should include all forms of remuneration, including the fair and reasonable value of in-kind benefits and cash allowances, but should exclude overtime earnings.
- The Anker Methodology® for estimating living income and living wage is internationally comparable, as benchmarks are derived using the same underlying principles and standards across countries and regions.
- The Anker Methodology® is practical and relatively cost-effective, as it relies on a judicious combination of critical analysis of secondary data and rapid assessment methods for the collection of primary data.



Estimation for Living Income and Living Wage

1.4 Family size to be supported by the Living Income

The cost of a basic but decent standard of living for a typical family in the selected study areas of Koderma and Giridih districts, Jharkhand depends partly on family size, as the cost of living naturally increases with an increase in household members. Accordingly, this report adopts a typical or reference family size of five (5) for Koderma and Giridih districts, Jharkhand.

The appropriate family size for estimating a living wage is determined by considering both the average household size and the typical number of children per woman¹³. In doing so, single-person households without children and very large households — likely to be extended families with more than two adult workers — are excluded. The analysis also considers the total fertility rate (TFR), adjusted for under-five mortality, to estimate the number of children born and surviving per woman.

One method to determine a suitable reference family size is to estimate the average number of surviving children per woman in the study area and add two adults (the parents). This calculation is based on the total fertility rate and child mortality data from the National Family Health Survey (NFHS), 2019–21. The Total Fertility Rate in rural Jharkhand is 2.5, which is higher than the rural India average of 2.1 and the Child Mortality Rate is 49.

¹³ This is based on fertility rate and as per the standard technical norms under NFHS (National Family Health Survey) survey; it has been considered as children per woman.

Brief details are as under:

Indicators	Definition	Rural Jharkhand NFHS (2019-21)	Rural India NFHS (2019-21)
Total Fertility Rate (TFR)	Average number of children a woman is expected to have during her reproductive years (ages 15–49)	2.5	2.1
Child Mortality Rate (CMR)	Under-Five Mortality Rate or (U5MR) per 1000 birth	49	46

Family Size Estimation for Jharkhand

Average Family Size (AFS) = 2 (Mother & Father) + TFR × (U5MR/1000)

Therefore, the estimated AFS for rural Jharkhand is 4.37, which has been rounded and adjusted to five (5) for the purpose of defining the reference family size in this study.

As further validation, the NFHS-5 (2019–21) shows that the average household size in rural Jharkhand is 4.5, excluding single-member and exceptionally large households.

Given that the 2011 Census data are now outdated and that a general downward trend in household size has been observed, this study adopts a reference family size of five (5) for living income and living wage benchmarks. This choice is also supported by the more recent fertility data.

Furthermore, in line with the Anker Methodology®, a reference family size of four is generally regarded as the minimum, as having two children is necessary to ensure population replacement. Hence, a reference family size of five (5) is therefore considered appropriate for this study.

Among the 208 worker households surveyed, nearly two-thirds (138 households) had three or more children, indicating relatively larger family sizes. In contrast, 19 households had one child and 43 had two, while only 8 were childless — mainly unmarried individuals living alone. Despite higher child dependency ratios, most households were nuclear, comprising a single couple and their children.

In summary, both demographic data and field evidence consistently indicate that a reference family size of five (5) is reasonable and appropriate for estimating living income and living wage benchmarks in the study area.

1.5 Field Work and Data Source

This research was conducted in 8 rural development blocks in Koderma and Giridih Districts of Jharkhand, India. The research employed a mixed-method approach, including:

1.5.1 Desk Review of Secondary Data

A desk review of secondary data was undertaken using datasets and publications from the National Sample Survey Office (NSSO), including microdata from the Household Consumption Expenditure Survey (HCES) covering the period July 2022 to June 2023 (released in 2023–24). The review aimed to estimate household reference size, assess housing characteristics, calculate non-food and non-housing (NFNH) costs, and determine the number of full-time equivalent workers per household.

Household reference size was estimated using the total fertility rate, under-five mortality rate, and the distribution of households by size, drawing on data from the National Family Health Survey (NFHS-5, 2019–21). Census of India 2011 data and the GMC study on estimation of mica pickers were also used to support and contextualise these estimates. Estimates of non-food and non-housing (NFNH) costs were derived from the National Sample Survey Office (NSSO) Household Consumption Expenditure Survey (HCES), Round 79 (July 2022–June 2023) (NSSO, 2024).

In addition to the Bureau of Indian Standards (BIS) National Building Code (2016) and related publications, the research team reviewed relevant national and international housing standards, including guidelines issued by FAO, WHO, ILO, and UN-Habitat on minimum standards for adequate housing. The literature on mica production, mica pickers, and mica mining workers in Koderma and Giridih districts of Jharkhand was also reviewed. Data from the Centre for Monitoring Indian Economy (CMIE, 2022) were used to analyse inflation and consumer price indices and to examine the relationship between household expenditure patterns and purchasing behaviour.

To triangulate field observations on part-time employment, data from the World Bank's World Development Indicators (World Bank, 2022) were consulted. Labour force participation rates (LFPR) observed during fieldwork were cross-verified using data from the Government of India's Periodic Labour Force Survey (PLFS). Information on children's school enrolment, dropout rates, and average attendance was drawn from the Unified District Information System for Education (UDISE+, 2021–22) to estimate the notional benefit of the mid-day meal scheme for children attending school.

Finally, the construction of the model nutritious diet was informed by the nutrient requirements and guidelines developed by the Indian Council of Medical Research–National Institute of Nutrition (ICMR–NIN), as outlined in the Recommended Dietary Allowances (RDA) (ICMR–NIN, 2020).

1.5.2 Focus Group Discussions

Sixteen focus group discussions (FGDs) were conducted with male and female Dhibra picking/mica mining workers across eight different administrative blocks of the two study districts. These discussions explored household size, dietary patterns, housing conditions and access to utilities, as well as access to and costs of healthcare and education. Detailed information is attached as [annexure 1](#).



Focus Group Discussion with Mica Pickers/ Mica workers



Key Informant Interview >> Gram Panchayat Representative

1.5.3 Key Informant Interviews

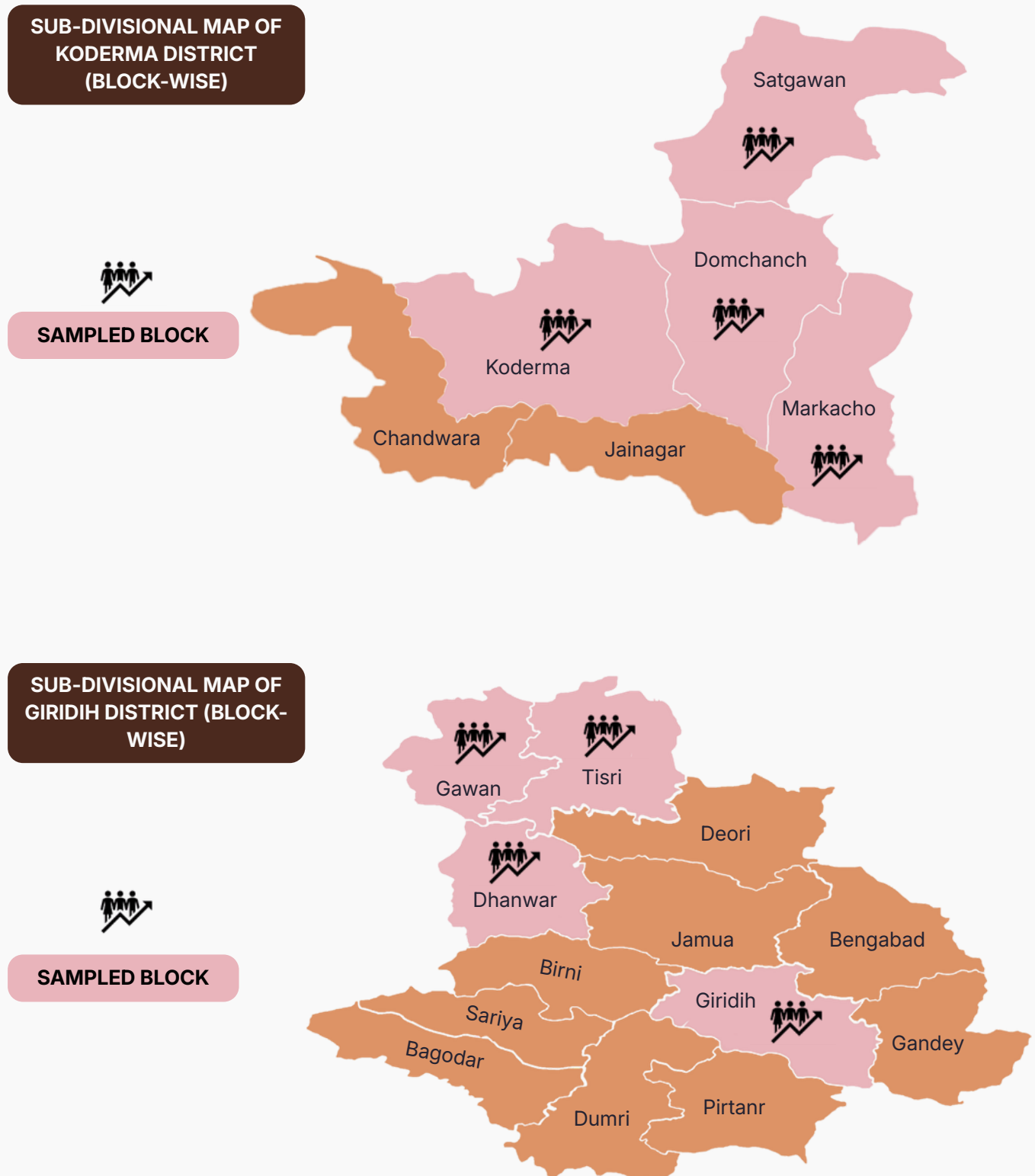
Key informant interviews were conducted with a diverse range of stakeholders. These included personnel from community health centres and private clinics to obtain information on healthcare services and associated costs; school principals and teachers to assess access to education, quality, and education-related expenditures; and officials from the Mining Department in Jharkhand, including those based in the state capital Ranchi as well as in Koderma and Giridih districts, to gather information on mica mining practices in the state.

Interviews were also conducted with representatives from the Public Works and Housing Offices, local builders, and construction material suppliers to collect data on materials and costs associated with the construction of typical houses in the study districts. In addition, local civil society actors were interviewed to understand the income-generating potential of Dhibra pickers/mica mining workers and the key challenges faced by mica-mining households.

As part of the key informant interviews, the research team visited four community health centres and one private clinic, interviewing five heads of community health centres and midwives or nurses (four women and one man). The team also visited twelve schools—comprising four pre-primary schools, four elementary schools, three junior high schools, and one senior high school—and interviewed a total of six school principals and twelve teachers (seven women and five men).

In addition, interviews were conducted with food sellers in local markets, grocery shops, kiosks, and street food vendors to collect data on local food prices. Primary food price data were collected from 32 locations across eight sub-districts in Koderma and Giridih districts, including 12 grocery shops, six mobile street vendors, six kiosks, and eight weekly market sellers.

1.5.4 Household Survey - Observation



Direct observations were carried out in selected villages of 8 blocks as per well defined criterion to assess the housing conditions of mica-miners households. Visits were made to the homes of the Mica miners and relevant photographs (subjected to the consent of respondent families) were taken for reference. Observations focused on living space, number of rooms, and the availability and quality of essential amenities, including sanitation facilities, kitchen infrastructure, construction materials, and the overall condition of the housing structures.

1.6 Data collection

Primary data collection process was carried out in two stages, as follows:

1.6.1 Scoping Visit

A scoping visit was conducted prior to the main fieldwork data collection with three key objectives: (i) to discuss the planned research with local government offices and relevant stakeholders and secure their support; (ii) to gather information on the living conditions and needs of Mica dependent families; and (iii) to visit localities and households where Mica dependent families live, as well as places where they purchase food and access healthcare and education for their children, in order to better inform and guide the fieldwork. The scoping visit took place between 2 and 5 January 2026.

During this period, the research team along with field level enumerators met with the community leaders in the Koderma & Giridih Districts, met officers in the government departments, conducted focus group discussions (FGDs) with mica mining workers, visited community health centres and educational institutions and interviewed their personnel, observed Dhiba picking workers, housing conditions, and visited markets, kiosks, and street vendors.

1.6.2 Field Data Collection

Field data collection was carried out through multiple activities: (i) the research team visited and interviewed food sellers in markets, kiosk owners, and Street food vendors to collect information on local food prices; (ii) interviews were conducted with officials from the District Public Works and Housing Office as well as local builders to obtain data on construction materials used in typical housing and their associated costs. In addition, the team visited several healthcare facilities and schools and interviewed healthcare personnel and school officials.

The field data collection took place between 10 January and 24 February 2026. The research team was supported by 12 local enumerators throughout the data collection process. An overview of the scope of sampling, data collection techniques and participants is presented as under:

Sampling Unit	Koderma	Giridih	Total
District	1	1	2
Block	4	4	8
Village Stage -1	104	104	208
Village Stage -2	52	52	104
HH survey	104	104	208
Focus Group Discussion	8	8	16
FGD Participants¹⁴ (Male-92. Female-152)	126	118	244
Market Survey	16	16	32

Table 1: Sampling Matrix for the Survey

¹⁴ 244 participants attended 16 FGDs (18-30 years- 44, 31-40 years-62, 41-50 years-57, 51-60 years-61 and > 60 years 20)

Table 2: Summary of Data Collection Techniques and Respondents

Component	Data Collection Techniques	Participants	Remarks
Household consumption, diet pattern, and access to market	Observation and interviews of households, markets, kiosks, and mobile vendors; FGD	208 Household survey	Coverage also included 12 grocery shops, six mobile street vendors, six kiosks, and eight weekly market sellers.
Housing	FGDs; Interviews; House observation; Desk review of national and international housing standards	208 Household survey, 7 FGD includes 105 participants, having 41 male and 65 female participants, 6 local builders; 4 district public works and housing staff	Focus on housing structure, quality, and standards
Household access to education	Separate FGDs for men and women; Interviews; Observation of schools	208 Household survey, 9 FGD includes 139 participants, having 51 male and 87 female participants, 6 school principals, 12 teachers (7 women and 5 men)	Separate FGDs organized in each selected sub-district; one FGD per group with 14-15 participants from all age group from 18-60 years and above
Household access to health services	FGDs; Interviews; Observation of community health centres, medical shops	208 Household survey, 9 FGD includes 139 participants, having 53 male and 86 female participants, 5 primary Health Centre, 4 Sub health Centre, 4 local medical shops	Observations conducted in 5 primary Health Centre, 4 Sub health Centre, 4 local medical shops
Livelihood opportunity, Income and expenditure assessment	FGDs; Interviews; Observation of households and local community	208 Household survey, 9 FGD includes 139 participants, having 51 male and 87 female participants,	Separate FGDs organized in each selected sub-district; one FGD per group with 14-15 participants from all age group from 18-60 years and above with a discussion focus on Livelihood opportunity, Income and expenditure assessment
Transportation and other important needs	FGD	208 Household survey, 9 FGD includes 139 participants, having 51 male and 87 female participants,	Focused on mobility, connectivity, and other essential services

2.0 Context

Jharkhand, located in eastern India, is one of the country's mineral-rich states. It shares its borders with Bihar to the north, West Bengal to the east, Odisha to the south, and Chhattisgarh and Uttar Pradesh to the west. The state covers an area of 79,714 square kilometers and is divided into 24 districts for administrative purposes, which are further grouped into divisions such as North Chotanagpur, South Chotanagpur, Palamu, and Kolhan. Each district is subdivided into development blocks. **Koderma and Giridih districts, the focus of this study, are part of the North Chotanagpur division and are well-known for mica-related activities, particularly mica scrap collection (Dhibra work),** which forms a critical source of livelihood for many rural households in these districts.

Jharkhand is prone to natural calamities such as floods and droughts, which periodically impact agricultural production and the livelihoods of rural communities. Flooding and erratic rainfall can damage crops and infrastructure, exacerbating vulnerability among smallholder farmers and dependent households.

MAP OF JHARKHAND



MICA ABUNDANT
DISTRICTS



The state experiences a tropical climate, with hot summers (March–June), a monsoon season characterized by heavy rainfall and high humidity (July–September), and cooler winters (November–February). Spring and autumn months are generally moderate and pleasant.

Agriculture in Jharkhand largely depends on monsoon rains, and variations in rainfall, soil type, and terrain have led to the classification of the state into several agro-climatic zones.

Jharkhand is also notable for its rich biodiversity, including forests, riverine ecosystems, and mineral-rich terrains. The state's environmental and ecological resources are critical to the livelihoods of rural communities, particularly those engaged in mica scrap collection, which often takes place in forested and semi-forested areas.

2.1 Economy of Koderma & Giridih Districts

The economies of Koderma and Giridih districts in Jharkhand are deeply shaped by the presence of mica, especially mica scrap (*known locally as Dhibra*), which remains a significant — albeit informal — part of local livelihoods. After formal mining was banned in the 1980s due to environmental regulations and declined demand of sheet Mica globally, many of the abandoned mica mines and dumps in these districts became sources of scrap mica that villagers collect and sell to local dealers. This scrap mica is in demand nationally and internationally for use in products such as cosmetics, paints, plastics, and electrical insulators, feeding into a broader supply chain despite the lack of formal regulatory oversight.

A large share of the Mica collection workforce comprises women and children, who often engage in this work out of economic necessity due to limited alternative employment opportunities in agriculture or industry. Women frequently spend long hours picking and sorting Mica scraps under difficult and unsafe conditions, with very low daily earnings that barely meet basic needs. Entire households — including children — may participate, as the income from Mica scrap often determines whether families can afford food and essentials. Health risks from dust exposure, injuries, and exploitation are common, and efforts to formalise and regulate the industry could improve both economic returns and working conditions for these vulnerable communities.



3.0 Estimation of Living Income

3.1 Estimating Food Costs

3.1.1 Standards for adequate food and nutrition

General principles of model diet:

To establish our model diet for estimating food costs in the mica mining areas of Koderma and Giridih districts of Jharkhand, we used the following general principles:

Nutritional Adequacy:

The diet meets World Health Organization (WHO) standards, ensuring not only sufficient caloric intake but also appropriate amounts of proteins, fats, carbohydrates, and fruits and vegetables. This ensures that farmers and their families have the energy required for productivity and overall health.

Cost-Effectiveness:

The diet is designed to be relatively low-cost while still meeting nutritional standards. It includes affordable and palatable foods that reflect the cost-conscious consumption patterns of farming households.

Balanced Protein Intake:

The diet aims for a relatively low proportion of calories from proteins, as protein-rich foods are generally more expensive. However, it ensures that total protein intake meets the minimum requirements set by WHO/FAO.

Local Relevance:

The diet takes into account local food preferences, availability, and prices. While remaining cost-conscious, it may include certain food items that are not the cheapest options but are locally preferred and culturally appropriate.

3.1.2 Average Calorie Requirement

One of the fundamental requirements for leading a normal life is the capacity to perform routine activities that require human energy. The energy needed for basic bodily functions, represented by the Basal Metabolic Rate (BMR), was estimated using the **Schofield equations**¹⁵ recommended by the World Health Organization (WHO). These equations take into account an individual's age, sex, body size, and level of physical activity. Body weight was derived assuming a Body Mass Index (BMI) of 21¹⁶, which represents the midpoint of the healthy BMI range.

