

JUST TRANSITION AND INFORMAL WORKERS IN COAL REGIONS IN INDIA



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Author: Srestha Banerjee

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Executive Summary

There is a high proportion of informal workers in India's coal states and districts who are directly dependent on coal for an income. These workers are engaged in a variety of activities related to coal mining, coal transportation, and in the coal washeries. Besides, a large proportion of people earn a living by gathering and selling coal. These workers collectively constitute the informal coal economy.

As India embarks on an energy transition responding to the climate crisis, and building on the opportunity of a cost-competitive renewable energy market and increasing reliability in its supply, planning a just transition for the fossil fuel sector has become simultaneously necessary. Studies have suggested that if we want to avoid catastrophic impacts of climate change, by 2040 India's coal demand will need to be halved, and by 2050 should be reduced by 85%. Such reduction in coal demand will have huge impact on the workers dependent on coal for an income. A major impact will be on the informal workers, considering their large numbers, low income, poor skills and educational levels, and lack of social safety-net. Therefore, the informal workers will be a key consideration for planning and implementing just transition measures in India.

The policies and plans that need to be formulated for just transition in developing countries like India, will have to take into consideration the issues of the informal workers and engage them appropriately in the transition process. This will help to ensure that the process remains inclusive, creates opportunities for all in the low-carbon economy, and ensures social safety-nets, so that net-positive socio-economic outcomes can be achieved.

However, there is limited understanding of the informal workers engaged in the coal economy. While there is no precise estimation of the number of informal workers, there is also limited documentation of their diverse engagement, differential employment terms and wages, education and skill levels, etc. This certainly undermines the scope of developing just transition policies and plans that are purposeful and can provide for all in the low-carbon economy.

Drawing on observations of ground surveys conducted in India's coal districts, discussions with various stakeholders and experts, and documents of the government and labour unions with respect to informal workers, this paper attempts to provide a precise understanding of the informal workers in India's coal regions. The paper offers a classification of informal workers engaged in the coal economy, and elaborates on the types of work they are engaged in, their terms of engagement and wages, skills and education levels, issues of gender discrimination, perception on coal mine closure in the coming decades, and aspirations of alternatives in the event of a coal transition. The paper also highlights why there is a lack of information on informal workers, and highlights some crucial aspects that must be addressed to plan and implement a just transition in India's states and districts.

1. Introduction

Informal and unorganized labour force has been a defining characteristic of the Indian economy. Government assessment shows that more than 90% of the workforce can be accounted to the informal economy.¹

The coal mining sector, while is largely nationalized, has a high percentage of informality. However, informal workers involved in the coal economy are poorly defined and estimated. At the same time, there is limited documentation of their diverse engagement in the coal economy in various coal mining states and districts of India, differential employment terms and wages, education and skill levels, scope of mobility, etc.

An understanding of the informal workers related to the coal sector and coal regions have become necessary given the urgency of fossil-fuel transition in the face of a growing climate crisis. A modelling study by the International Energy Agency (IEA) in 2021 suggested that by 2040 India's coal demand will need to be halved, and by 2050 should be reduced by 85%.²

A reduction in coal demand by various industrial sectors will also be accelerated by the growing cost-competitiveness and reliable supply of renewable energy (RE) for power production, as well as due to innovations in other clean energy sources, such as hydrogen. The Government of India's near-term ambitious non-fossil energy targets—reaching 500 GW of non-fossil energy capacity by 2030 and meeting 50% of the country's energy requirement through renewables within the same time period³—also signals a steady transition to non-fossil energy sources. In fact, the coal consumption in the country will peak in the next ten years.⁴

The energy transition will impact at least 120 districts of India across 16 states in the next three decades, that are heavily reliant on coal mining, oil and other major fossil fuel dependent industries, such as steel, cement and automobiles. Out of these at least 60 districts will start facing transition challenges within the next 10 years. These districts account for 95% of coal and lignite production, besides accounting for 60% of India's installed thermal power capacity, and 90% of automobile and automobile component manufacturing. About one-third of these districts are concentrated in India's top coal mining states—Jharkhand, Chhattisgarh and Odisha.⁵

It is further estimated that the transition will impact about 2.6 million of coal mining workers across India, out of which about 70% are informal workers. In fact, the coal sector has one of the highest proportions of informality among fossil-fuel dependent heavy industries (besides steel and cement). The informal coal workers are engaged in various types of activities along the coal mining supply chain. Besides, there are informal workers who are not engaged in formal coal mining related activities, but are highly dependent on coal for an income, such as the coal gatherers and sellers, often seen in many parts of Eastern India. Therefore, there is a wide spectrum of informal workers whose lives and livelihoods will be affected by the energy transition.⁶

For India, informal workers will therefore be a centerpiece issue for planning an energy transition that is also socially and economically just. In other words, informal workers and the informal coal economy will be a crucial component in developing policies and plans for a just transition.