Estimates of average adult height were based on data from the National Family Health Survey (NFHS-4, 2015–16). In rural Jharkhand, the average height was estimated at 1.63 meters for adult men and 1.51 meters for adult women. The resulting basic energy requirements were then adjusted to reflect varying levels of physical activity.

¹⁵ The Schofield equations are a set of widely used, age- and sex-specific formulas to estimate Basal Metabolic Rate (BMR) or Resting Energy Expenditure (REE) in kcal/day or kJ/day, based on weight (kg) and sometimes height (cm). They are adopted by the WHO to calculate energy requirements.

¹⁶ A BMI of 21 indicates a healthy or normal weight, falling within the standard 18.5–24.9 range for adults. It suggests a balanced ratio of weight to height, which is associated with a lower risk of health problems like heart disease or diabetes. This score is considered healthy for both men and women.

Children were assumed to engage in moderate activity. Women in the study area, due to the nature of their work and daily routines — often involving labour in mica picking — were assumed to have vigorous activity levels. Men’s work in mica picking and mining and agriculture was also assessed as vigorous activity levels. In addition, women typically shoulder most household responsibilities, which were found to be moderately energy intensive.

Note: Average Weight and Height of the adults in Jharkhand (Rural)

Particulars	Average Weight NFHS-4 ¹⁷ (2015-16)	Average Height NFHS-4 (2015-16)
Adult Male	65 kg	1.63 meter
Adult Female	55 kg	1.51 meter

3.1.3: Average Calorie requirements for Vigorous/Heavy work

Type of work	Calories requirements for average men weighing 65 kg (ICMR-NIN,2020) ¹⁸	Calories requirements for average women weighing 55 kg (ICMR-NIN,2020)
Vigorous/Heavy ¹⁹	3,470 kcal/day	2,720 kcal/day

According to ICMR-NIN (National Institute of Nutrition) 2020 RDA tables, children’s energy requirements are generally based on “light to moderate” activity levels, depending on their age group and gender and this ranged from 1010 kcal to 3320 kcal. The Anker methodology (used in this living income study) is based on the relative energy requirements of children compared to the referenced adult. In line with the Anker methodology, children are assigned an Adult Equivalent (AE) value of 0.7, relative to a value of 1.0 for a reference adult doing moderate work. For this study 2,000 kcal/day per children²⁰ was taken into consideration.

¹⁷ National Family Health Survey, round 4 (NFHS-4) (2015–16) was conducted by the International Institute for Population Sciences (IIPS) under the Ministry of Health and Family Welfare, Government of India, to provide nationally and district-representative data on population, health, and nutrition indicators.

¹⁸ The Indian Council of Medical Research (ICMR) and National Institute of Nutrition (NIN) use this as the reference weight for computing calories energy requirements and other Recommended Dietary Allowances (RDA).

¹⁹ As per NIN the job such as mica picking or mica mining is a physically demanding occupation that requires sustained high energy expenditure because it requires prolonged standing, walking, lifting, digging, pulling or pushing in a physically demanding environment.

²⁰ It refers to the adjustment in line with ICMR-NIN recommendations, and in alignment with Anker methodology and local requirements of the study area. Child calorie requirements are assessed at the upper range of ICMR–NIN (2020) recommendations to reflect moderate to high physical activity associated with daily living in remote tribal settings, including long walking distances over difficult terrain.

For the purposes of this study, it was assumed that both adults **engage in vigorous physical activity**. After incorporating modest adjustments for the additional calorie requirements associated with pregnancy and lactation, the estimated energy requirement amounted to **2,488 kilocalories per person per day** for a reference family of five.

Brief details about calorie requirement per person for the model family are presented as under:

	Calories required kcal/per person	Total person in a model family	Total Calories required in kcal
Adult Men	3,470	1	3,470
Adult Women	2,720	1	2,720
Children	2,000	3	6,000
Other Adjustment for pregnancy & lactation	-	-	250
Total		5	12,440
		Calories per person/day	2,488 kcal

Table 3: Calories requirements per person for the model family

To validate these estimates, average calorie requirements were also examined against norms established by the National Institute of Nutrition (NIN) under the Recommended Dietary Allowance (RDA) framework (ICMR–NIN, 2020). According to the NIN, 2020 report, the Estimated Average Requirement (EAR) is 3,470 kcal per day for adult men with vigorous activity levels, 2,720 kcal per day for adult women engaged in heavy or vigorous activity, and 2,000 kcal per day for children. Based on these norms, the average per capita calorie requirement for a five-member household is estimated at 2,488 kcal/day, including additional needs related to pregnancy and lactation.

The close alignment between the calorie requirements estimated using the **Schofield equations** and those **recommended by the NIN** suggests that the study's estimates for rural Koderma and Giridih districts of Jharkhand are robust. The small difference observed may be attributed to the fact that this study focuses on **adults aged 18–59 years**, whereas the **NIN norms apply to adults of all ages**, including **those above 60 years**, who generally require fewer calories.

3.1.4 Preparation of Preliminary Model Diet

Assessing the cost of a low-cost but nutritious diet for the reference family is a crucial step in estimating a living wage and living income. A suitable model diet must not only be nutritious—meeting WHO recommendations for minimum nutrient intakes—but also reflect local food habits and preferences. In addition, it should be relatively low in cost and appropriate for the country’s development context. For this study, the model diet meets the calculated average calorie requirements, provides adequate macronutrients and micronutrients, and is cost-conscious.

To develop the model diet, we began with actual food consumption data for rural Jharkhand focusing on Giridih and Koderma districts from the latest NSS-HCES survey (Round 79: July 2022–June 2023, NSSO 2024). This data provided a starting point by showing typical consumption patterns across major food groups.

Consumption data, recorded in kilograms per person over the last 30 days, were converted into grams purchased per day. Food items were then aggregated into eleven major food groups commonly used in model diets.

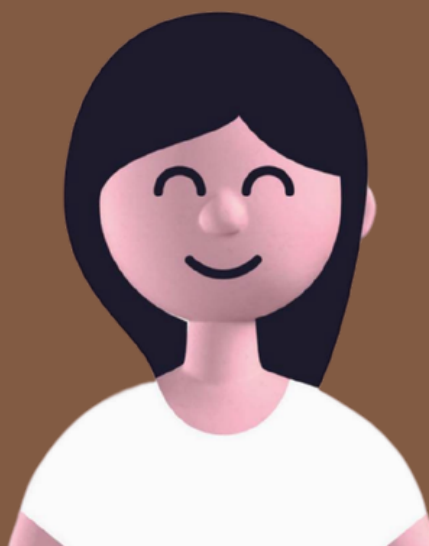
Table 3 presents the methodology for determining edible grams per food group for the study area (Koderma and Giridih and neighbouring districts), based on households in the 4th and 5th deciles (approximately the 40th percentile) of per capita monthly expenditure. The table also lists the specific food items representing each group.

The preliminary model diet was further refined using information on local food preferences, local prices, nutritional requirements, and insights gathered from workers and key informants during field research conducted in Koderma and Giridih district in December–February 2026.

3.1.5 Data collection approach for estimating the cost of the model diet

The estimation of food prices, and consequently food costs, was based on a systematic process of data collection and analysis comprising the following steps:

a) Focus Group Discussions (FGDs)



Focus Group Discussions were conducted with Dhibra pickers/mica mining households in the study area. While the FGDs covered a broad range of issues, their primary purpose for developing the Model Diet was to identify: (i) food items commonly consumed by Dhibra picking households; and (ii) the usual sources from which these food items are purchased. The findings from these discussions, summarised in Table 4, provide an overview of commonly consumed food items and the locations from which households typically procure them.

b) Collection of local food price data

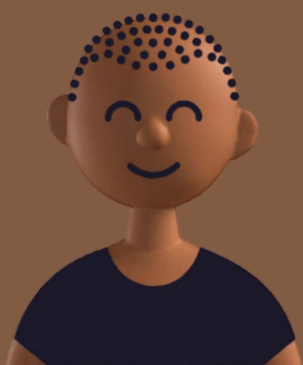
Following the identification of essential food items, primary data on food prices were collected through a structured survey conducted in two sub-districts of Jharkhand (Koderma and Giridih). Primary food price data were collected from 32 locations across eight sub-districts in Koderma and Giridih districts, including 12 grocery shops, six mobile street vendors—selling food items from motorcycles or carts, six kiosks—who typically travel between two to four villages, and eight weekly market sellers.



Local enumerators were engaged in each district for data collection, under the direct supervision of the research team. The survey revealed that most households primarily purchase food items from local markets, where they buy goods that can be stored for several days or up to a week. More perishable items, such as vegetables, are usually purchased daily from village kiosks, local weekly markets or mobile vendors. Refrigerators are not commonly owned by households in the study area, limiting food storage capacity.

In areas where markets do not operate daily and are located at some distance, mobile vendors play a crucial role in supplying daily food essentials. These vendors mainly sell perishable items such as vegetables, fish, and fruits. Prices charged by mobile vendors are generally higher than those in markets or kiosks, reflecting additional costs related to transportation, fuel, vehicle maintenance, and delivery time. Mobile vendors also often provide the convenience of deferred payment. Village kiosks, while selling vegetables on a daily basis, tend to focus more on items with longer shelf lives, including toiletries, ready-made seasonings, salt, sugar, rice, and eggs.

c) Analysis of food price data



The collected price data were analysed to determine average prices for each food item. For inclusion in the Model Diet, food items were selected based on being relatively inexpensive while meeting acceptable quality standards. Selection also ensured consistency with local food preferences, availability, prevailing prices, and the principles of a nutritious diet.

Table 4: Number of purchased grams in NSS-HCES data and adjustments of specific foods for our model diet by major food group for rural Jharkhand with a focus on district Koderma and Giridih

Food group #	Food group	Details of NSS-HCES data for the study areas	Adjustments to create our model diet for the study area
1A	Cereals and Grains	According to NSS-HCES data, a total of 370 grams of cereals was purchased per person in the study area. This was proportioned between rice and wheat using the NSS consumption ratio (96% rice and 4% wheat).	Field investigation showed rice is the preferred cereal. Ground wheat (atta) is occasionally used for breakfast. Lunch and dinner usually include rice with dal, vegetables, or meat/fish curry.
1B	Prepared Cereals (e.g., bread, pasta)	NSS-HCES data and field investigation indicate that consumption of packaged processed cereals (such as bread and pasta) was negligible in the study area	Prepared cereals were found to be unpopular during field investigation and have therefore been excluded from the model diet.
2	Roots and Tubers	Actual consumption of roots and tubers was 77 grams per person per day. These foods are an important source of starch and calories in India.	Potatoes are widely consumed and relatively inexpensive in the study area and were used to represent the roots and tubers food group. The quantity used is similar to NSS-HCES data.
3	Pulses	According to NSS-HCES data, 17 grams of pulses were consumed per person per day. Pulses are a popular and inexpensive source of protein.	Field investigation showed Masur dal and Moong dal are the most commonly consumed. As the preliminary model diet was low in protein, 2.7 servings of Arhar dal or Masoor dal per person per day (78 grams) were included.
4	Dairy	Actual consumption of milk and milk products was 32 grams per person per day according to NSS-HCES data.	Milk consumption reported in NSS-HCES was very low, and most respondents reported no milk consumption. Milk was difficult to find locally and mostly available in tetra packs. Nevertheless, milk intake was increased to 150 grams per day to allow one cup of milk per day for children for nutritional purposes.

Food group #	Food group	Details of NSS-HCES data for the study areas	Adjustments to create our model diet for the study area
5	Eggs	NSS-HCES data reported egg consumption as 7 grams per person per day , provided in numbers/units and converted to grams (assuming 50 g purchased weight and 44 g edible weight per egg).	Field investigation showed Households consuming eggs 2–3 times per week . Therefore, two to two and half eggs per person per week were included in the model diet.
6	Meat & Fish	Actual consumption of all meats and fish combined was 30 grams per person per day as per NSS-HCES data.	Meat and fish consumption is high in Koderma & Giridih. Chicken and fish are widely consumed, with households eating meat/fish 4–5 times a week if affordable. Based on field findings, 2 servings of chicken and 2 servings of fish per week were included in the model diet.
7A & 7B	Vegetables (Green Leafy & Other Vegetables)	NSS-HCES reported 130 grams of vegetables per person per day . Common vegetables include cabbage, gourd, cauliflower, pumpkin, brinjal, tomato, and onion.	Vegetables included were based on field interviews, prices, and availability. Brinjal was added to cabbage, gourd, cauliflower, tomato, and onion as they are popular, low-cost, and key ingredients in Indian cooking.
8	Fruits	NSS-HCES data reported 22 grams of fruits per person per day . Common fruits include banana, papaya, and apple.	Bananas were included as they are available year-round and cheapest. Oranges were included as a popular and lower-cost alternative to apples. Six vegetables and two fruits were allocated equal edible quantities (~34 g each) to ensure total intake of 325 g/day of vegetables, fruits, and pulses , as per Anker Methodology® norms.
9	Oils & Fats	NSS-HCES reported actual oil consumption of 21 grams per person per day .	Locally available sunflower and soybean oil were low-cost and widely used. Given the lower fat content in the preliminary diet, oil was increased to 28 grams per person per day .
10	Sugar	NSS-HCES reported consumption of 13 grams per person per day of sugar and sugar products (gur/jaggery, candy).	WHO recommends a maximum of 30 g/day. Sugar was retained at 13 grams per person per day after calorie adjustment. Sugar consumption is
11	Non-Alcoholic Beverages	NSS-HCES data report consumption of 4 grams of tea and coffee per person per day .	All respondents (including children) consume at least two cups of tea daily . This has been included in the model diet and expressed as 6 grams of tea leaves per person per day , assuming 3 grams per cup and 2 cups per day .

3.1.6 Nutritional Contents of Food Items

Instead of the USDA Nutrition Database typically used in Anker Methodology® studies, this study used the National Institute of Nutrition (NIN, 2012) database, which is better suited to the Indian context. The NIN database provides nutrient values — based on edible portions — for commonly consumed Indian foods, including calories, proteins, fats, and carbohydrates, thereby improving the contextual accuracy of the analysis.

3.1.7 Conversion of purchased grams to edible grams

The edible proportion of each food item included in the model diet was estimated using the USDA Nutrient Database, with appropriate adjustments incorporated to account for local practices of food purchase, preparation, and consumption in the study area.

3.1.8 Additional Cost of Model Diet

To enhance the realism of the model diet, three additional cost components were incorporated. First, a 12% allowance was added to the total cost of the model diet to ensure reasonable dietary variety. Second, an additional 6% was included to account for the cost of salt, spices, condiments, and sauces²¹. Finally, a 5% allowance was added to account for food wastage and spoilage occurring during food preparation, consumption, and storage.

3.1.9 Nutritional adjustment to construct model diet for the model

The construction of the model diet began with estimates of edible grams of each food group and major food items, based on NSS–HCES (2022–23) food consumption data for the study area. The quantities of individual food items were first adjusted to ensure a total energy intake of 2,488 calories per person per day. Subsequently, further adjustments were made to ensure that the model diet meets WHO and ICMR nutritional standards for calories, macronutrients, and micronutrients, while remaining locally palatable and relatively low in cost.

The key features and assumptions underlying the model diet are described below:



Local acceptability and palatability:

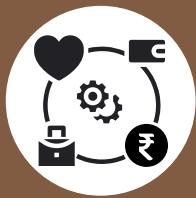
The model diet reflects local food preferences observed during field investigations. Within each food group, commonly purchased and relatively low-cost items were selected, including milk, fruits, and vegetables.



Cost minimisation:

The diet is designed to be relatively low cost, appropriate to socio-cultural settings and in conformity with the desirable standards. For each food group (cereals, vegetables, fruits, and pulses), lower-cost food items were selected when they were widely available and considered locally acceptable.

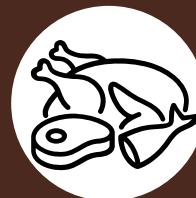
²¹ The share of expenditure on **salt, spices, and condiments** in total food expenditure for households belonging to the **fourth and fifth deciles** of the expenditure distribution in the **NSS Jharkhand rural region** averaged **5.02 %**, based on **NSS–HCES 2022–23** data.



Protein adequacy:

Nutrition data at the district level, particularly from the National Family Health Survey (NFHS) district fact sheets, indicate a significant prevalence of stunting, wasting, underweight, and anemia among children and women in the study districts. Administrative records from the Integrated Child Development Services (ICDS), along with monitoring under Poshan Abhiyaan, further corroborate the persistence of Moderate and Severe Acute Malnutrition (MAM and SAM) cases at the community level. These findings are also consistent with field observations during community interactions and village visits, which revealed limited dietary diversity and inadequate intake of protein-rich foods, reinforcing the urgent need to strengthen access to nutritionally adequate diets in rural Jharkhand.

Based on international benchmarks, Richard Anker and Martha Anker (2017) recommend that 11–12% of total caloric intake in lower-middle-income countries such as India should be derived from protein. In the initial model diet, protein accounted for only 8.9% of total calories. Considering the nutritional requirements and local malnutrition context, this proportion was subsequently increased to 16% through the adjustments outlined below and as represented in Figure 8. In accordance with dietary guidelines, the revised model diet incorporates minimum quantities of animal-source foods along with protein-rich plant-based foods, despite their comparatively higher cost per calorie.



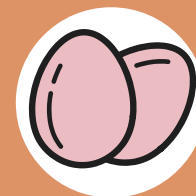
Meat and fish consumption:

Four servings of meat per week (85 edible grams per serving), equivalent to approximately 48 grams per person per day, were included. This quantity was equally divided between chicken and fish, reflecting household preferences identified during field investigations. This level is somewhat higher than the approximately 30 grams of purchased meat per day reported in NSS–HCES data.



Pulses and legumes:

Two servings of pulses per day (39 edible grams per serving) were included, amounting to 39 grams per person per day. This is substantially higher than the average 17 grams per day reported in NSS–HCES data. The higher quantity improves protein adequacy and was considered acceptable and palatable based on in-depth discussions with local households.



Egg consumption:

Two to two and half eggs per week (48 edible grams per egg), equivalent to approximately 17 edible grams per day, were included in the diet.



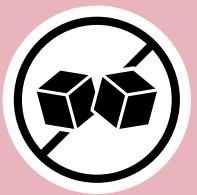
Fruits and vegetables:

Based on WHO/FAO (2003) and Anker and Anker (2017) guidelines, a total of 325 grams per person per day of fruits, vegetables (excluding roots and tubers), and pulses and legumes is recommended for lower-middle-income countries. NSS–HCES data indicate average consumption of approximately 160 grams of vegetables and 45 grams of fruits per person per day. Accordingly, fruit and vegetable quantities in the model diet were increased to meet the recommended level.



Oil and fat consumption:

WHO guidelines place limits on oil consumption, and Anker and Anker (2017) recommend a maximum intake of 34 grams per person per day. In the model diet, oil consumption was set at 28 grams per person per day. This level provides 18.19% of total calories directly from visible oils and fats, and approximately 31% of total calories when all fat sources in the overall model diet are considered.



Sugar consumption:

Although WHO allows up to 30 grams of sugar per day, field investigations indicated very low sugar consumption in the study area that is nearly 13 grams per day. Households generally do not add sugar to tea, and the consumption of sweets is limited. Therefore, no upward adjustment was made to sugar consumption beyond NSS–HCES levels.



Additional cost adjustments:

To ensure reasonable dietary variety and realism, 12% was added to the total cost of the model diet. An additional 6% was included to account for expenditures on salt, spices, condiments, and sauces, as indicated by NSS–HCES data. Finally, 5% was added to account for food wastage and spoilage during preparation, consumption, and storage.



Prepared cereals:

Prepared cereals such as pasta and bread are uncommon in the study districts and were therefore excluded from the model diet.



3.1.10 ICMR-NIN Guidance to achieve a Balanced Diet

Figure 7 below is developed by the ICMR–National Institute of Nutrition provides a simple guidance to achieve a balanced diet by sourcing energy from different food groups. Figure 7 shows the percent calories from different food groups that would ensure an appropriate balance of all nutrients.

The plate typically illustrates the proportion of foods from different food groups to be sourced for a 2000 kcal Indian diet. The proportion of each of the food groups serves an important function. The plate recommends sourcing of macronutrients and micronutrients from a minimum of 10 food groups, with vegetables, fruits, green leafy vegetables, tubers, and roots forming essentially half the plate of the recommended foods per day.

At least half of the recommended cereals should be whole grains such as millets, which are rich sources of micronutrients such as vitamins and minerals, and also provide antioxidants, phytonutrients, fibre, and bioactive compounds, and induce favourable changes in the gut microbiota (microbes). Millets can be consumed to the extent of 30–40% of total recommended cereals in raw weight.

Food groups (2000 Kcal)	Foods to be consumed raw weight (g/day)	% of Energy from each food group/day	Total Energy from each food group/day (Kcal)	Total protein from each food group/day (g)	Total fat from each food group/day (g)	Total carbohydrates from each food group/day (g)
Cereals (incl. millets)	260	45	~876	~25	~5	~178
Pulses*	55	9	~177	~13	~2	~27
Chicken/meat	70	5	~103	~15	~5	0
Milk/curd (ml)	300	11	~216	~10	~13	~16
Vegetables+, Green leafy vegetable (GLV)	400	8	~184	~10	~2	~21
Fruits#	100	3	~56	~1	~1	~11
Nuts & seeds	30	11	~155	~5	~12	~6
Fats & oils	27	12	~243	0	~27	0
Total	1242	-	~2000	~79 g (16% Energy)	~67 g (30% Energy)	-

3.2 Estimating the cost of the Model diet

The cost of a model diet depends on the prices of the food items included. In-depth interviews with the Mica workers in Koderma and Giridih district revealed that they primarily purchase food from small kirana stores within the villages and from open markets set up (including daily, weekly/bi-weekly haats). Some workers also visit nearby town markets to buy food from retail shops and street vendors.

Cereal and pulse prices were marginally higher in village shops than in fixed retail outlets located outside the village, likely reflecting local price differentials as well as higher transportation costs and limited economies of scale due to distance from larger wholesale markets. Pulses, in particular, tended to be slightly more expensive within village stores. In contrast, fruit and vegetable prices were generally comparable across retail formats, although open market vendors occasionally offered lower rates — especially in the evenings when perishability pressures and the possibility of bargaining influenced pricing. Rice is generally purchased loose, in quantities ranging from 1 to 10 kg, whereas wheat flour (atta) is commonly bought in 1 kg packaged units. Fruits and vegetables are procured as per daily or short-term needs.

Local kirana shops in each sampled area stock essential items such as rice, atta, pulses, edible oil, sugar, onions, and potatoes in small quantities, and very few also sell retail milk in 500 ml poly packs. However, for eggs, meat, and other highly perishable products, workers typically depend on open markets or semi-permanent shops located near the main town, which is situated approximately 13–15 km from their settlements.



Local shop >> Source for Daily use Provisions

The field team visited 32 locations across eight sub-districts in Koderma and Giridih districts, including 12 grocery shops, six mobile street vendors, six kiosks, and eight weekly market sellers. This also includes visits to small retail shops, poultry shops, meat shops, fixed fruit and vegetable shops.

Price data were collected for approximately 42 rice samples, 9 oil samples, and around 32 samples each for vegetables, fruits, meats, sugar, and tea. Prices for all model diet items were collected considering different qualities and quantities. For fruits and vegetables sold by count (e.g., bananas by dozen), prices were converted to per kilogram. Median prices were calculated after eliminating outliers. Food items that were widely available, commonly consumed, reasonably priced, and sold in practical quantities were selected for the model diet.

The National Food Security Act (NFSA), 2013, has been implemented in Jharkhand since December 2015. It provides 35 kg of rice per month free to Antyodaya Anna Yojana (AAY) households and 5 kg per month at subsidised rates to Priority Household beneficiaries (below poverty line or certain FIC holders).

Since our living wage estimate is significantly higher than the eligibility threshold for Priority Household beneficiaries (annual income < INR 100,000), households earning a living wage are unlikely to benefit from this scheme.

Table 5: Markets in Koderma and Giridih district where residents typically shop for food

Food Item	Wholesale & General Stores	Small Stores / Kirana Shops	Street Vendors / Wet Markets
Cereals and grains (Rice, Wheat Atta)	YES	YES	YES
Pulses	YES	YES	YES
Milk		YES, Most households depend on local milk dairies for their milk consumption, as packaged milk is not readily available	
Egg	YES	YES	YES
Chicken			YES (Poultry Shops)
Meat			YES (Meat Shops)
Fish			YES
Vegetables	YES	YES	YES
Fruits	YES	YES	YES
Tea/Sugar/Oil	YES	YES	YES

²² An FIC holder refers to a Foodgrain Identity Card (FIC) holder under the Public Distribution System (PDS).

3.2.1 Model Diet

The cost of the Model Diet was calculated by multiplying the quantity (in purchased grams) of each food item included in the diet by its corresponding local price per kilogram. In addition, macronutrient composition in the model diet was also factored as 16% of calories derived from protein, 31% from fats and 53% from carbohydrates in coherence with the WHO-recommended ranges²³. Following this methodology, the cost of the Model Diet for the study area was estimated at **INR 106.34 per person per day**. Detailed calculations are presented as under:

Food group #	Food Item	Edible Grams	Purchased grams	Rate Kilogram (INR)	Cost (NR)
1. Cereals and grains	Rice	370	370	35.0	12.95
	Wheat	50	50	48.0	2.40
2. Roots and tubers	Potato	83	87	30.0	2.61
3. Pulses, legumes, beans	Masoor / Malka / Lentil	39	39	115.0	4.49
	Moong beans	39	39	160.0	6.24
4. Milk	Buffalo milk	150	150	70.0	10.50
5. Eggs	Chicken egg	11	17	220.0	3.74
6. Meat and fish	Chicken	32	48	200.0	9.60
	Fish	29	48	215.0	10.32
7A. Dark green leafy vegetables (GLV)	Cabbage	40	44	43.0	1.89
	Gourd	34	42	45.0	1.89
	Brinjal	40	42	45.0	1.89
7B. Other vegetables	Cauliflower	38	45	32.0	1.44
	Tomato	33	35	40.0	1.40
	Onion	33	37	35.0	1.30
8. Fruits	Orange	32	45	60.0	2.70
	Banana	35	55	65.0	3.58

²³ WHO Recommended dietary guidelines (% of Daily Calories) >> Carbohydrates (45–65%), Fats (20–35%) and Protein (10–35%) to prevent non-communicable diseases (NCDs) and maintain a healthy weight.

9. Oil and fats	Edible oil	28	28	192.0	5.38
10. Sugar	White sugar	13	13	50.0	5.38
11. Non-alcoholic beverages	Tea	6	6	250.0	1.50
Total cost of model diet excluding additional costs indicated below					86.45
Total cost of model diet including additional costs indicated below					106.34
Percentage added for salt, spices, sauces, and condiments					6%
Percentage added for spoilage & waste %age added for variety 12%					5%
Percentage added for variety					12%

Table 6: Composition and cost of model diet for Koderma & Giridih (rural/urban)

3.2.2 Value of children's free lunch (mid-day meal) at school

The Midday Meal (MDM) Scheme, promoted by the Government of India, aims to improve the nutrition of school-going children by providing free lunch to students in grades 1–8 in government schools, government-aided schools, and other centres under the Sarva Shiksha Abhiyan²⁴. When children eat these free meals at school, families save the cost of preparing the same meal at home. In our living wage calculation, we assume children attend government schools for grades 1 – 5 and a mix of public and private schools for higher grades (see the education cost post-check section).

A cost-spreading exercise was undertaken because the Midday Meal Scheme is available only for children enrolled from Grade 1 to Grade 8, which in normal circumstances covers children up to approximately 14 years of age. However, for the remaining four years of adolescence (15 – 18 years), there is no provision for MDM scheme, despite the fact that children are still considered dependents and remain part of the household consumption unit in the living income reference family.

Since the objective of the living income analysis is to estimate the full monetary value of public entitlements and social benefits received by a typical household until children reach adulthood, it was necessary to calculate the average daily contribution of MDM up to the age of 18 years. Therefore, the total value of MDM support received during Grades 1 – 8 was spread across the entire childhood period up to 18 years to arrive at a realistic per-day household benefit.

The Right to Education Act requires students in grades 1 – 5 to attend school for 200 days per year and those in grades 6 – 8 for 220 days per year. Based on WHO-recommended calorie requirements and assuming a calorie distribution of 20% for breakfast, 40% for lunch, and 40% for dinner, the school lunch is valued at INR 30.35 per child aged 6–10 and INR 38.89 per child aged 11 – 13 on days they attend school.

²⁴ **Sarva Shiksha Abhiyan** (Education for all campaign) is an Indian Government programme aimed at the universalisation of Elementary education by making free and compulsory education to children between the ages of 6 and 14.

The exercise indicates that children are in school for less than 60% of the year, and free lunch is available for only 44% of childhood years (Grades 1 – 8). Additionally, for Grades 6 – 8, we assume that only 50% of children attend public schools where free lunch is provided, while the remainder attend private schools and therefore do not receive this benefit. Accounting for these factors, and assuming two school-age children in the reference family, the average daily savings from school lunches is estimated at INR 8.53 per family (INR 4.62 for Grades 1 – 5 and INR 3.91 for Grades 6 – 8), which translates to **INR 1.71 per person per day**.

3.2.3 Cost of Food for the Family

In the study area (Koderma and Giridih), the cost of the model diet was estimated at INR 106.34 per person per day. After accounting for the value of free school meals, the effective food cost per person per day is INR 104.63. This amounts to INR 3,183 per person per month, or INR 15,915 (USD 177)²⁵ or (EURO 150) per month for a family of five.

3.3 Housing

3.3.1 Norms of acceptable houses

While assessing the cost of housing for a typical five-member household in Koderma and Giridih district, it is essential to ensure that dwellings meet minimum acceptable standards. Several parameters determine acceptable housing norms, including (i) international minimum housing standards (Anker and Anker, 2017), (ii) prevailing local housing conditions, and (iii) housing norms prescribed by the Government of India.

Beyond the size and physical condition of the dwelling unit, international and national standards require the provision of basic amenities such as access to safe drinking water, electricity, adequate living space, proper sanitation, and effective drainage facilities, taking into account local conditions.

Minimum standards for acceptable housing, as recommended by international organisations such as the WHO, FAO, ILO, and UN-HABITAT, include: (i) privacy, (ii) security, (iii) hygiene, (iv) safety, (v) access to safe drinking water and sanitation facilities and (vii) fire and electrical safety. Anker and Anker (2017) further specify that acceptable or adequate housing should exhibit the following characteristics: (i) a durable structure; (ii) sufficient living space; (iii) access to safe water; (iv) access to sanitary toilet and washing facilities; (v) adequate lighting; (vi) adequate ventilation; (vii) sufficient space for food storage; (viii) separation from animal quarters; (ix) protection from cold, damp, heat, rain, wind, and other health hazards, including structural risks and disease vectors; (x) acceptable physical condition; and (xi) location outside slums or unsafe and hazardous areas lacking proper refuse disposal, drainage, or emergency services.

²⁵ INR 90.14 per USD and INR 106 per EURO is the Exchange rate on average by the Reserve Bank of India (RBI); reference rate for the period 1 December 2025 to 28th February 2026.

At the national level, the Bureau of Indian Standards (BIS), Government of India (BIS, 2016), has developed the National Building Code, which serves as a comprehensive framework for regulating construction activities across India, including residential housing. The Code provides model guidelines covering building norms, safety requirements, structural standards, quality of construction materials, plumbing services, sustainability considerations, and related aspects.

Taking into account both international norms and national standards for decent housing, the following criteria have been adopted as the healthy housing standard for assessing housing costs in the study area:

- A minimum living space of 60 square metres (646 square feet) of carpet area, or approximately 67.20 square metres (724 square feet) of built-up (plinth) area, including internal and external walls.
- At least two rooms (a living room and one bedroom), in addition to a separate kitchen or designated cooking area within the house.
- Adequate ventilation, particularly in cooking areas.
- Sufficient clearance between the floor and the ground.
- Flooring made of cement or mosaic; earthen (dirt) floors are not acceptable.
- Walls constructed of concrete, burnt brick, unburnt brick, wood, or stone.
- Roofing made of burnt brick, concrete, stone, tiles, or metal sheets.
- A ceiling height of at least 2 metres.
- Access to a flush toilet (even if shared) with alternate twin pits or a pit latrine with a slab.
- Water sourced from a safe supply, such as a hand pump or protected well located close to the dwelling.
- Use of LPG (Liquefied Petroleum Gas (LPG))/ PNG(Piped Natural Gas), or firewood as cooking fuel.
- Electricity as the standard source of lighting.
- The house is in reasonably good physical condition.
- The house is not located in a slum.
- The house is situated in a safe area, free from site-specific hazards.

3.3.2 Housing Conditions in Koderma and Giridih districts (rural areas)

Data on housing conditions are drawn from the National Family Health Survey (NFHS 2019–21), a nationally representative survey conducted periodically by the Ministry of Health and Family Welfare, Government of India. The survey assesses housing conditions using key indicators, including the structural quality of the dwelling, the number of persons sharing a room for sleeping (as a measure of privacy), type of toilet facility, availability of space for cooking, access to drinking water, electricity, type of cooking fuel used, and ownership of selected consumer durables.



Housing conditions for Dhibra collectors at the uppermost nodes of the Mica supply chain (remote areas).

A comparative overview of housing and related conditions in urban and rural Jharkhand, relative to national urban and rural averages, is presented in Table 7 below.

Housing Structure Type	India (Urban) %	India (Rural) %	Jharkhand (Urban) %	Jharkhand (Rural)	Comments on Local Healthy Housing Standard
Permanent (concrete / bricks / zinc roofing)	92.2	63.7	71.2	38.6	Acceptable
Semi-permanent (either wall or roof not permanent)	16.1	27	22.4	41.3	Partially acceptable
Temporary (thatch roof & sundried bricks / kutcha)	1.7	9.3	6.4	20.1	Not acceptable
Toilet Facility Type					
Pit latrine with slab	3.5	6.2	8.1	11.4	Partially acceptable
Pit latrine without slab / open pit	0.5	1.4	1.9	5.6	Not acceptable
Flush / pour flush not connected / dry toilet	85.8	58	63.7	32.1	Partially acceptable

Housing Structure Type	India (Urban) %	India (Rural) %	Jharkhand (Urban) %	Jharkhand (Rural)	Comments on Local Healthy Housing Standard
Flush / pour flush toilet	2	1.5	3.1	5.4	Acceptable
piped sewer system					
septic tank, or pit					
latrine and dry toilet (Ecological sanitation toilet)					
No facility / bush (open defecation in field)	6.1	25.9	9.4	37.1	Not acceptable
Other (Twin pit, composting toilet, ventilated improve pit latrine/biogas linked latrine)	2	6.9	13.8	8.4	Acceptable
Cooking Fuel					
LPG / PNG	88.6	42.3	71	31.9	Acceptable
Electricity	0.9	0.5	8.3	0.2	Acceptable
Kerosene	0.5	0.4	2	1.3	Not preferred
Wood	7.5	43.7	17.6	65.9	Conditionally acceptable as cooking fuel
Charcoal / coal / lignite	1	1.8	0.4	0.7	Conditionally acceptable as cooking fuel

Housing Structure Type	India (Urban) %	India (Rural) %	Jharkhand (Urban) %	Jharkhand (Rural)	Comments on Local Healthy Housing Standard
Other (crop residue, cow dung, biogas)	1.6	11.3	0.6	2.6	Conditionally acceptable as cooking fuel
No cooking	0	0	0.1	0	—
Drinking Water Source					
Piped into dwelling / yard / plot	53.6	22.6	36	6	Acceptable
Borehole / tube well	14.2	36.1	25.3	53.2	Acceptable
Public tap / standpipe	18.7	17.8	27.9	21.4	Acceptable
Protected well / spring	4.9	7.5	4	8.5	Acceptable
Unprotected well	1.3	3.2	2.1	5.6	Not acceptable
Surface water	0.6	5	1.8	5.7	Not acceptable
Other improved sources	11.8	7	10.7	3.2	Acceptable
Time to Collect Drinking Water					
Water on premises / delivered to dwelling	53.6	22.6	35.2	5.4	Acceptable
Thirty minutes or less	36.3	50.2	46.8	55.5	Acceptable
More than 30 minutes	10.1	27.2	17.2	38.6	Not acceptable

Housing Structure Type	India (Urban) %	India (Rural) %	Jharkhand (Urban) %	Jharkhand (Rural)	Comments on Local Healthy Housing Standard
Electricity Availability					
Yes	99	95.3	93.6	91.2	Required
No	1	4.7	6.4	8.9	Not acceptable
Persons per Room					
Less than 2	81.1	70.7	69.1	58.1	Acceptable
2–3	13.4	20.3	21.6	27.9	Acceptable. 67.20 sq. meters of living space
Above 3	5.5	9	9.3	14	Overcrowded
Place of Cooking					
Separate kitchen inside house	92.6	79.8	88.9	70.6	Acceptable
Inside house, no separate room	7.4	20.2	11.1	29.4	Partially acceptable
Separate building	3.6	13.7	6.3	19.8	Acceptable
Outdoors	3.7	6.4	4.7	9.6	Not acceptable
No cooking / Other	0.4	0.2	0.1	0	—

Table 7: Housing conditions in India rural India compared to District Koderma and Giridih

The evidence presented above highlights serious deficiencies in housing and access to basic amenities in rural Jharkhand, particularly in the mica-mining districts of Koderma and Giridih. With the exception of overcrowding, these gaps underscore the urgent need for targeted interventions to ensure acceptable and decent living conditions for the mica workers covered in this study.

3.3.3 Observation- Housing and Transport in Koderma and Giridih Districts

Among the 208 houses surveyed, 72 had brick walls, while the remaining houses were constructed using combinations of mud, bamboo, and unburnt bricks. Roofing materials typically consisted of asbestos sheets or tin, thatcher, often combined with wood or bamboo. Only 29 houses had cemented floors; the remaining 179 houses had mud floors.



Housing condition >> Mud brick walls with country tile roof

Ventilation conditions in the houses were generally poor. Based on the assessment, only 51 houses were found to have adequate ventilation. Although the original built-up area of many houses was inadequate, most dwellings were surrounded by open space, which households had used to create temporary extensions. Only 79 of the 208 houses visited had less than 300 square feet of living space.

In terms of room distribution, the majority (161 HHs) had between one or

two rooms, 47 houses had more than two rooms. All had a separate area designated for cooking.