This paper attempts to provide a concise understanding about the informal workers involved in the coal economy in India. Towards this, the paper reviews some of the key definitions and framings of informal workers and informal economy overall, and considering the realities of India's coal regions, suggests a classification of informal coal workers. Further, considering on-ground observations of various coal mining states and districts, an understanding on conditions of informal workers in the coal economy is provided. Finally, in light of just transition discourse, the paper identifies some of the key issues that need to be further addressed for having a precise understanding of the informal workers in the coal regions, to ensure that just transition policies, plans and implementation measures remain inclusive and yields net-positive socio-economic outcomes.

2. Study objective

While informal workers are a crucial component of the coal economy, information about this category of workers is extremely limited. Given the paucity of information related to informal workers in the coal sector and coal regions of India, a starting point about informal workers in the just transition discourse in the context of India should be to develop a clear understanding of this category, considering their terms of engagement, types of work they are involved in, their education and skill levels, income, etc. At the same time, it is extremely important to develop an approach for estimating the number of informal coal workers at the sub-national level, so that just transition planning and intervention measures can be precise and meaningful, and creates opportunities for all in the low-carbon economy.

This paper attempts to provide an understanding of the role of informal workers in selected coal regions of India, including aspirations of these workers for alternative livelihood. While providing any quantitative estimation about the number of informal workers is beyond the scope of the paper, however, it gives an understanding of the status of data with respect to the informal workers, and identifies the gaps that need to be addressed through further research and government intervention.

The observations are intended to contribute to the research and deliberation on just transition in India, as well as provide relevant insights for phasing out coal in other countries with high shares of informal workers in the coal sector.

3. Approach

The study has relied on a three-part approach for developing an understanding of the informal workers in India's coal regions. These include:

- i. A systematic literature review on informal workers as related to the coal sector;
- ii. Conducting interviews with experts at the national and sub-national levels, particularly government officials, coal industry officials, union leaders, and civil society members; and,
- iii. Conducting focus group discussions (FGDs) with informal workers in five coal districts of India to capture the ground perspective.

For capturing the diversity of informal workers and their respective opinions, FGDs were conducted with informal workers in five districts across the three top coal states- Jharkhand, Chhattisgarh, and Odisha, between the months of March and April (2022). The districts where FGDs were conducted include, Hazaribagh and Bokaro districts of Jharkhand, Raigarh and Koriya districts of Chhattisgarh, and Angul district of Odisha (Table 1).

The districts considered for the evaluation represent diversity with respect to status of mining operations (such as, large mines and highly mechanized mining-related activities, small-scale operations, opencast and underground operations, unprofitable and closed mines, etc.), the socio-economic profile of the districts (such as, districts with poor development indicators, and those with better indicators, as compared to the India average), and demographic distribution (such as, districts with high proportion of Scheduled Tribe (ST) population).

A total of 10 FGDs were conducted in these districts covering 92 informal workers. The FGDs were organized in a manner to ensure that the diversity of informal workers engaged in the coal sector can be captured in the best possible way. Special attention was paid to include workers of various caste background (such as, having adequate representation of STs in FGDs held in the tribal dominated districts Koriya and Raigarh), as well as representation of female participants.

Beside these districts, the paper also takes into consideration observations as captured in Ramgarh district of Jharkhand and Korba district of Chhattisgarh, through research studies undertaken by the author's institution.