The research team visited 208 houses across Dhibra/mica, abundant villages located in different sub-divisions of Koderma and Giridih district. Field observations in Koderma and Giridih districts indicate that housing conditions in rural and peri-mining areas are modest and reflect the economic vulnerability of informal workers. A significant proportion of households reside in semi-pucca or kutchha structures constructed with locally available materials such as mud walls, brick masonry without plastering, tin or asbestos sheets, and tiled roofs.

While some houses have transitioned to pucca construction under government housing schemes, many dwellings remain small, typically comprising one or two rooms accommodating entire families. Overcrowding is common, and ventilation, natural lighting, and thermal comfort are often inadequate, particularly during peak summer months. Electricity was the primary source of lighting; however, respondents reported that the supply was generally unreliable and limited to approximately 13 – 14 hours per day.

Basic amenities such as electricity connections are increasingly available; however, the reliability of supply varies. Access to safe drinking water is generally through hand pumps or shared community sources, and in some habitations, households depend on wells.



Basic amenities >> Electricity and Transportation in Mica villages

Sanitation facilities have improved in recent years due to government-led initiatives, yet functional usage and maintenance remain uneven. Settlements located near mining belts or remote habitations, housing clusters are often situated at some distance from main roads and markets, contributing to limited access to services and infrastructure. Overall, although the quality and condition of the houses visited varied, they were largely observed to fall below the standards expected for decent living conditions.

Public transport was not available within the village. Nearly 29% of respondents owned a two-wheeler and bicycle both, 71% owned a bicycle only while most residents depended on shared auto-rickshaws, shared jeeps, and tempos.

3.3.4 Cost of Housing

In rural India, living in rented housing is generally uncommon. In the mining habitats visited in Koderma and Giridih district, no rented houses were observed; most dwellings were constructed by workers on land owned by their ancestors. In majority of the cases, workers themselves built temporary or semi-permanent structures. Rental housing is similarly rare in other rural areas.

In general, it was observed that the houses were constructed many years ago and, in most cases, have not been adequately maintained or repaired. These houses have small built-up areas and provide insufficient living space. However, they are typically surrounded by open land, which workers have used to construct additional rooms. Such extensions are generally made using temporary and non-durable materials, such as thatch, straw, wooden poles/bamboo and tin sheets.

The absence of an active rental housing market and the limited availability of acceptable-quality houses — particularly those constructed privately in recent years — make it difficult to estimate the cost of basic acceptable housing in the study area.

3.3.5 Rental Cost of Basic Acceptable Housing

Unfortunately, only a limited number of the houses visited could be classified as “acceptable units”. This is largely because most dwellings have not been adequately maintained or repaired by the workers, and workers who have undertaken repairs, extensions, or new construction are constrained by low incomes and are unable to afford better-quality housing.

Given the absence of a well-functioning rural rental housing market and the lack of rental expenditure data in the NSS consumption expenditure surveys, it is not possible to estimate housing costs based on rental values. Consequently, this study adopts the user cost approach to housing, as recommended by Anker and Anker (2017).

Under this approach, the monthly user cost of a basic house that meets acceptable housing standards is estimated based on construction costs, assumptions regarding the expected service life of the dwelling, and annual maintenance costs. A built-up area standard of 67.20 square metres (724 square feet), consistent with the decent housing size benchmark, has been used. Construction costs were derived from information provided by local contractors operating in the study area and standard Public Works Department (PWD) guidelines.

The research team consulted five local contractors across different blocks (subdivisions) of Koderma and Giridih district to obtain estimates of material and labour costs for house construction. Estimated construction costs ranged from ₹270,000 to ₹338,000, with labour accounting for approximately 40% of total costs.

These estimates typically correspond to a house comprising two small rooms of approximately 100–120 square feet each and a small covered veranda. Based on these figures, the construction cost was estimated at approximately ₹1,350 per square foot (calculated as ₹270,000 divided by 200 square feet (sq. ft.), or ₹338,000 divided by 250 square feet). Using this per-square-foot cost, the total construction cost of a house with a built-up area of 724²⁶ square feet—comprising three rooms, a separate kitchen, and an external toilet and bathing facility, and meeting basic safety and durability standards — was estimated at ₹977,400 (₹1,350 × 724 sq. ft.).

The construction costs reported during the focus group discussions further validate the assumption of ₹1,350 per square foot as a reasonable estimate for building a house in the study area.

The annual user cost of housing was calculated by applying straight-line depreciation along with annual maintenance costs. Depreciation was estimated based on an average service life of 35 years for houses constructed using bricks and cement and supplemented with tin, wood, and stone, consistent with housing conditions in rural India and corroborated by respondent interviews. Annual maintenance costs were assumed at 2 percent of construction costs, in line with Anker and Anker (2017).

Interest costs were excluded from the user cost calculation due to limited access to formal housing finance in rural areas. Housing is commonly funded through personal savings, inherited assets, or subsidised housing schemes by the government. Land costs were also omitted, as most workers in the study area own ancestral land, on which mica workers typically construct their homes.



Status of Drinking water source>> Community Level Handpump

²⁶ This is based on recommendations as per Anker Framework; that recommend space requirements as per prevailing global standards for middle income countries. Here we have taken nearly 10 square meters per person. Further secondly, the recommended space for the standard carpet area for an LIG home in India is up to 60 square metres (approximately 645 square feet). This we have adopted as benchmarked. Though it is for a family size of 4, in the study area the family size is five. Therefore; we adopted 60 Square Meter as the minimum requirement for a reference family of 5.

Based on these assumptions, the estimated monthly user cost of housing is ₹3,956, as presented as under:

Particulars	Value
Built-up area (1)	67.20 sq. meters (724 sq. ft.)
Construction rate per sq. ft. (2)	INR 1,350
Cost of construction (3) = (1) × (2)	INR 977,400
Life expectancy (years) (4)	35
Annual depreciation cost (5) = (3) ÷ (4)	INR 27,926
Annual maintenance cost (%) (6)	2.0%
Annual maintenance cost (7) = (3) × (6)	INR 19,548
Total annual cost (Depreciation + Maintenance) (8) = (5) + (7)	INR 47,474
Total monthly cost (INR) (9) = (8) ÷ 12	INR 3,956

Table 8: User Cost of Decent Housing Based on Construction Cost, Service Life Expectancy, and Maintenance

Source: Author's Calculation

3.4 Utilities and Other Housing Cost

The cost of utilities—such as water, electricity, cooking fuel, and lighting is added to the user cost of housing to estimate a more realistic total housing cost.

3.4.1 Cost of Water

During our field investigation, all respondents reported relying primarily on private hand-pumps or borewells for water, with no additional expenditure on water mentioned. NSS-HCES 2022-23 data show that 54% of rural Jharkhand households use handpumps or tube wells for drinking water. An additional 6% in rural Jharkhand have access to piped water within their dwelling, plot, or neighbourhood. Only a small proportion depend on unprotected sources (*though unacceptable*).

The field survey indicates that average monthly per capita expenditure on water is INR 0.70 in rural Koderma and Giridih, totalling less than INR 10 for a family of five. Given these negligible amounts and the lack of reported costs during interviews, no additional expenditure has been included under this heading.

3.4.2 Cost of Electricity

According to NSS-HCES 2022-23, 92% of rural households in Jharkhand have access to electricity. During field visits, the majority of households reported having electricity connections with generally inadequate supply for most of the day and night. A few households, however, had disconnected supplies due to non-payment of dues. Electricity was primarily used for lighting, fans (especially during summer), and charging mobile phones.

Rural households in Koderma and Giridih districts of Jharkhand, many of which benefit from the Chief Minister's Free Electricity Scheme covering up to 200 units, commonly consume between 200 and 400 kWh (units) per month, though usage varies.

Reported monthly electricity costs ranged from INR 100 to 300, although some households spent more — 96 respondents reported INR 300–400, and 22 respondents spent over INR 500 per month. NSS-HCES 2022-23 indicates that the average monthly per capita expenditure on electricity is INR 71.26 in rural Jharkhand.

For households at the 40th percentile, the figures are INR 66 and INR 69.23, respectively, which translates to roughly INR 350 per month for a family of five. This aligns closely with our field findings, and therefore, we considered INR 350 per month as the typical household electricity cost.

3.4.3 Fuel for Cooking and Heating In Winter

According to NSS-HCES 2022-23, 78% of households in rural Jharkhand use firewood and chips as their primary cooking fuel, while 22% rely on LPG. During field visits, it was observed that the majority of households in the study districts relied on firewood for cooking, with 41 households additionally using LPG as a supplementary fuel. Most households sourced firewood free of cost from nearby forested or abundant natural areas, indicating continued dependence on locally available biomass for daily cooking needs, though some purchased it for INR 100–150 per bundle, lasting 5–7 days. LPG cylinders, costing around INR 850, typically lasted 45–50 days.

This translates to an estimated monthly cost of INR 600 for firewood and INR 550 for LPG, totalling approximately INR 1,150 per month, consistent with respondents' reported expenditures of INR 900–2,300 per month

NSS-HCES 2022-23 reports average monthly per capita expenditure on cooking fuel (including LPG, firewood purchases, kerosene, etc.) at INR 181 in rural Jharkhand (INR 905 for a family of five at 40th percentile). Based on this, we have included INR 950 per month as the cost of cooking fuel. Thus, combining monthly costs of water (INR 0), electricity (INR 350), and cooking fuel (INR 950), the average household utility expenditure in the study region is estimated at INR 1,250 per month.

3.4.4 Summary of Housing and Utilities Cost

The estimated monthly housing and utility cost for the reference family is INR 5,206 (utility expenses of INR 1,250 and a value of housing cost of INR 3,956) for decent housing conditions.

Brief details are presented as under:

Item	Average Cost per Month (INR) for Reference Family
Water	0.0
Lighting / Electricity	350
Cooking fuel	950
Total utilities	1,300
Total housing cost (Rent + Utilities)	5,256

Source: Author's Calculation

3.5 Non Food and Non Housing (NFNH)

The Anker Methodology® estimates non-food and non-housing (NFNH) expenses in three steps, as outlined below.

Step 1: NFNH costs are calculated based on current household expenditure patterns in the study area using NSS-HCE data for July 2022–June 2023 (NSSO, 2024). The first step involves determining the ratio of NFNH to food expenditure for households at the 40th percentile²⁷ of the household expenditure distribution. These households are likely above the poverty line while maintaining a basic standard of decency. This ratio is derived by averaging the NFNH/food expenditure ratios of households in the 4th and 5th deciles²⁸, which approximately correspond to the 40th percentile in the rural Northern part of Jharkhand.

Table 9 presents both the unadjusted and adjusted shares of total expenditure by major expenditure categories for these deciles.

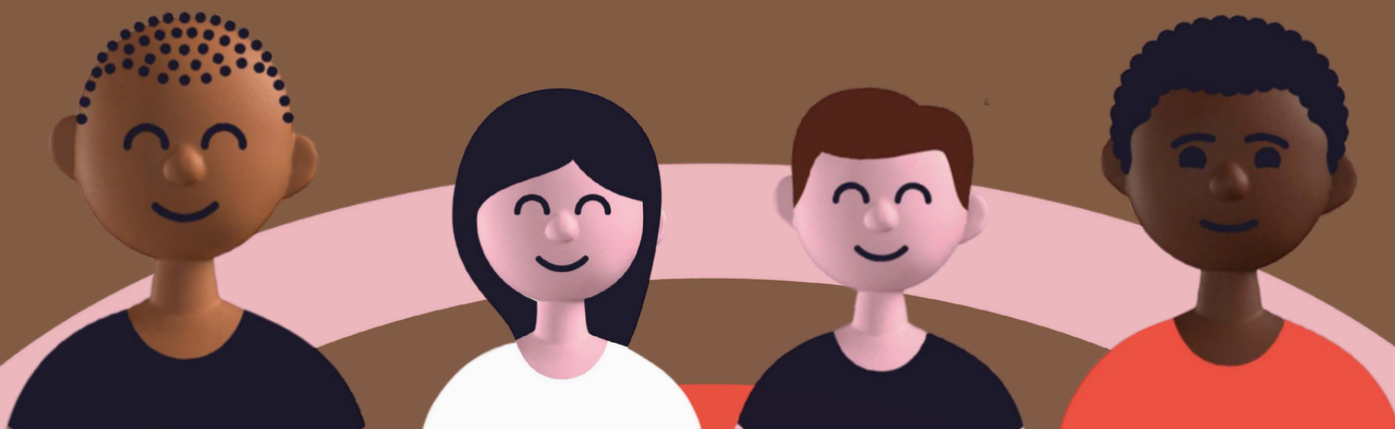
²⁷ Percentile is a statistical measure indicating the value below which a given percentage of observations in a group falls. It ranks data on a scale of 100, showing relative standing rather than absolute score. For example, the 90th percentile means a value is higher than 90% of all other data points. It is commonly used in test scores, growth charts, and data analysis to compare data points relative to others.

²⁸ A decile is a statistical tool that divides a sorted dataset into ten equal parts, with each part representing 10% of the total sample or population. Nine data points are used to define these ten subsections, separating data into ordered segments (D1–D9) to analyse distribution patterns, such as finding the top 10% or bottom 10% of data.

Expenditure Group	Category (Food, Housing, NFNH in Anker Methodology)	% of Household Expenditure (4th Decile)	% of Household Expenditure (5th Decile)	Adjusted % (4th Decile)	Adjusted % (5th Decile)
Food & non-alcoholic beverages	Food	54.80	55.43	58.53	59.81
Food eaten away from home	Food	0.00	0.00	2.50	3.00
Rent & repair	Housing	0.60	0.70	1.55	1.43
Cooking fuel & electricity	Housing	9.30	9.10	9.10	9.30
Alcohol	NFNH (Exclude)	2.80	3.00	0.00	0.00
Tobacco & pan	NFNH (Exclude)	5.10	4.90	0.00	0.00
Clothing & footwear	NFNH	5.10	5.30	5.10	5.30
Household goods & appliances	NFNH	0.70	0.90	0.70	0.70
Health services	NFNH	2.40	2.60	3.23	3.49
Education	NFNH	1.10	1.30	3.50	3.78
Transport – private vehicle purchase	NFNH	0.30	0.40	0.30	0.40
Transport – private vehicle operation	NFNH	2.50	2.80	1.35	1.40
Transport – passenger services	NFNH	2.80	3.00	2.80	3.00
Telecommunication	NFNH	2.30	2.60	2.83	2.60
Recreation & culture	NFNH	0.80	1.00	1.21	1.00
Restaurants & hotels	NFNH	3.00	3.40	0.90	1.02
Miscellaneous expenditure	NFNH	6.40	3.57	6.40	3.57
NFNH Total		54.8	55.43	61.03	62.81
NFNH to Food Ratio		0.644	0.627	0.464	0.421

Table 9: Household Expenditures by Major Group as a Share of Total Household Expenditure in Rural Jharkhand and Estimation of NFNH/Food Ratio, July 2022–June 2023

Source: Author's Calculation based on NSSO (2024)



Note: Use of decile analysis

In this report, **decile analysis** is employed as a statistical method to interpret large income datasets by partitioning the population into ten equal-sized groups according to income distribution. Each decile represents 10 % of the sampled population, ranked in ascending order from the lowest income group (first decile) to the highest (tenth decile). This method provides a more nuanced understanding of income distribution than aggregated measures such as the mean, which may obscure underlying disparities. By examining income levels across deciles, the analysis enables systematic comparison between different segments of the population and facilitates the identification of inequality patterns. In the context of a living income assessment, decile analysis is particularly valuable for determining the extent to which households in different segments meet or fall short of established living income benchmarks. It also supports the identification of vulnerable groups and informs targeted policy or programmatic interventions aimed at improving income adequacy across the distribution.

Step 2: Household expenditures on items not considered essential for a decent standard of living, such as alcohol, tobacco and narcotics (e.g., pan), are excluded. For meals consumed away from home, we assume that 70% of the cost covers the food itself, while 30% accounts for services, overheads, and profit. Accordingly, 30% of these expenses are included in NFNH, with the remaining 70% reclassified as food expenditure. Expenditures on private vehicles, deemed unnecessary for decency and typically twice as costly as passenger transport, are reduced by 50% in both purchase and operation costs.

Before these adjustments, the preliminary NFNH-to-food ratio for the 40th percentile household in the rural Jharkhand with a focus on district Koderma and Giridih was 0.635. After adjustments, the ratio falls to 0.4425. Multiplying this by the monthly food cost for a reference family of five (INR 15,915) yields a preliminary NFNH **estimate of INR 7,043 per month**.

Post Check for Health Care and Education

Step 3: Key expenditure categories—health care and children’s education—considered basic human rights in the Anker Methodology®, are reviewed to ensure that the preliminary NFNH estimate from Step 2 adequately supports a decent living. If these amounts are found insufficient, additional funds are added.

The post-check involves first identifying the amounts for health care and children’s education included in the preliminary NFNH estimate. These are then compared with rapid cost estimates from field data. Any shortfall identified in this comparison is added to the preliminary NFNH estimate to ensure adequate provision for a decent standard of living.

Estimates for Health Care and Education Included in Preliminary NFNH

Table 10 (column 3) presents the shares of health care and education in the preliminary NFNH estimate. Multiplying these percentages by the preliminary NFNH estimate of INR 7,043 gives the amount allocated to each expenditure category within the preliminary NFNH estimate.

Item	Percentage of Total Monthly Per Capita Household Expenditure	Percentage of Total NFNH Expenditure	Amount (INR per Month) Included in Preliminary NFNH Cost (INR 7,043)
Health care	2.50%	7.13%	502
Education	1.20%	3.42%	241

Table 10: Calculation of Amount Implicitly Included in Preliminary NFNH Estimate for Health Care and Education for a Reference Family in Rural Jharkhand

Source: Author's Calculation based on NSSO (2024)

4.0 Health Care Post Check

The research team visited 5 private clinics and 6 private hospitals to understand healthcare costs for routine illnesses, in addition to the visit to 5 primary Health Centres, 4 Sub health Centres, 4 local medical shops. Consultation fees at these private facilities ranged from INR 200 to 600, with an average of INR 500, covering repeat consultations over the next 15 days to one month if needed. Patients also bore the cost of medicines, typically INR 500–1000 per illness episode. Five of the facilities offered basic diagnostics, such as ECGs and routine blood tests, costing INR 300–600.

Overall, these private hospitals had far better facilities than the government medical centers, and reported that nearly 70% of their patients were from mica picking households. Workers engaged in mica picking face acute health vulnerabilities, including seasonal spikes in diarrhoea, fever, and malaria, as well as respiratory illnesses linked to dust exposure. These risks are exacerbated by extreme weather conditions and inadequate access to health services.

Despite the persistence of these challenges, systematic and supply chain-wide health interventions remain largely absent. In line with Business and Human Rights standards, companies are expected to undertake meaningful due diligence to identify and mitigate such impacts. The current gaps highlight the need for stronger corporate accountability and structured health support mechanisms.

Assuming an individual visits a medical facility 3–4 times per year (3.5 times on average) for routine illnesses or minor injuries, and that two of these visits are to private facilities (with one requiring diagnostic tests) while the remaining visits are to public facilities, the annual medical expenditure per person is estimated at INR 2,400. For a family of five, this amounts to INR 1000 per month.



Government Primary Health Centre (Catchment area 2 to 3 Gram Panchayats)

It should be noted that this estimate covers only routine medical care and does not include serious illnesses requiring hospitalisation, which can incur significantly higher costs. We assume that hospitalisation for serious medical conditions is accessed through public hospitals.

Type of Provider	Cost per Visit (INR)	Number of Visits per Year per Person	Total Cost (INR)
Public clinic / doctor			
Consultation	0	1.5	0
Medicines	0	1.5	0
Investigative tests	0	1.5	0
Private clinic / doctor			
Consultation	450	2	900
Medicines	500	2	1,000
Investigative tests	500	1	500
Total cost per person per year			2,400
Total cost per family per month (cost per person per year x reference family size) / 12 months			1,000

Table 11: Estimated Health Care Costs for Reference Family (Rural Koderma and Giridih)

Source: Author's Calculation based on primary research

5.0 Education Post Check

According to UDISE+ (2021–22) data for Jharkhand, the state has 44,855 schools, most of which are located in rural and semi-rural areas. Of these, a large majority are clustered at the elementary level:

23,706 schools (about 53%) provide primary education (Classes 1–5) and 16,201 (around 36%) offer upper primary classes (6–8), while only 3,191 schools (7%) reach secondary level (9–10) and 1,757 schools (4%) teach higher secondary (11–12), highlighting a steep reduction in available schooling as children grow older.

This distribution means that rural children often face significant barriers in accessing secondary and senior secondary education close to home, leading many families to consider private schooling or face long travel distances to continue education beyond Class 8.



Upgraded Government school (9th to 12th standards)

In terms of management, most schools in rural Jharkhand are government-run, with government-managed institutions forming the backbone of basic education at the primary and upper-primary levels, while private schools and government-aided schools become more prominent at higher levels. National UDISE+ classifications show

that government management remains dominant across the school system, but private and unrecognised institutions fill gaps where government secondary and higher secondary schools are scarce.

Quality and learning conditions also show significant disparities. At the state level, Jharkhand's pupil-teacher ratios (PTR) are higher than national norms, reflecting teacher shortages — with around 29 students per teacher at primary, 26 at upper primary, 35 at secondary, and 57 at the higher secondary level, well above recommended benchmarks and indicating limited teacher availability in many rural schools. Moreover, independent reporting on Jharkhand's education situation highlights severe teacher shortages in government primary schools, where many schools have only one teacher, underscoring the difficulty in meeting even basic RTE norms for teacher deployment.

²⁹ (UDISE+) >> Unified District Information System for Education Plus is an educational management information system under the Department of School Education & Literacy.

Teacher qualifications further compound these challenges. Across India, UDISE+ data show that in many states government school teachers are more likely to lack graduate-level qualifications compared with those in private recognised schools — a pattern that is also observable in states with similar profiles to Jharkhand — contributing to uneven quality of instruction. These structural and quality gaps in rural schooling reflect persistent access and equity issues that affect learning outcomes, transition rates beyond basic education, and long-term educational attainment in rural Jharkhand.

Beyond access and infrastructure, school enrolment and participation patterns in rural Jharkhand show critical disparities. While primary enrolment in the state is relatively high — with most children entering school by age 6 – 7 — the Gross Enrolment Ratio (GER) declines sharply from upper primary to secondary and higher secondary levels. This reflects that many children are either dropping out or not transitioning to higher classes due to limited local availability of schools beyond Class 8, household labour demands, and economic constraints common in rural communities.

Gender disparities also persist. Although girls and boys enrol at similar rates in early grades, the dropout rate for girls increases more steeply at secondary ages, often linked to long travel distances to upper schools, safety concerns, and social norms around early marriage and household duties. Efforts under state programmes like the Mukhyamantri Balika Cycle Yojana and scholarships aim to support continuation, but gaps remain particularly in tribal-dominated districts and mining-affected rural belts.

Social group disparities are another dimension. Children from Scheduled Tribes (STs) and Scheduled Castes (SCs) — who form a significant share of the rural Jharkhand population — tend to show lower transition rates to secondary and senior secondary schooling compared to general category peers. This is correlated with lower household incomes, nutritional deficits, and higher opportunity costs for schooling, especially in agrarian and informal work settings that require child labour contributions.

Furthermore, dropout rates increase significantly after Class 8. UDISE+ data indicates that while primary retention in rural Jharkhand remains moderate, a sizable proportion of students, especially girls and those from disadvantaged backgrounds, do not complete secondary school. According to state education reports and third-party education assessments, the rural dropout rate at secondary level often exceeds 30%, driven by insufficient nearby schools, teacher shortages, and economic pressures that push families to prioritise work over continued education.

These patterns underscore that while Jharkhand has made progress on ensuring widespread primary schooling, structural, socio-economic, and gendered barriers continue to limit educational attainment among rural children — particularly beyond the basic education age group.

Out of 208 respondents with whom the field team interacted, it was noticed that 83 households with children in the school going age had dropped out of secondary schools and were no longer attending school. Non-availability of the high school in the nearby town from their village and lack of affordability to pay for private education were the major reasons cited. Household work and need for additional income were other reasons for children dropping out by age 14.

To estimate private education costs, the research team visited 6 private schools near to the villages, all reporting that at least 15% of their students were children of mica picking households. Photos below show glimpses of the government and private schools visited.

Type of expenses	Lower Primary (Class 1–5)	Upper Primary (Class 6–8)	Secondary (Class 9–10)	Higher Secondary (Class 11–12)
Total School Cost per Year – in a Public School (INR)	0	0	0	0
Total School Cost per Year – in a Private School (INR)	12,000	14,400	16,800	20,400
Number of Years in each level spent in a Public school	5	1.5	1	0
Number of Years in each level spent in a Private school	0	1.5	1	2
Total cost per year x number of years in each level	-	21,600	16,800	40,800
Average cost per child per year (Total Cost / 18 years of childhood)	-	1200	933	2,267
Average cost for reference family per month (Average cost per child per year x number of children in reference family) / 12 months	-	300	233	567
Total per month in Indian Rupees				1,100

Table 12: Cost to Reference Family with Three Children for Children's Schooling (Rural Koderma, Giridih)

Source: Author's Calculation based on primary research

6.0 Provision for unexpected Events to ensure Sustainability

Most workers subsist on very limited incomes and struggle to meet their daily needs. Planned life events such as a daughter's marriage, as well as unforeseen circumstances like illness, accidents, or death, often involve substantial expenses. These shocks frequently push workers into poverty and debt, from which recovery is difficult. It is therefore essential to incorporate a modest provision for savings, in addition to the cost of a basic but decent standard of living, when estimating a living wage or living income.

Accordingly, a margin of five percent—recommended under the Anker Methodology—has been added to the assessed living income or living wage to account for unforeseen emergencies and limited discretionary expenditure.

Furthermore, adult children who earn their own income are generally expected to support their aging parents. In many instances, they are also expected to share resources with other relatives who may be economically vulnerable. As a substantial proportion of workers have migrated to urban areas to earn their livelihood, leaving their families behind in rural locations, they often provide financial assistance to their extended families.

In this assessment, it is considered reasonable and appropriate to include a modest margin of two percent for this purpose. This provision for parental and family support supports the use of a conservative reference family size and justifies the decision not to include parents or other relatives within the reference family definition.



7.0 Living Wage in Koderma and Giridih Districts (Jharkhand)

7.1 Living Wage Facts & Figures

7.1.1 Number of FTE Workers in Reference Family Providing Support

Living income is a family-based concept, and it is common for more than one adult within a household to engage in paid work to support the family financially. However, in today's context — and in line with the Anker Methodology® — it is wholly unacceptable for children to work in order to contribute to household income. Consistent with the principles of decency underlying the concepts of living income and living wage, the Anker Methodology® therefore assumes that children do not participate in paid work.

Many living wage methodologies rely on simplified assumptions regarding adult employment within households, either assuming that both spouses or partners work full-time or that only one spouse or partner is engaged in full-time work. The latter reflects the traditional male breadwinner model, which prevailed in Western countries until relatively recently and continues to exist in some parts of the world today.

The assumption of two full-time workers, on the other hand, is based on the premise that all adults are employed full-time throughout the year. Neither of these assumptions reflects reality in the study area—or indeed in most parts of the world. In practice, while many adults do work, others may choose not to work or may be unable to secure employment for significant portions of the year.

For this study, the number of full-time equivalent workers in the reference family has been estimated using available data on age- and sex-specific: (i) labour force participation rates (LFPR), (ii) unemployment rates (UR), and (iii) part-time employment rates. The calculation is based on the following formula:

$$\text{Number of full-time equivalent workers per family} = 1 + [\text{LFPR}^{30} \times (1 - \text{UR}^{31}/100) \times (1 - \text{part-time employment rate}/100/2)]$$

This formula is applied separately for adult males and adult females, and the average of the two results is taken to represent a couple. Data on labour force participation and unemployment rates for the Rural part of Jharkhand, for individuals aged 25 – 59 years (prime working ages), are sourced from the Periodic Labour Force Survey (2023 – 24). Estimates of part-time employment rates for males and females are drawn from the World Bank's World Development Indicators database (World Bank, 2022), which provides such data for 136 countries.

³⁰ The **Labour Force Participation Rate** (LFPR) is the percentage of working-age persons (15+ years) who are either employed or actively seeking work. In early 2026, India's overall LFPR remained steady around 55.4% – 55.9%, with female participation showing a slight rise to over 35% in early 2026, marking a period of relative stability.

³¹ UR >> Usage Rate is a measure of the percentage of available working time that employees actually spend on productive tasks, often used to determine efficiency, billing, and direct labour.

As part-time employment rates for India are not available from this database or from national sources, proxy estimates have been adopted from neighbouring countries in the Indian subcontinent—Bangladesh, Pakistan, Nepal, and Sri Lanka. Based on these sources, part-time employment rates of 14.07 percent for males and 37.99 percent for females have been used.

The detailed calculations are presented as under:

Category	LFPR (Usual Activity Rate) in %	Unemploy- ment Rate in %	Part-time Rate in %	Full-time Work %
Male	84.510	2.410	14.070	0.767
Female	44.220	2.830	37.990	0.348
Average				0.557
Numbers of Full-time Workers in Family				1.557

Table 13: Calculation of Number of Full-Time Equivalent Workers in the Reference Family

Full-Time Equivalent (FTE) Calculation

Variables	Value
Average full-time equivalent per adult	0.557
Number of adults in reference family	2
Number of full-time equivalent workers in reference family	1.557

Note: Estimation of Full Time Equivalent Workers for Reference Family

This presents the methodology used to estimate the number of full-time equivalent (FTE) workers in the reference family, incorporating key labour market indicators. A central concept in this estimation is the Labour Force Participation Rate (LFPR), also referred to as the usual activity rate. LFPR measures the proportion of the working-age population that is either employed or actively seeking employment, thereby reflecting the extent to which individuals are engaged in the labour market. It is a critical parameter for assessing the potential labour contribution within a household.

The calculation further incorporates the unemployment rate, which adjusts LFPR to account for individuals who are part of the labour force but are not currently employed. In addition, the part-time employment rate is used to account for variations in working hours. To ensure comparability, part-time employment is converted into full-time equivalents under the assumption that part-time work represents half the working time of full-time employment. These adjustments yield the proportion of full-time equivalent work per adult.

As presented in Table 13, there are notable differences in labour market engagement between males and females. Male individuals exhibit a higher LFPR (84.51%) and lower part-time employment (14.07%), resulting in a higher full-time equivalent contribution (0.767). In contrast, female individuals have a lower LFPR (44.22%) and a higher incidence of part-time work (37.99%), leading to a comparatively lower full-time equivalent contribution (0.348). The average full-time equivalent per adult is therefore estimated at 0.557.

Assuming a reference family comprising two working-age adults, the total number of full-time equivalent workers is calculated as 1.557. This consists of one full-time worker (representing the primary earning member).

7.1.2 Mandatory Pay Roll Deductions and Income Tax Due on Living Wages

In the context of this living wage study, mandatory payroll deductions such as Provident Fund (PF), Employees' State Insurance (ESI), and gratuity have not been factored into the living wage estimate. This is because the majority of Dhibra (mica scrap) pickers operate as self-employed workers within an informal and unorganised value chain, where a clear employer–employee relationship is absent. Consequently, statutory provisions related to employer-linked payroll contributions are not applicable in practice.

Furthermore, the estimated living wage of ₹20,282 per month (₹2,43,384 annually) remains below the prevailing basic income tax exemption limit under the Income Tax Department for individual taxpayers. Therefore, no income tax liability arises at this income level, and income tax deductions have not been considered in the calculation of the net living wage.

7.1.3 Cost of Decent Living: Living Wage and Living Income

Based on the above calculations, the living income for a reference family of five in rural Koderma and Giridih district (the study area) is estimated at INR 20,282 per month (see Tables 14 and 15 for details). This amount represents the cost of a basic yet decent standard of living for a typical family of five in the study area and is likely applicable to the broader south-west rural region of Jharkhand.

Values and Assumptions	Amount (INR)	Amount (EUR)	Amount (USD)
Food costs			
Cost of model diet per person per day	106.34	1.02	1.18
Savings from free school lunch per person per day (adjusted)	1.71	0	0
Net food cost per person per day	104.63	1	1.16
Food cost per person per month	3,183	30	35
Food cost for reference family per month	15,914	153	177
Housing costs			
Rent per month for acceptable housing	3,956	38	44
Utilities per month (fuel, lighting, water)	1,300	14	14.46
Total housing cost per month	5,256	52	58.46
Non-Food Non-Housing (NFNH) costs			
Preliminary NFNH costs	7,043	67	78
Health care adjustment	500	5	6
Education adjustment	850	8	9
Total NFNH costs	8,393	90	93

Values and Assumptions	Amount (INR)	Amount (EUR)	Amount (USD)
Sub-total Monthly cost for decent living (family)	29,563	327	
Funds for sustainability & emergencies (5%)	1,476	16	
Funds for assisting family & relatives (2%)	590	7	
Total family costs (Living Income)	31,629	301	350
Net living wage (per worker)	20,314	194	225
Mandatory deductions & income tax	0	0	0
Gross living wage	20,314	194	225

Table 14: Estimation of Living Wage (Rural Jharkhand)

Assumption	Value
Date of study	December 2025 – February 2026
Number of days in a month	30.42
Non-food non-housing (NFNH) to food ratio	0.4425
Reference family size	5
Number of children in reference family	3
Number of adults in reference family	2
Exchange rate (INR per USD/Euro)	1 USD= INR 89.90 1 EUR= INR 104.29
Number of workers per family (full-time equivalent)	1.557

Table 15: Key Assumptions for Living Wage and Living Income Estimates

Note: Exchange rate is the average Reserve Bank of India (RBI) reference rate for the period 1 December 2025 to 28th February 2026.

7.2 Living Wage Comparison and Wage Ladder

This section compares the living wage for rural Jharkhand with other wage benchmarks, including the minimum wage, prevailing wage, World Bank poverty line wage, and national poverty line wage.

7.2.1 Minimum Wages In Jharkhand

Employers are legally required to pay workers no less than the stipulated minimum wage. Under the Code on Wages, minimum wages must be reviewed and revised by the central and state governments at intervals not exceeding five years. Minimum wage rates vary across states and differ by industry, occupation, skill level, and geographic area within a state, reflecting differences in development levels across zones.

In India, workers are broadly classified into four skill categories: unskilled, semi-skilled, skilled, and highly skilled. State governments periodically notify minimum wage rates, inclusive of dearness allowance, for each occupational category and skill level.

According to the latest notification issued in October 2025, the monthly minimum wage for unskilled workers in Jharkhand is **INR 11,851 (€ 113.64)**. The corresponding minimum wages for semi-skilled and skilled workers are **INR 12,437 (€ 119.25)** and **INR 16,396 (€ 157.22)** per month, respectively. For highly skilled workers, the prescribed minimum wage is **INR 18,906 (€ 181.28)** per month.

Class of Employment	Area	Scheduled	Basic Per Day	Basic Per Month	VDA per Day	VDA Per Month	Total Per Day	Total Per Month
Unskilled	Rural	Yes	425	11050	30.81	801	455.81	11851
Semi-skilled	Rural	Yes	446	11596	32.35	841	478.35	12437
Skilled/ Clerical	Rural	Yes	588	15288	42.62	1108	630.62	16396
Highly Skilled	Rural	Yes	678	17628	49.15	1278	727.15	18906

Table 16: Minimum wages for rural Jharkhand as on 1'st October, 2025

7.2 Living Wage Comparison and Wage Ladder

This section compares the living wage for rural Jharkhand with other wage benchmarks, including the minimum wage, prevailing wage, World Bank poverty line wage, and national poverty line wage.

7.2.1 Minimum Wages In Jharkhand

Employers are legally required to pay workers no less than the stipulated minimum wage. Under the Code on Wages, minimum wages must be reviewed and revised by the central and state governments at intervals not exceeding five years. Minimum wage rates vary across states and differ by industry, occupation, skill level, and geographic area within a state, reflecting differences in development levels across zones.

In India, workers are broadly classified into four skill categories: unskilled, semi-skilled, skilled, and highly skilled. State governments periodically notify minimum wage rates, inclusive of dearness allowance, for each occupational category and skill level.

According to the latest notification issued in October 2025, the monthly minimum wage for unskilled workers in Jharkhand is **INR 11,851 (€ 113.64)**. The corresponding minimum wages for semi-skilled and skilled workers are **INR 12,437 (€ 119.25)** and **INR 16,396 (€ 157.22)** per month, respectively. For highly skilled workers, the prescribed minimum wage is **INR 18,906 (€ 181.28)** per month.

Class of Employment	Area	Scheduled	Basic Per Day	Basic Per Month	VDA per Day	VDA Per Month	Total Per Day	Total Per Month
Unskilled	Rural	Yes	425	11050	30.81	801	455.81	11851
Semi-skilled	Rural	Yes	446	11596	32.35	841	478.35	12437
Skilled/ Clerical	Rural	Yes	588	15288	42.62	1108	630.62	16396
Highly Skilled	Rural	Yes	678	17628	49.15	1278	727.15	18906

Table 16: Minimum wages for rural Jharkhand as on 1'st October, 2025

For Work Above Ground				
Class of Employment	Basic Per Day	VDA Per Day	Total Per Day	Total Per Month (INR)
Unskilled	350	191	541	14066
Semi-Skilled / Unskilled Supervisory	437	237	674	17524
Skilled / Clerical	523	282	805	20930
Highly Skilled	610	328	938	24388
For Work Below Ground				
Class of Employment	Basic Per Day	VDA Per Day	Total Per Day	Total Per Month (INR)
Unskilled	437	237	674	17524
Semi-Skilled / Unskilled Supervisory	523	282	805	20930
Skilled / Clerical	610	328	938	24388
Highly Skilled	683	366	1049	27274

Table 17: Minimum wages for mining workers - rural Jharkhand as on 1st October, 2025

7.2.2 Minimum Wages for Mica Scrap Collectors/Dhibra Pickers

Under the Minimum Wages Act, 1948, minimum wages are applicable only to occupations classified as “scheduled employments”, which are sectors formally notified by the appropriate government for wage regulation. Coverage under the Act requires both notification of the occupation in the Schedule and the presence of a definable workforce engaged in that employment. At present, mica scrap collection (Dhibra picking) in Jharkhand is not included as a scheduled employment. The activity is predominantly informal in nature, typically undertaken independently without a clearly established employer–employee relationship, and has not been formally notified by the State Government.

However, consultations with the Labour Department indicate that inclusion may be considered if there is adequate documentation demonstrating the existence of a substantial and identifiable workforce — for instance, a verified list of approximately 1,000 or more workers engaged in mica scrap collection. In such circumstances, the State Government could notify the activity under the Schedule and subsequently fix minimum wage rates, thereby extending statutory wage protection to mica scrap collectors currently operating outside formal labour safeguards.