Table 1: Study area

State	District	Rationale of selection of district	
		Mining scenario	Socio-economic context
Jharkhand	Hazaribagh	<p>i. Producing about 17 million metric tonnes (MMT) of coal per year.</p> <p>ii. Over 50% of the mines operated by the public sector undertaking Central Coalfields Limited (a subsidiary of Coal India Limited) are loss making.</p>	<p>i. One of the oldest coal districts in Jharkhand, with unique political economy dynamics that sustains a vast informal economy related to the coal sector.</p> <p>ii. Poor development indicator, about 36% of the district's population is multidimensionally poor (India average 25%).</p>
	Bokaro	<p>i. Producing about 15 MMT of coal per year.</p>	<p>i. An industrial district renowned for its steel production.</p> <p>ii. Development indicators better than India average. For example, proportion of multidimensionally poor people is 24%.</p> <p>iii. The district's socio-economic status and locational advantage in the industrial corridor of Jharkhand, provide important perspective for informal workers.</p>
Odisha	Angul	<p>i. The biggest coal producer of Odisha, producing about 84 MMT of coal per year.</p>	<p>i. One of the largest industrial districts of the state. Coal mining and coal-dependent industries together make a fit case for understanding informality.</p> <p>ii. Development indicators comparatively better, 25% of the district's population is multidimensionally poor, which is at par with India average.</p>
Chhattisgarh	Raigarh	<p>i. Producing about 14 MMT of coal per year.</p>	<p>i. District with significant proportion of tribal population. About 39% of the population belong to the ST category.</p> <p>ii. Poor development indicators, about 37% of the district's population is multidimensionally poor.</p>
	Koriya	<p>i. Producing about 4.4 MMT of coal per year.</p> <p>ii. Out of the 10 operational coal mines in the district, 9 are low-producing underground operations, and are unprofitable. Therefore, just transition is an urgent issue for the district and the coal workers.</p>	<p>i. Remote coal district with significant proportion of tribal population. About 47% of the district's population belong to the ST category, one of the highest among coal districts in India.</p> <p>ii. Poor development indicators, about 38% of district's population is multidimensionally poor.</p>

4. Defining informal workers and informal economy

The definition of informal workers and informal economy come from government sources and labour unions. In the Indian context, two important government reports can be considered in this regard. These include, a report of the Labour Bureau, Government of India (2015), and the report by the National Commission for Enterprises in the Unorganised Sector (2007).

The report of the Labour Bureau titled- 'Employment in Informal Sector and Conditions of Informal Employment', provide an understanding of the informal workers/employment in India. As per the Labour Bureau, informal workers include unorganised workers working in the unorganised sector or households, and the workers in the formal sector without any employment and social security benefits provided by the employers.⁷

The report of the National Commission for Enterprises in the Unorganized Sector (NCEUS) titled- "Report on Conditions of Workers and Promotion of Livelihoods in the Unorganized Sector", published earlier in 2007, also used such definition. The report noted that unorganised or informal workers are those who "do not have employment security, work security and social security. These workers are engaged not only in the unorganised sector but in the organised sector as well (See box: *Informal sector, informal workers and informal economy*)."⁸

The Commission further underpinned the strong correlation between the poor and vulnerable population and incidences of informality. As observed by the Commission, most of the informal workers work as 'casual workers' or 'so called self-employed'. Most of them get wages that are extremely low, and are grossly inadequate to overcome their poverty and vulnerability. Such disadvantages are further reinforced by issues of 'social identity, rural location, gender, and most importantly low or no education'. The Commission at that time had concluded that among all the informal workers, about 79% belong to the poor and vulnerable category.⁹

The reports of the Labour Bureau and the NCEUS, while not specifically speaking of informal workers in the coal sector, do offer important perspectives on understanding and analyzing the informal workers in the coal sector and coal regions of India.

With respect to labour unions, one of the most elaborate definitions of informal workers and employment comes from the International Labour Organization (ILO). The 17th International Conference of Labour Statisticians (ICLS) at the ILO in 2003, defined informal employment with respect to parameters, such as legal protection, employment security, employer provided benefits, etc. As per the ICLS, the informal workers do not have secure employment contracts, do not receive workers' benefits or social protection, and do not have workers' representation.¹⁰

Informal sector, informal worker and informal economy

Informal sector: The unorganized sector consists of all unincorporated private enterprises owned by individuals or households engaged in the sale and production of goods and services operated on a proprietary or partnership basis and with less than ten total workers.

Informal worker/employment: Unorganized workers consist of those working in the unorganized sector or households (excluding regular workers with social security benefits provided by the employers) and the workers in the formal sector without any employment and social security benefits provided by the employers.

Informal economy: The informal sector and its workers plus the informal workers in the formal sector constitutes the informal economy.