7.2.3 World Bank Poverty Line and Poverty Line Wage

The World Bank defines international poverty lines of \$ 2.15, \$ 3.65, and \$ 6.85 per person per day (in 2017 internationally comparable PPP³² dollars) for low-income, lower-middle-income, and upper-middle-income countries, respectively. As India is classified as a lower-middle-income country, the applicable poverty line is \$ 3.65 per person per day.

This corresponds to 111 PPP US dollars per person per month, or 555 PPP dollars per month for a five-member household. Using a private consumption PPP conversion rate of ₹19.52 per international US dollar, the monthly poverty line for a family of five in India is ₹10,834. When this amount is divided by 1.557 full-time equivalent workers per household, the resulting World Bank poverty line wage for India is ₹6,958 per month.

7.2.4 National Poverty Line And Poverty Line Wage

India does not have an officially accepted national poverty line. However, official poverty estimates have been produced by NITI Aayog³³ using a multidimensional³⁴ poverty index. In addition, the Rangarajan Committee³⁵ (Government of India, 2014) estimated monthly per capita consumption expenditure poverty thresholds of ₹972 for rural areas and ₹1,407 for urban areas. These thresholds, defined at the all-India level, are based on 2011–12 prices.

When updated to 2025–26 using the Consumer Price Index for Industrial Workers, the rural poverty line increases to ₹2,128 per person per month, equivalent to ₹10,638 per month for a five-member household. Assuming 1.557 full-time equivalent workers per household, the resulting national poverty line wage is ₹6,832 per month.

It should be noted, however, that this estimate is likely to be understated for several reasons, including (i) the reliance on outdated 2010–11 consumption patterns and economic conditions, and (ii) the use of all-India averages that do not account for regional variations.

³³ The Planning Commission of India, which has now been replaced by NITI Aayog (National Institution for Transforming India), was responsible for formulating India's Five-Year Plans and overall development strategy. NITI Aayog currently serves as the Government of India's premier policy think tank, providing strategic and technical advice to support national development planning and cooperative federalism.

³⁴ NITI Aayog measures poverty primarily through the National Multidimensional Poverty Index (MPI)/MPI tracks deprivations across health, education, and standard of living using 12 indicators based on NFHS data.

³⁵ The Rangarajan Committee (Government of India, 2014) refers to the expert group chaired by Dr. C. Rangarajan (Chakravarthi Rangarajan), an eminent Indian economist and former senior government official. Dr. Rangarajan served as the Governor of the Reserve Bank of India (RBI) from 1992 to 1997, later as the Chairman of the Economic Advisory Council to the Prime Minister of India. The committee, officially known as the Expert Group to Review the Methodology for Measurement of Poverty, submitted its report in 2014 and proposed a revised approach for estimating poverty in India.

7.3 Wage Ladder

The wage ladder clearly demonstrates that informal mica (Dhibra) workers in rural Koderma and Giridih are operating at income levels below subsistence. With reported wages of ₹3,468 per month and an additional ₹2,905 from non-mica sources, the combined income of ₹6,373 remains below both the National Rural Poverty Line (₹6,832) and the World Bank Poverty Line (₹6,958).

It is also 25% lower than the average rural household expenditure in Jharkhand (₹8,514), leaving a shortfall of approximately ₹2,141 per month. This consumption gap suggests that households must either incur debt, reduce essential spending, or rely on supplementary income sources to survive.

Importantly, this deficit also indicates hidden income pressures within the household economy. **If average household expenditure is ₹8,514 and adult earnings account for only ₹6,373, the remaining gap of roughly ₹2,141 per month may be bridged through irregular, informal, or non-adult contributions. In contexts like informal mica extraction, this often reflects dependence on adolescent or child labour, seasonal work, or unpaid family labour — underscoring that household survival may rely on economically vulnerable members.**

When compared to statutory standards, the disparity is even more severe. The lowest rural minimum wage (₹11,851) is nearly 71% higher than reported Dhibra wages. More critically, against the living income benchmark of ₹31,579, **even the combined household income of ₹9,448 leaves a monthly deficit of ₹22,131 (€ 212.20) — meaning households earn only about 30% of what is required for a basic but dignified standard of living.**

Similarly, the living wage benchmark reveals that the current estimated monthly earnings of a Dhibra picker, at ₹6,373³⁶, are approximately 32% lower than the living wage benchmark of ₹20,314 per worker per month, thereby resulting in a critical wage gap of around ₹13,909 per month.

The wage ladder therefore reveals not just low earnings, but a deep structural income gap that perpetuates chronic poverty and intergenerational vulnerability within the informal mica economy.

As shown in Figure 10, the living wage for rural Koderma and Giridih district is substantially higher than the World Bank poverty line wage, the national rural poverty line, prevailing wages, and minimum wages. Several factors contribute to these gaps, particularly the outdated nature of comparator values. For example, the India national poverty line was set in 2014 based on 2011–12 prices; in real terms, it would be much higher today due to economic growth and rising income and expectations.

The living wage exceeds the World Bank poverty line because it reflects a decent standard of living rather than mere subsistence. Moreover, prevailing minimum wages in most Indian states are widely recognised as insufficient for a decent living. The living wage estimated in this report is grounded in a realistic assessment of the cost of a basic, decent standard of living and highlights growing inequalities in India.

³⁶ ₹6,373 represents the per-worker income from all sources, calculated without deducting the costs of OHS and the tools used for the extraction and collection of mica scrap.

7.3.1 Wage Ladder for rural Jharkhand (in INR per month per worker)

S.no	Indicators	Value in INR	Value (EUR)	Value (USD)
1	National Rural Poverty Line	6,832	65.51	76
2	World Bank Poverty Line	6,958	66.72	77.40
3	Average HH Expenses in Rural Jharkhand (NSS July 2022 to June 2023)	8,514	94.70	109.85
4	Reported Wages in Jharkhand-rural (Koderma, Giridih)-Dhibra workers	3,468	33.25	38.57
5	Reported Income in Jharkhand-rural (Koderma, Giridih) for Dhibra workers from sources other than mica	2,905	27.85	32.31
6	Minimum Wages in Jharkhand rural- Unskilled Labour	11,851	113.64	131.82
7	Minimum Wages in Jharkhand rural- Semi-Skilled Labour	12,437	119.25	138.33
8	Minimum Wages in Jharkhand rural- Skilled Labour	16,396	157.22	182.38
9	Minimum Wages in Jharkhand rural- Highly-Skilled Labour	18,906	181.76	210.84
10	Minimum Wages for mining labour in Jharkhand rural- Unskilled Labour (Above Ground)	14,066	134.87	156.45
11	Minimum Wages for mining labour in Jharkhand rural- Semi-Skilled Labour (Above Ground)	17,524	168.03	194.91
12	Minimum Wages for mining labour in Jharkhand rural- Skilled Labour (Above Ground)	20,930	200.70	232.81
13	Minimum Wages for mining labour in Jharkhand rural- Highly-Skilled Labour (Above Ground)	24,388	233.85	271.27
14	Minimum Wages for mining labour in Jharkhand rural- Unskilled Labour (Below Ground)	17,524	168.03	194.91
15	Minimum Wages for mining labour in Jharkhand rural- Semi-Skilled Labour (Below Ground)	20,930	200.70	232.81
16	Minimum Wages for mining labour in Jharkhand rural- Skilled Labour (Below Ground)	24,388	233.85	271.27
17	Minimum Wages for mining labour in Jharkhand rural- Highly- Skilled Labour (Below Ground)	27,274	261.52	303.36
18	Living Income/Wage in Jharkhand-rural (Koderma, Giridih)	20,314	194.78	225.94

Figure 10: Living Wage Ladder for rural Jharkhand (Koderma and Giridih)

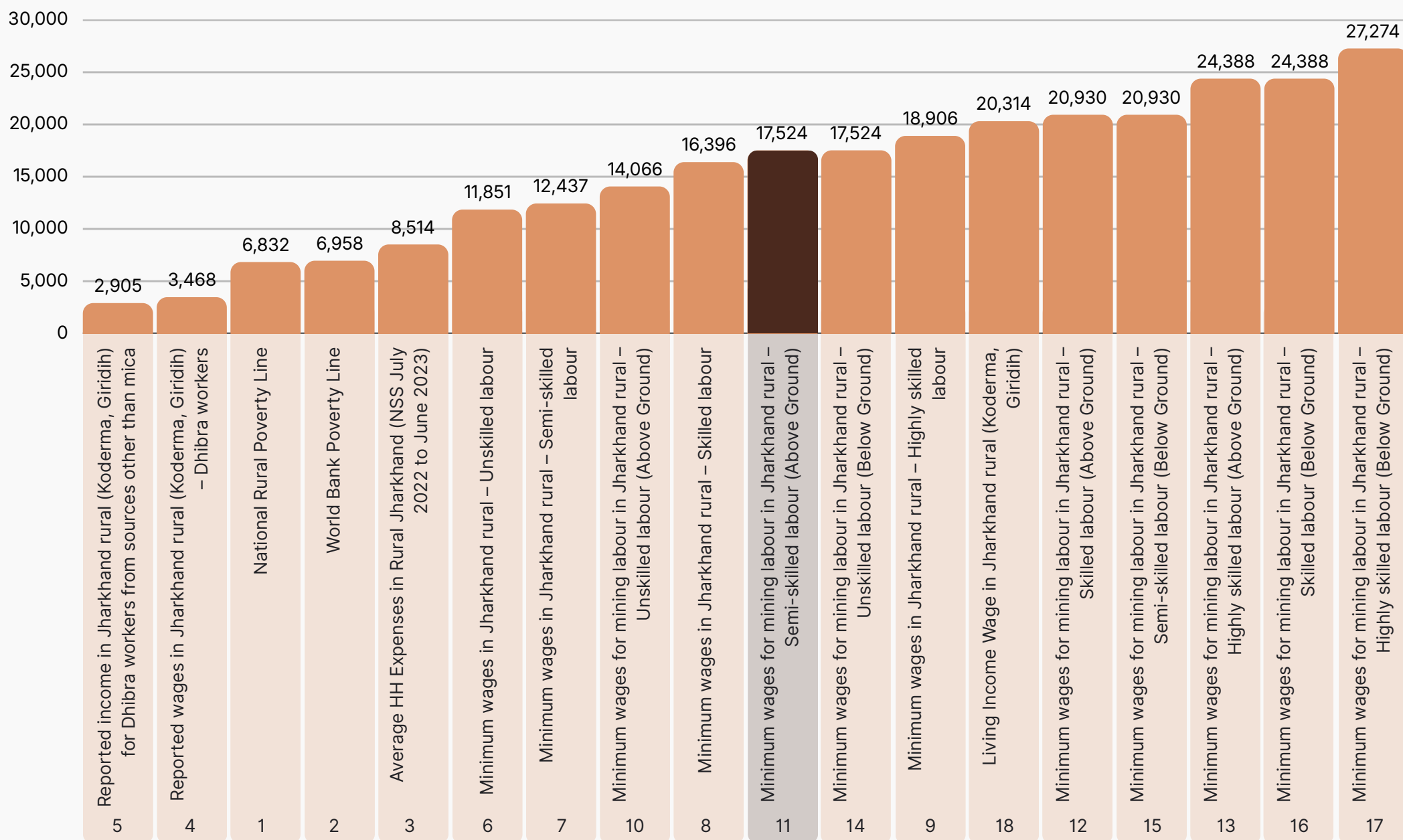


Table 18: Wage Ladder for Rural Jharkhand (in INR per month per worker

8.0 Estimating Gaps Between Living Income and Actual Income

8.1 Comparison of Prevailing Incomes in Jharkhand's Mica Sector with Living Income Benchmark

No new research on prevailing incomes in the Dhibra picking/mica mining sector was done either by Lesure Incorporation or in the personal capacities of the consultants associated with the current study. Instead, as part of this study additional efforts were made to review the existing field data to draw an overall estimate of the prevailing income with the living income benchmark. This estimation is primarily based on a limited set of income data available from the field survey and other assumptions drawn from the field observations and focus group discussion with Dhibra picking/mica mining households.

Data limitations identified for calculating mixed income from on-farm and off-farm sources, including:

- **Weather:** Data on yields collected in different years may differ significantly due to weather patterns. Therefore, a yield data for 4-5 years is needed to average the mixed income in a year.
- **Price and income:** As yield prices fluctuate strongly, income data from one year are often not comparable with those from another year.
- **Book-keeping:** Households often do not keep books, which affects the quality of data on production area, input cost and labour inputs.
- **Inflation and conversion rate:** High inflation rate and additionally, the Indian Rupee has lost significant value against the US dollar during recent years, so data converted into dollars might not accurately reflect the current situation of the Dhibra picking/mica mining families and are not comparable from one year to the next.
- **Survey questions:** limited questions were framed to detail the income from farm activities such as size of farm, major crops produce, input cost etc, as this was out of scope of living income study for Dhibra pickers/mica mining workers.

Calculating actual household income is a complex task which requires consideration of the following:

- Net income from Dhibra/mica scrap;
- Net income from other crops and livestock;
- Value of self-consumed crop and livestock;
- Net off farm income (e.g. from waged labour and small scale retail and trading activities);
- In kind and other sources of income (e.g. remittances, government support, pensions).

The **LI team** used the following approach to estimate total household income:

1. Total household production of Dhibra/mica scrap in kgs was computed using only the households which reported knowing their own production figures (94% of mica mining households);
2. Total household production of mica was converted to value by applying a fixed price of INR 10 per kg¹⁰;
3. Expenses were computed per input type separately for on-farm (usually 50% of total income) and off-farm activities such as tool cost, OHS cost.
4. Production costs were subtracted from the value of sales to compute the net household income from mica and non-mica produce including wages earned and other income from different sources.
5. Net household income from mica was extrapolated to total household income using the estimated contribution of mica sales to total household income;
6. Total household income was adjusted for inflation to February 2026, to align with the Living Income benchmark.

One limitation of this approach is that the value of farm production for home consumption is not included in household income, due to the complexity of calculating accurate values. Since the on-farm produce is not a significant percentage of their own food, this is an important omission. Having said that, the types of foods they produce do not include many of the higher value items in the model diet, such as rice, wheat, meat, fish, egg milk, fish, and sugar.

Furthermore, Dhibra workers interviewed for the Living Income study indicated that they purchase a percentage of almost all food items, including those commonly produced on their farms, at certain times of the year. As such, the overall effect on household income may be relatively limited.

Another issue is the fact total household income is computed using respondents' estimates of the share of their total income which comes from on-farm and off-farm activities. It is not clear how well Dhibra picking households understand their net income from different sources, and as such, how accurate their estimates are. On the cost side there are various expenses which are not taken into account, such as capital outlays for farm equipment and land, full transport-related costs (e.g. getting to and from the farm), and a margin for sustainability. These limitations should be borne in mind when reading the results presented below.

Table 19 summarises the findings of LI's analysis, grouping households income into the three categories: (i) Income from Dhibra picking; (ii) income from on-farm activities; and; (iii) income from off-farm activities and other miscellaneous sources.

³⁷ Mica scrap prices typically range between ₹7 and ₹15 per kg, depending on quality. For the purpose of this study, an average price of ₹10 per kg has been used. This estimate takes into account that approximately 20% of the scrap is classified as good quality by buyers, who pay workers ₹15 per kg for such material.

Particulars	Value in INR ₹	Value in USD	Value in Euro ³⁸
Total Dhibra/mica scrap production (kg/month/household)	540 kg	540 kg	540 kg
Price (per kg) ³⁹	10	0.11	0.093
Value of production (month/household): A	5,400	59.91	50.73
Input costs (cost of production tools per month/household): B	100	1.11	0.94
OHS cost for 1 worker⁴⁰ per household/month : C	375	4.16	3.53
Total input costs (month/household): D = (B+C)	475	5.27	4.47
Net income from Dhibra/mica scrap production (month/household): E = (A-D)	4,925	54.64	46.28
Net income from on-farm production (month/household): F	1,050	11.65	9.87
Net income from other miscellaneous sources (including any pension, government schemes, micro enterprises, labour jobs, etc. per month/household): G	3,473	38.53	32.64
Total of net monthly income from all sources (month/household) = E+F+G	9,448	104.81	88.80
Share of Dhibra/mica mining in household income (%)	52%		
Adjusted Living Income estimate	20,282	225.01	190.62
Adjusted Living income estimate	31,629	350.33	297.26
Gap between average household income and adjusted Living Income Estimate (INR & USD/Euro/household)	22,181	245.52	208.47
Average household income as a percentage of adjusted Living Income estimate	29.87%		

Table 19: Summary of household income

Source: Author's calculations based on analysis of field survey and secondary data.

³⁸ INR 90.14 per USD and INR 106.40 per EURO is the Exchange rate on average by the Reserve Bank of India (RBI); reference rate for the period 1 December 2025 to 28th February 2026.

³⁹ Mica scrap prices typically range between ₹7 and ₹15 per kg, depending on quality. For the purpose of this study, an average price of ₹10 per kg has been used. This estimate takes into account that approximately 20% of the scrap is classified as good quality by buyers, who pay workers ₹15 per kg for such material.

⁴⁰ For the purpose of this study, OHS costs have been calculated for only one full-time worker.

The field study by LI estimates that typical Dhibra-picking households who are also engaged in on-farm activities earn an average of ₹12,600 (USD 140/Euro 120) per year, or approximately ₹1,050 (USD 12/Euro 10) per month, from agriculture. However, this average masks significant structural unevenness. Not all households possess agricultural land, and among those that do, landholdings are generally small-typically between 1–2 hectares-and often subject to rainfed, low-productivity, and climatically vulnerable conditions.

As a result, agricultural income is neither uniform nor assured across households. For many families, farming serves as a supplementary and seasonal coping mechanism rather than a stable income source.

At the same time, it is important to recognise that income from Dhibra/mica scrap selling generates immediate and liquid cash flow, which plays a critical role in household economic management. Unlike agriculture, which yields returns only after harvest, mica collection provides more frequent cash earnings, enabling families to purchase seeds, fertilizers, and other farm inputs on time. This liquidity function underscores the practical importance of engagement in Dhibra picking activities, as it supports agricultural operations and helps households navigate seasonal cash constraints despite the overall low income levels.

8.2 Estimated PPE & Safety Cost

Estimated PPE & Safety Cost refers to the typical expenditure incurred by mica scrap (Dhibra) collectors on basic personal protective equipment and safety-related items required to reduce occupational health risks during collection and handling activities. This includes items such as gloves, masks or cloth face covers, sturdy footwear or sandals, head coverings, and simple first-aid supplies used to manage minor cuts and injuries.

Given the informal and labour-intensive nature of mica scrap collection, the use of PPE is often limited and irregular; however, the estimated cost accounts for periodic purchase and replacement of essential safety items due to wear and tear. The estimate reflects minimum, routine safety-related expenses necessary to support safe working conditions, rather than comprehensive or employer-provided occupational safety systems.

Item	Typical Market Price (₹)	Average price considered (₹)	Useful Life / Frequency	Annual Cost (₹)	Annual cost (EUR)
Safety Helmet	300 – 1,000	~₹800	Replace ~1 per year	~₹800	7.67
Safety Gloves	100 – 1,500	~₹265	Replace ~3/year	~₹800	7.67

Respirator / Mask (Industrial)	30-1500	~₹50	Replace ~24/year (Twice a month)	~₹1200	11.51
Safety Shoes / Boots	600 – 1,500	~₹1200	Replace ~1/year	~₹1,200	11.51
First Aid Kit (basic)	~₹500	~₹500	Replace or refill yearly	~₹500	4.79

Table 20: Estimated PPE & Safety Cost

Source: Author's calculation based on standard mining safety practice followed under various government projects, India

Total estimated annual OHS cost: ~₹4500 (€ 43.15) per worker per year

Total estimated annual OHS cost: ~₹375 (€3.60) per worker per month

8.3 Estimated Cost⁴¹ of Production Tools

Estimated Cost of Production Tools captures the typical recurring expenditure incurred by mica scrap (Dhibra) collectors in Koderma and Giridih district, Jharkhand, on basic tools and materials required to carry out their work. These costs include simple, manually operated tools such as hammers, chisels, crowbars, and digging implements used for collecting mica scraps, as well as baskets, sacks, and cloth sheets used for carrying, sorting, and storing mica flakes.

Given the informal, labour-intensive nature of mica scrap collection, the tools involved are low-cost and subject to frequent wear and tear, necessitating regular repair or replacement. The estimated cost therefore reflects routine maintenance and replacement expenses essential for sustaining daily production, rather than investment in mechanised or capital-intensive equipment.

Total estimated cost of production tools: ~₹1200 (€11.51) per worker per year

Total estimated cost of production tools: ~₹ 100 (€1.00)per worker per month

⁴¹ Source- Calculations based on field survey.

8.4 Estimated Income⁴² from Dhibra/Mica Mining Production

Estimated Income from Dhibra/Mica Mining Production represents the average earnings of households engaged in Dhibra (mica scrap) collection in Koderma and Giridih district, Jharkhand. The estimate is calculated using a single representative price⁴³ derived from a weighted average of purchase prices across all mica quality grades, based on their reported shares in total sales. This representative price is applied to typical quantities of mica collected by household members, ensuring that income estimates reflect normal market conditions rather than earnings from only higher-quality material.

While daily output and prices vary by quality, availability, and physical effort, the estimated income captures an average level of production and sale over a representative period. The resulting figure reflects gross earnings from mica scrap sales and provides a conservative and realistic measure of the typical contribution of mica-related activities to household livelihoods in the study area.

Total estimated income from Dhibra/mica mining production: ~₹ 5,400 (€51.78) per HH/month

Total estimated income from Dhibra/mica mining production: ~₹ 3,468 (€33.25) per worker⁴⁴/month

8.5 Estimated Income from On-Farm Production

Estimated Income from On-Farm Production refers to the average value of agricultural output generated by marginalised households in Koderma and Giridih district, Jharkhand, who are primarily engaged in mica scrap collection and undertake limited farming activities as a supplementary livelihood. This estimate includes the imputed value of crops and agricultural produce consumed by the household, as well as the cash value of any small surplus sold in local markets. It covers production from small or marginal landholdings or sharecropping arrangements and typically includes staple crops, seasonal vegetables, and minor livestock products produced under normal farming conditions.

Given the constraints faced by these households—such as limited land access, low input use, reliance on rainfall, and irregular labour availability—the estimated income reflects an average and modest level of on-farm production. The figure represents a supplementary contribution to household livelihoods rather than a primary income source.

Total estimated income from On-Farm production: ~₹ 1,050 (€10.00) per HH/month

Total estimated income from On-Farm production: ~₹ 674 (€6.5) per worker⁴⁵/month

⁴² Source- Calculations based on field survey.

⁴³ Purchase prices across all mica quality grades were weighted by their reported sales shares and averaged to derive a single representative price for estimating income from dhibra collection.

⁴⁴ Per HH income divided by total number of full time equivalent adult workers in a family. In Koderma and Giridih this is approximately 1.557 workers per household (HH).

⁴⁵ Per HH income divided by total number of full time equivalent adult workers in a family. In Koderma and Giridih this is approximately 1.557 workers per household (HH).

8.6 Estimated Income from Off-Farm Activities and Miscellaneous Sources other than Mica

Estimated income from off-farm activities and other miscellaneous sources refers to the average monthly earnings derived from livelihood activities outside agriculture and mica-related work in Koderma and Giridih districts, Jharkhand. For households primarily dependent on mica scrap collection, these income sources are generally occasional, irregular, and supplementary in nature. Off-farm activities may include casual wage labour, construction work, small trade, domestic work, transport-related services, and other locally available informal employment.

In addition, households may receive income from non-universal and irregular sources such as government transfers (including pensions and social assistance schemes), as well as small and intermittent earnings from micro-enterprises, petty trade, or other minor activities. The estimates reflect average earnings under normal conditions and include both cash and in-kind payments where reported.

Given the seasonal and uncertain availability of such work, along with competing labour demands from mica collection, income from these sources remains variable and secondary rather than stable. Since not all households receive income from these activities every month, the estimates are calculated by aggregating the total reported income from these sources across all surveyed households and averaging it over the entire study population, including those with no receipts. This population-level approach ensures that the contribution of these supplementary sources is appropriately reflected without overstating their role in overall household income.

Total estimated income from Off-Farm production: ~₹ 3,473 per HH/month

Total estimated income from Off-Farm production: ~₹ 2,231 per worker⁴⁶/month

⁴⁶ Per HH income divided by total number of full time equivalent adult workers in a family. In Koderma and Giridih this is approximately 1.557 workers per household (HH).

9.0 Conclusion

This study estimates the living wage for rural Jharkhand — specifically rural Koderma and Giridih district, where a large number of workers engaged in Dhibra⁴⁷ picking/mica mining are located — using a combination of primary data collected through field investigations and the most recent secondary data available from reliable sources. Key secondary data sources include the Population Census (2011); the NSSO Household Consumption Expenditure Survey (HCES), 79th Round (July 2022–June 2023) (NSSO, 2024); the National Family Health Survey (NFHS, 2019–21); and the Periodic Labour Force Survey (PLFS) for July 2023–June 2024.

Primary data were collected through detailed field investigations conducted in December 2025 – February 2026 in rural Koderma and Giridih district, located in the Northern part of Jharkhand, to obtain information on food prices and the costs of decent and healthy housing, adequate healthcare, and education up to the secondary level.

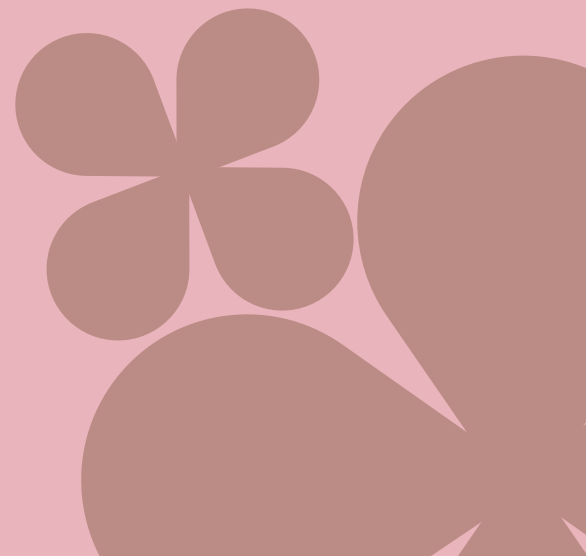
The main conclusions are:

- The living wage ladder presented above graphically compares the living wage estimated in this report with other wage and income benchmarks, including the World Bank poverty line wage, the national poverty line wage, statutory minimum wages, and prevailing wages.
- The estimated living wage of ₹20,282 per month is approximately 3.2 times the National Rural Poverty Line (₹6,832) and 3.1 times the World Bank Poverty Line (₹6,958) applicable to India. It is 6.1 times the reported wages of Dhibra workers (₹3,468).
- The living wage is 1.8 times the minimum wage for rural unskilled workers (₹11,851) and 1.7 times the minimum wage for semi-skilled workers (₹12,437). It exceeds the minimum wage for skilled workers (₹16,396) by about 32 percent, and is about 14 percent higher than the minimum wage for highly skilled rural workers (₹18,906).
- Compared to mining wages, the living wage remains 45 percent higher than the minimum wage for unskilled mining labour (above ground, ₹14,066), while it is slightly above skilled mining wages (above ground, ₹20,930) and below the wage levels for highly skilled mining labour (₹24,388–₹27,274).
- This recalculation demonstrates that while statutory minimum wages for higher-skilled and mining categories approach the living wage benchmark, large segments of rural and informal workers remain significantly below a dignified income threshold.
- Furthermore, the wage implied by average household expenditures (₹8514) in rural Jharkhand, based on NSS-HCES data for July 2022–June 2023, is approximately 42 percent of the living wage (₹20,282) estimated in this study.

⁴⁷ Dhibra is a locally used term in Jharkhand for mica scraps or flakes that are manually collected from abandoned mica mining sites, waste dumps, and surrounding areas, and sold to local traders based on quality.

Although this analysis focuses on rural Koderma and Giridih districts, the estimated living wage is considered applicable to other regions of Jharkhand, particularly mining areas with a similar unorganised workforce. The findings clearly demonstrate that current income levels and wages in the study area are inadequate to support a basic and decent standard of living. Housing and living conditions observed during fieldwork were often poor and unacceptable.

Based on a rigorous analysis of both primary and secondary data, this report aims to inform employers, policymakers, and government authorities and to encourage a review of existing policies and practices, with a view to improving the livelihoods and living conditions of workers, including those employed in Dhibra picking/mica mining.



10.0 Key Recommendations

Closing the 70% Living Income Gap in the Mica Supply Chain

The study identifies a 70% Living Income deficit among mica-dependent households in Koderma and Giridih districts. With a reference family size of five members and only 1.6 full-time equivalent earners per household, current earnings remain significantly below the income required to secure a basic but decent standard of living. This structural deficit cannot be addressed through compliance monitoring alone. It requires coordinated economic, institutional, and policy interventions across the mica value chain.

10.1 Recommendations for Downstream Companies

(Brands, Processors, Exporters, International Buyers)

(A) Adopt Time-Bound Living Income Commitments

- Publicly endorse the Living Income benchmark for mica-sourcing regions.
- Integrate Living Income into ESG, human rights, and responsible sourcing frameworks.
- Develop 3–5 year action plans to progressively reduce the 56% income gap.

(B) Responsible Pricing & Value Redistribution

- Adjust procurement pricing models to reflect Living Income calculations.
- Introduce structured Living Income premiums linked to verified sourcing volumes.
- Ensure traceability of premium flows to worker households.

(C) Shift from Audit-Driven Compliance to Income Adequacy

Align sourcing practices with:

- OECD Due Diligence Guidance for Responsible Mineral Supply Chains.
- United Nations Guiding Principles on Business and Human Rights.
- Move beyond child labour audits toward correcting structural income shortfalls.

(D) Long-Term Procurement Commitments

- Provide multi-year sourcing contracts to stabilise incomes.
- Reduce price volatility and informal intermediary exploitation.

(E) Transparent Wage Ladder Disclosure

Publish annual wage ladder comparisons, including:

- Prevailing incomes
- Minimum wages
- Poverty lines
- Living Wage benchmark

On the TdH NL website, you can find the [Living Income Engagement Framework](https://www.tdh.nl/en/living-income-engagement-framework) – an online tool with 24 concrete actions to work towards a living income for mica pickers in Jharkhand. These actions are embedded in the six human rights due diligence steps as described in the Due Diligence Guidance for Responsible Business Conduct by the Organization for Economic Development (OECD)⁴⁸.

⁴⁸ https://www.oecd.org/en/publications/oecd-due-diligence-guidance-for-responsible-business-conduct_15f5f4b3-en.html

10.2 Establishment of a Dhibra Workers Cooperative Welfare Fund (DWCF)

- **To address both immediate economic vulnerabilities** and long-term resilience, the report recommends creating a structured financing mechanism:

₹5 per kilogram × Total mica purchased annually by downstream companies

This volume-linked contribution ensures fairness and proportional responsibility across buyers.

- **To materialise this**, build a local governance structure and operational mechanism for DWCF through a multi-stakeholder dialogue and consultation with all the key stakeholders including government. The local governance structure and operational mechanism shall ensure:
 - Public disclosure of fund inflows and expenditures.
 - Downstream companies report annual mica procurement volumes.
 - Contributions deposited into a pooled escrow account.
 - Funds allocated through approved annual welfare plans. Community-level monitoring committees ensure transparency. Digital tracking system for fund disbursement.

The funds could be channeled directly to the DWCF to operationalise and institutionalise the mechanism in a transparent and accountable manner. Children of India Foundation (CIF) shall act as the interim fiduciary custodian, ensuring robust financial oversight, compliance, reporting, and impact monitoring until the fund attains operational maturity and financial self-sustainability.

The proposed fund shall prioritise interventions that strengthen income security, human capital development, and household resilience, including:

- Seasonal income stabilisation support during lean employment periods.
- Emergency financial assistance to mitigate economic shocks.
- Provision of occupational safety and protective equipment.
- Coverage under accident and risk insurance schemes.
- Deployment of periodic mobile health services in mica mining-affected areas.
- Support for secondary school retention and continuation.
- Targeted scholarships for girls to promote gender equity in education.
- Income-substitution mechanisms to prevent child labour.
- Structured skills development and vocational training programmes.
- Seed capital support for micro and small enterprises.
- Capitalisation and strengthening of women's self-help groups.

Expected long term positive impacts on decent work conditions: (70% income deficit, the ₹5/kg mechanism under the DWCF)

- Creates a scalable and proportional responsibility model.
- Strengthens shock resilience.
- Elimination of child labour across all upstream nodes of the Mica supply chain.
- Supports and augments the efforts on accomplishing Living Income levels.

10.3 Recommendations for Local Suppliers & Aggregators

- Increase per-kg purchase rates aligned with Living Income benchmarks.
- Eliminate non-transparent deductions.
- Maintain verified worker and suppliers/sub-contractor's list.
- Enable digital payment systems linked to bank accounts.
- Provide gloves, masks, and boots.
- Improve site safety and emergency response protocols.
- Standardise grading categories.
- Provide written weight and price documentation.

10.4 Recommendations for NGOs & Civil Society

- **Strengthen access to social protection packages for families and children:**
 - Linking with VB-G RAM G scheme (assured employment of 125 days in a financial year for rural households) to strengthen employment during lean mica collection period.
 - Linking with Health insurance and pension schemes.
 - Linking with Social protection and social welfare schemes (major flagship schemes).
- **Ensure Income Diversification by promoting:**
 - Livestock-based and agro-based enterprises.
 - Women-led enterprises and collective marketing.
- **Promote Financial Literacy and Financial Inclusion:**
 - Community savings groups.
 - Linking with mainstream financial institutions.
 - Debt reduction and risk mitigation programmes.

10.5 Recommendations for Government

Recognise Dhibra Workers:

- Official recognition within labour and mining policy frameworks.
- Inclusion in labour welfare/labour security schemes (Department of Labour Employment Training & Skill Development, Government of Jharkhand).
- Include Dhibra workers under **scheduled employment and define minimum wages**⁴⁹ for them.
- Develop guidelines to reduce legal uncertainty around mica scrap collection.

⁴⁹ In India, the government regulates and enforces minimum wages as the legally mandated wage floor and the primary benchmark for labour rights and compliance. In contrast, living wage/living income is not currently recognised as a statutory concept within government wage-setting frameworks and remains largely a voluntary commitment promoted among employers and responsible businesses.

Annexure 1: Living Income & Wage Dashboard

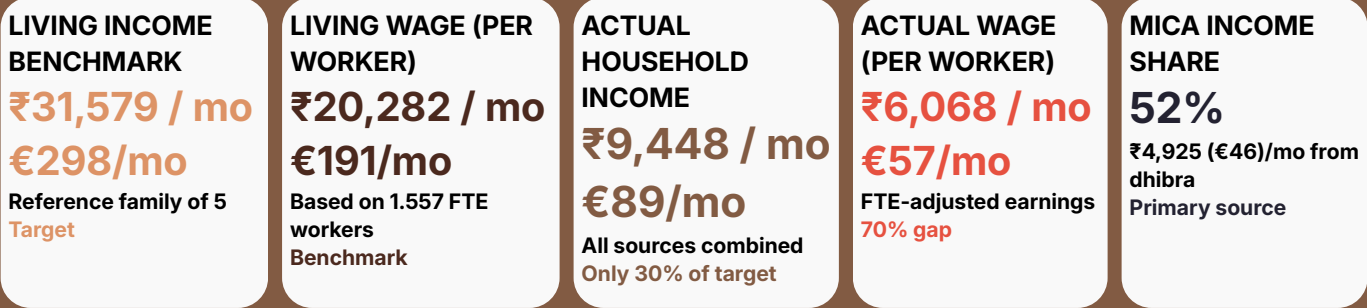
Living Income Study · Anker Methodology®

Jharkhand Mica Sector Living Income & Wage Dashboard

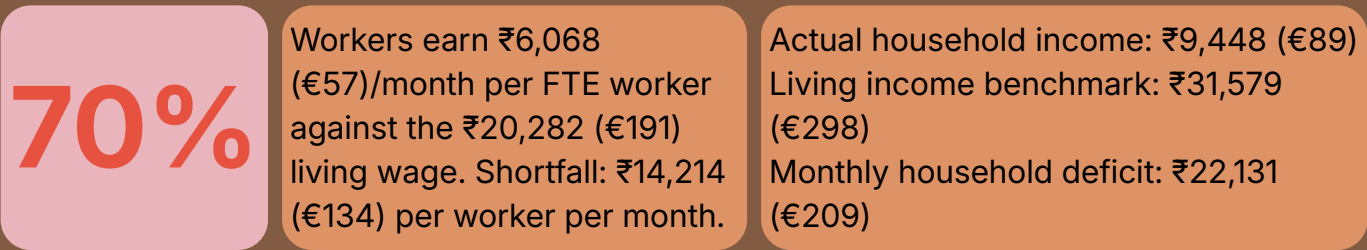
Koderma & Giridih Districts — Dhibra / Mica Scrap Collection Workers · Dec 2025–Feb 2026

208 Households Surveyed · 8 Blocks · 2 Districts · Reference Family: 5 Members · Exchange Rate: ₹106/€1

1. Overview



Living Wage Gap



Income vs. Key Benchmarks (per worker/month)

Indicator	₹/month	€/month	Bar vs Living Wage
Dhibra Workers (reported)	₹3,468	€33	17%
Actual per-worker income (all sources)	₹6,068	€57	30%
National Poverty Line Wage	₹6,832	€64	34%

World Bank Poverty Line Wage	₹6,958	€66	34%
Min. Wage — Unskilled	₹11,851	€112	58%
Living Wage Benchmark	₹20,282	€191	100%

Household Income Sources and Cost Composition

Component	₹/month	€/month	Share
Mica/Dhibra	₹4,925	€46	52.1%
Mica/Dhibra	₹3,473	€33	36.8%
On-farm	₹1,050	€10	11.1%
Living cost: Food	₹15,914	€150	50.4%
Living cost: NFNH	₹8,393	€79	26.6%
Living cost: Housing	₹5,206	€49	16.5%
Living cost: Sustainability	₹2,066	€19	6.5%

2. Income Breakdown

Income Source	Household ₹/mo	Household €/mo	Notes
Mica / Dhibra (net)	₹4,925	€46	₹3,468 (€33)/mo per worker · 52% share
On-Farm Activities	₹1,050	€10	₹674 (€6)/mo per worker · 11% share
Off-Farm & Other	₹3,473	€33	₹2,231 (€21)/mo per worker · 37% share
Total Household	₹9,448	€89	29.9% of living income needed

Income Stacked Breakdown

Component	₹/month	€/month	Relative Share
Mica	₹4,925	€46	15.6% of living income
On-farm	₹1,050	€10	3.3% of living income
Off-farm	₹3,473	€33	11.0% of living income
Gap	₹22,131	€209	70.1% of living income

Mica Production & Cost Analysis

Particulars	Value (INR ₹)	Value (EUR €)	Notes
Mica production (kg/mo/HH)	540 kg	—	94% of households report output
Price per kg	₹10	€0.09	Avg; range ₹7–₹15
Gross mica value	₹5,400	€50.94	Per household/month
Production tools cost	₹100	€0.94	Monthly amortised
OHS / Safety cost	₹375	€3.54	₹4,500/year per worker
Total input costs	₹475	€4.48	—
Net mica income	₹4,925	€46.46	52% of total HH income
On-farm income	₹1,050	€9.91	Seasonal, supplementary
Off-farm & miscellaneous	₹3,473	€32.76	Casual labour, govt. transfers
Total household income	₹9,448	€89.13	All sources
Living income benchmark	₹31,579	€297.92	Decent standard of living
Monthly income gap	₹22,131	€208.78	HH earns only 29.9%

OHS & Safety Note: Annual OHS cost per worker is approximately ₹4,500/€42 (~₹375/€4/month), covering helmet, gloves, respirator, safety shoes, and first aid kit. Production tool cost is ~₹1,200/€11/year per worker. These basic costs reduce net mica income, and workers often forgo safety equipment to maximise take-home earnings.

3. Wage Ladder

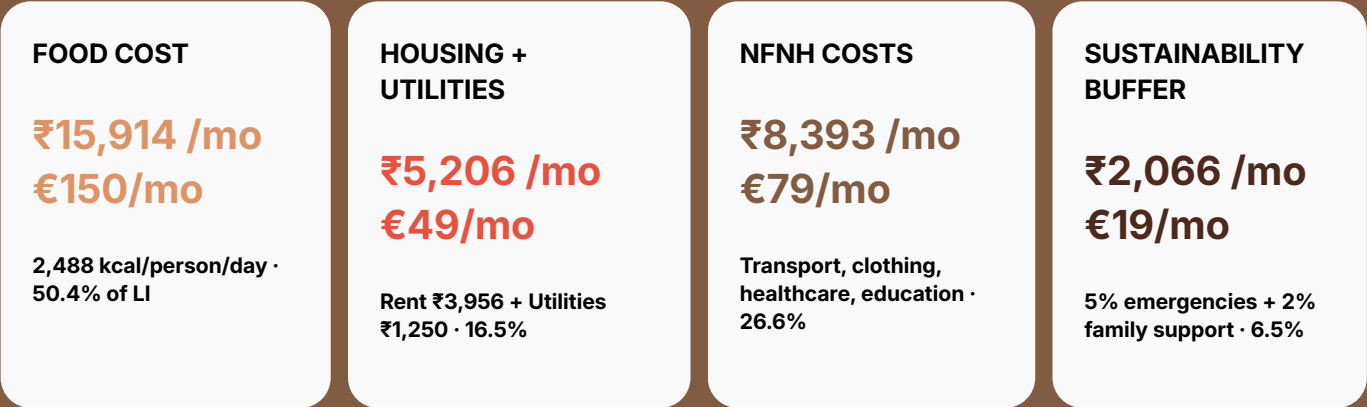
Wage Ladder Context: The living wage of ₹20,282/month (€191) far exceeds poverty lines and prevailing wages, but falls within the range of skilled mining wages. Dhibra workers earn only ₹3,468/month (€33), just 17% of the living wage, remaining below even the national poverty line.

Complete Wage Ladder — Rural Jharkhand (₹/month/worker)

#	Indicator	₹/month	€/month	% of Living Wage
1	Dhibra Workers (reported wages)	₹3,468	€33	17%
2	National Rural Poverty Line	₹6,832	€64	34%
3	World Bank Poverty Line	₹6,958	€66	34%
4	Avg. Rural HH Expenditure (Jharkhand)	₹8,514	€80	42%
5	Unskilled Rural Min. Wage	₹11,851	€112	58%
6	Semi-Skilled Rural Min. Wage	₹12,437	€117	61%
7	Mining Unskilled (Above Ground)	₹14,066	€133	69%
8	Skilled Rural Min. Wage	₹16,396	€155	81%
9	Mining Semi-Skilled (Above Ground)	₹17,524	€165	86%
10	Highly Skilled Rural Min. Wage	₹18,906	€178	93%
11	Living Wage Benchmark	₹20,282	€191	100%
12	Mining Skilled (Above Ground)	₹20,930	€197	103%
13	Mining Highly Skilled (Above Ground)	₹24,388	€230	120%
14	Mining Highly Skilled (Below Ground)	₹27,274	€257	134%

4. Living Cost

Living Income Cost Breakdown (₹/month for family of 5)



Detailed Cost Components

Category	Sub-component	Amount (₹)	EUR (€)	% of Total LI
Food	Model diet cost (per person/day)	₹106.34	€1.00	—
Food	Savings: free school lunch (adjusted)	— ₹1.71/person/day	—	—
Food	Total food cost (family/month)	₹15,914	€150	50.4%
Housing	Acceptable housing rent	₹3,956	€37	12.5%
Housing	Utilities (fuel, lighting, water)	₹1,250	€12	4.0%
Housing	Total housing cost	₹5,206	€49	16.5%
NFNH	Preliminary NFNH	₹7,043	€66	—

NFNH	Healthcare adjustment	₹500	€5	—
NFNH	Education adjustment	₹850	€8	—
NFNH	Total NFNH	₹8,393	€79	26.6%
Subtotal	Sub-total decent living	₹29,513	€278	93.5%
Sustainability	Emergency fund (5%)	₹1,476	€14	4.7%
Sustainability	Family assistance (2%)	₹590	€6	1.9%
TOTAL	Living Income	₹31,579	€298	100%
Benchmark	Living Wage (per FTE worker)	₹20,282	€191	—

Living Cost Bars

Cost Item	₹/month	€/month	Relative Bar
Food (model diet)	₹15,914	€150	
Housing rent	₹3,956	€37	
Utilities	₹1,250	€12	
NFNH (healthcare, education, transport, clothing)	₹8,393	€79	
Emergency fund (5%)	₹1,476	€14	
Family support (2%)	₹590	€6	

Key Assumptions: Reference family = 5 members (2 adults, 3 children) · FTE workers = 1.557 · Working days/month = 30.42 · Caloric norm = 2,488 kcal/person/day · NFNH/Food ratio = 0.4425 · Housing construction standard = ₹977,400 for 725 sq.ft. decent home · Monthly rental equivalent = ₹3,956

5. Recommendations

Bridging the 70% Living Income Gap in Jharkhand's mica supply chain requires coordinated action across downstream companies, local suppliers, NGOs, and government. The ₹5/kg (€0.05) DWCF mechanism could raise ₹5 per kilogram of mica purchased by downstream companies to fund worker welfare.

Key Recommendations by Stakeholder

Downstream Companies Commit to responsible sourcing. Pay a premium of ₹5/kg (€0.05) to fund a Dhibra Workers Cooperative Welfare Fund (DWCF). Conduct supply chain due diligence and set time-bound living wage targets.	Dhibra Workers Cooperative Welfare Fund (DWCF) Establish a fund to distribute direct income supplements to mica pickers, fund OHS equipment, provide health insurance, and support livelihood diversification.
Local Suppliers & Aggregators Improve price realization for workers. Formalize trading relationships. Ensure timely and fair payment. Facilitate access to collective bargaining.	NGOs & Civil Society Strengthen community organizations. Document and register mica workers (target: 1,000+) to qualify for minimum wage notification. Advocate for child protection and women's rights.
Government Notify dhibra/mica scrap collection as a scheduled employment under the Minimum Wages Act. Extend social protection coverage. Improve rural infrastructure, healthcare, and education access.	Formalization & Safety Enforce occupational safety standards. Distribute PPE kits. Provide regular health check-ups. Create a mica worker registry to enable formal labour protections.

Impact of the ₹5/kg DWCF Mechanism

Potential monthly supplement per household at ₹5/kg on 540 kg/month

₹2,700 / month (€25)

= ₹2,700 (€25) additional income, reducing the ₹22,131 (€209) gap by approximately 12.2%. Combined with minimum wage enforcement and social protection, this mechanism is a starting point toward living income.

Gap Closure Pathway

Intervention	Monthly Impact (₹/HH)	% Gap Closed
DWCF ₹5/kg premium	+₹2,700 (€25)	12.2%
Minimum wage enforcement (unskilled rural)	+₹4,866 (€46)	22.0%
Social protection + govt. transfers	+₹1,500/€14 (est.)	6.8%
Improved price realization (₹15/kg)	+₹2,700/€25 additional	12.2%
Livelihood diversification (farm + off-farm)	+₹2,000/€19 (est.)	9.0%
Combined impact (illustrative)	+₹13,766 (€130)	62.2% toward closure

Annexure 2:

About Terre des Hommes Netherlands: tackling child exploitation

Terre des Hommes Netherlands (TdH NL) is an international child rights organisation and co-founded RMI after its report *Beauty and the Beast* (2017) revealed the prevalence of child labour in mica mining in India.

As described above, the insufficient income for mica pickers result in children helping their parents, perpetuating the cycle of poverty and exploitation. TdH NL has worked for nearly a decade to combat child labour in the mica supply chain in India, guided by its mission to “let children flourish in a world free of exploitation”.

A central element of this work is tackling the living income gap. Closing this gap addresses one of the root causes of child labour - poverty - by reducing families’ dependencies on children’s earnings. TdH NL interventions to reduce the root cause of poverty related to income are aimed at improving (the development) of social protection systems, finding and providing alternative income sources through extra income generating activities to compensate the income loss when child labour stops, and engaging with the private sector to promote Responsible Business Conduct (RBC).

TdH NL’s programmes in Jharkhand have created health and safety workplace standards for mica pickers, implemented community empowerment programmes bringing better schools, health and nutrition services, and access to government social services to mica-dependent villages, and sought to create a legal framework for the mica sector. Those programmes are the prerequisite for TdH NL in the Netherlands and in India to permanently change the eco-sphere of mica-dependent communities and lift them out of poverty by paying workers fairly and raising the price of mica to do so.

Another important tool and important first step to achieve systemic change is research. As indicated above, TdH NL has done previous research that illuminated the realities of children working in mica mines in India and which lead to collective action.

Furthermore, TdH NL has an active private sector engagement. The organisation collaborates with the private sector on RBC projects worldwide, both with upstream and downstream companies, trade associations and multi-stakeholder initiatives.

Annexure 3:

About Children of India Foundation

Children of India Foundation (CIF) is a national NGO registered in Coimbatore since 2002, with a coordination office in Bangalore, committed to supporting vulnerable children and their families with a presence across 7 states in India. It has a track record in implementing comprehensive and multi-thematic projects, including child protection, education, health, sustainable livelihoods linked to community-led economic empowerment, education, women empowerment and humanitarian response. CIF is well-connected with national and international institutional donors, CSR wings of reputed businesses in India, and relevant forums and networks dedicated to positively improving the lives of children.

Children of India Foundation has been associated with TdH NL since 2021 and currently recognised as its **Strategic Partner Organisation (SPO)** for all operations in India. CIF is responsible to coordinate, ensure quality delivery of projects across India and contribute in accomplishing the cherished vision “Protect children by preventing, stopping child exploitation and by empowering children to make their voices count”.

With regard to the envisaged goal of a “**Child Labour Free Mica supply chain**” CIF is fully aligned with TdH NL’s strategy of pursuing **area-based approach** and **supply-chain based approach** with children at the centre. Under this ‘**children-centred and community-led model of actions**’ CIF focusses upon creating enabling conditions for the children through improved access to school education, assuming their collective role as change agents and facilitating their families to develop strong positive alternatives to child labour through increased access to income and social protection packages. Further in parallel to the community-led actions, advocacy efforts on systemic change to ensure living income for the families are proactively pursued through strategic level multi-stakeholder engagement and influencing the policy makers with evidence-based research studies and pragmatic solutions.

The current research study “**Evidence-Based Assessment of Living Income Gaps in the Mica Sector of Jharkhand, India**” is one of such contributory efforts to enrich a diverse range of stakeholders to present the urgency for the cause of children and families living in one of the most disadvantaged Mica mining areas of Jharkhand.

Annexure 4:

About the Lesure Incorporation

Lesure Incorporation (LI) (Commissioned by Terre des Hommes Netherlands for Living Income Research Study for Mica Dependent Families in Jharkhand) is one of the reputed consultancy agencies with a proficient team of consultants and professionals from a diverse background. The agency deals with assignments in the field of sustainability, Business & Human Rights, Supply chain due diligence and a range of activities in the supply chain across various industries & domains. Brief details of the consultants engaged in the research study are as under:

Dr. Vijay Jain (Lead Consultant) is a senior development professional with postgraduate and doctoral degrees in Sociology and Rural Economics from the University of Delhi and the Tata Institute of Social Sciences, Mumbai. With over 26 years of experience, he has led country-level operations in India for several global organizations, advancing responsible and ethical business practices, fair trade, business and human rights, community development, advocacy, policy engagement, ESG, and multi-stakeholder dialogue. His work has involved collaboration with brands, trade unions, government agencies, and civil society across sectors including textiles, garments, handicrafts, tea, natural stone, and mining. He is well conversant with Anker Methodology®. In 2015, he has actively contributed to living wage and living income studies across various regions of India, while strengthening the capacity and voice of workers, communities, and key stakeholders.

Dr. Deepak Gupta (Co-lead Consultant) is a senior and widely recognized Statistician and Analyst with over 25 years of experience in the field. He holds a PhD from the Department of Statistics, University of Rajasthan, and is a registered statistician with the Institute of Actuaries of India. His expertise spans research design, methodology, statistical analysis, and risk management. He has been instrumental in delivering successful assignments related to development research studies with international development organisations and CSR initiatives in India. He has also provided technical guidance to government and global institutions on research methodology, data analysis, and sampling design. His scholarly contributions include multiple articles and research papers in the field of statistics that are publicly available to support academic research. He is the author of two books on Biostatistics and B. Pharma Mathematics and serves as a visiting professor at various universities, where he teaches actuarial science.

In context with the current assignment, he has been responsible for the research design, methodological framework, tool development, data analysis, and data validation processes.

Annexure 5:

Consolidated Findings of Focus Group Discussions

DESCRIPTION	TOTAL
Total FGDs	16
Total Participants	244
Total no. of Male	92
Total no. of Female	152
Participants 18 - 30 yrs	44
Participants between 31 - 40	62
Participants between 41 - 50	57
Participants between 51 - 60	61
Participants above 60 yrs	20

- This summary presents key findings from 16 Focus Group Discussions (FGDs) conducted across mica-dependent villages in Jharkhand. The discussions aimed to understand income levels, expenditure pressures, occupational risks, food security conditions, and value chain dynamics affecting households engaged in Dhibra (mica scrap) collection and processing. The findings reflect workers' lived experiences and their own articulated priorities for improving income security and dignity.
- Across the 16 FGDs, participation ranged between 15–18 individuals per group, with strong representation of women. **Women play a central role in sorting and processing mica at home, while men are more frequently involved in collection from abandoned or informal mining sites.** Most participants were between 30–60 years of age, though elderly members above 60 continue to engage in mica work due to economic necessity and lack of alternative income or social protection.
- **The discussions confirm that mica picking remains the primary source of cash income for most households.** While families attempt to supplement earnings through agricultural labour, seasonal migration, livestock rearing, leaf plate making, petty trade, and bamboo work, these activities are irregular and insufficient to replace mica dependency. As a result, households remain structurally reliant on mica income despite its volatility and risks.

- **Reported monthly income from mica typically ranges between ₹4,500 and ₹8,000 for** lower-income households, with some reporting ₹10,000–₹12,000 during favourable periods. However, income is highly irregular and affected by weather conditions, illness, access to mining areas, and fluctuating purchase prices. **Even when combined with supplementary sources, total household income remains modest and often inadequate to consistently meet basic needs.**
- Food insecurity emerged as a recurring concern. **Participants widely reported that households reduce food quantity and/or quality during periods of low income.** Common coping strategies include reducing portion sizes, eliminating protein-rich foods such as pulses or eggs, shifting to cheaper staples, and prioritizing children's meals over adults'. Health expenditures, seasonal work disruptions (particularly during monsoon and extreme heat), debt repayment, and low Dhibra prices were identified as key reasons for food reduction. **With minimal savings—often below 10 percent of income—households lack resilience against income shocks.**
- Occupational risks remain significant. Workers described exposure to dust-related respiratory illness, extreme temperatures, snake bites, and the risk of mine collapse. Illness or injury directly reduces earnings due to the daily-income nature of work. **Beyond physical hazards, workers face structural vulnerabilities within the supply chain.**
- Most participants stated that they generally sell Dhibra to the same contractor due to familiarity, proximity, and immediate payment. However, contractor relationships are not fixed. Workers change contractors when offered better prices or when facing unfair weighing practices, unclear quality deductions, delayed payments, or disrespectful behaviour. **Price differentials and fairness in weighing were identified as primary reasons for switching.** The absence of standardized systems, written agreements, or transparent quality grading contributes to income unpredictability and power imbalances.
- **Approximately 45–50 percent of household income is spent on food and healthcare.** Many families rely on informal credit from local shops during lean periods. **Daily water collection, often requiring 30–40 minutes,** adds to labour burdens, particularly for women. Housing quality varies, and some households reported debt linked to house construction or repairs.
- Importantly, workers articulated clear aspirations and priorities during the FGDs. Many expressed a strong desire for safer and more stable livelihood options to reduce dependence on hazardous mica collection. Frequently mentioned aspirations included goat rearing, poultry farming, mushroom cultivation, tailoring, small retail enterprises, and collective farming initiatives. Participants emphasized their willingness to engage in skill training if linked to viable market opportunities. **Several groups expressed interest in forming cooperatives or collective groups to strengthen bargaining power and secure fairer prices.**

- Workers also voiced specific expectations from the mica trade itself. These included increased Dhibra prices, transparent and accurate weighing systems, clarity in quality-based pricing, timely and full payments, basic safety equipment, and improved transport arrangements. **Access to healthcare services, insurance coverage, and better linkage to government welfare schemes were also mentioned as priorities.** These aspirations reflect a desire not only for higher income but for dignity, safety, and fairness within the value chain.
- **Overall, the 16 FGDs indicate that mica picking remains a high-risk, low-income, and distress-driven livelihood.** Households operate near subsistence levels, with food reduction serving as a recurring coping strategy during income disruptions. While communities demonstrate resilience and strong motivation to improve their circumstances, structural constraints — including price volatility, informal trading systems, lack of social protection, and **limited alternative livelihood infrastructure** — restrict income mobility.
- The voices captured through these FGDs highlight both the vulnerabilities and the aspirations of mica-dependent households. Addressing these priorities through collaborative value chain reforms and livelihood support mechanisms will be critical to advancing sustainable income security and long-term resilience in these communities.
- The FGD also helped to broadly understand overall cost for building the house, their market preference for buying household items, income & expenditure assessment, alternative livelihood opportunities.