Source: National Commission for Enterprises in the Unorganized Sector (2007) and Labour Bureau, Government of India (2015)

Types of informal workers

The report of the International Conference of Labour Statisticians (ICLS) at the ILO in 2003, outlines the various types of informal workers depending on the type of work they are engaged in. These include:

- i. Employees holding informal jobs in formal sector enterprises, informal sector enterprises, or as paid domestic workers employed by households.
- ii. Own-account workers employed in their own informal sector enterprise.
- iii. Own-account workers engaged in the production of goods exclusively for own final use by their household.
- iv. Contributing family workers, irrespective of whether they work in formal or informal sector enterprises.
- v. Employers employed in their own informal sector enterprises.
- vi. Members of informal producers' cooperatives.

Source: International Labour Organization, ICLS (2003)

Scholars working on labour economics, labour relations, and related matters, have also emphasized on such parameters for defining informal workers. There are three particular parameters which are important, that distinguishes formal workers from informal workers. These include, legal protection by the way of having a written contract, social security benefits provided by the employer, and entitlement of paid leave.¹¹ For informal workers none of these are provided.

5. Data and information

While informal workers dominate the coal sector, official data with respect to such workers is extremely poor. The last official estimate for informal workers in the mining sector (combining coal and non-coal minerals), is available from the sixty-eighth (68th) round of National Sample Survey (2011-2012). The results suggests that overall informal workforce in the mining sector is nearly 2.4 times the formal workforce.¹²

Independent scholars have also attempted to provide some estimation of the informal workers related to the coal economy. While literature on this is extremely limited, field studies (interviews using semi-structured questionnaires) in Eastern and North-Eastern India (covering the states of Jharkhand, West Bengal and Meghalaya) provide a quantitative understanding. Based on the experience of these states, the study estimated that, overall, in India the proportion of informal dependence on coal (including informal coal mining workers, coal gatherers and sellers, and also subsistence coal mining, such as village mining) is nearly 1.7 times the formal workers.¹³ However, the proportions are variable among states and districts, which requires further investigation.

In fact, particular challenge exists with estimations of informal workers at the district level in India, which is important for just transition. Not just informal workers, there is no comprehensive assessment of workforce data at the district-level.

As per observation of experts and researchers, official labour force surveys, such as the Periodic Labor Force Survey (PLFS) data of the National Statistical Organisation (NSO), which is the most widely used resource on labour data, does not offer district-level estimates.¹⁴ The surveys cannot be used directly to provide reliable estimates for the district-level given the small sample size, as compared to what is actually required to produce data with precision at this level.¹⁵

The lack of data at the district-level has also led to limited estimations by researchers. Most understandings and estimates are therefore available with respect to the macro-level. For the coal sector, the data is particularly challenging considering the diversity of work that the informal workers are engaged in, their fragmented terms of engagement, as well as the socio-economic context that has created a sprawling informal coal economy.

6. Understanding informal workers through on-ground studies

There exists considerable variation with respect to the type and extent of informal dependence on the coal sector in different coal regions of India. Such variation is related to the nature of mining operations, the socio-economic conditions of these districts, and the cultural and political association of coal with the economies of these regions.

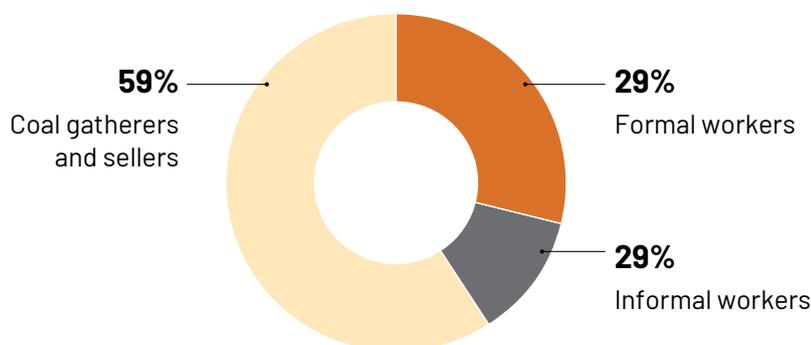
This section highlights the types and conditions of workers in the informal coal economy based on experiences of various coal districts of India in the states of Jharkhand, Chhattisgarh and Odisha.

6.1 Evaluation of informality through household surveys

Given the poor availability of labour data at the district level, including for the coal sector, worker assessment through household surveys constitutes an important approach (and one of the most reliable ones to generate authentic data as per expert observation) to qualitatively and quantitatively evaluate the informal workers in coal regions of India.

A survey of 406 households conducted in Ramgarh district of Jharkhand (2020), showed that only 7% of the households had a member with a formal job in coal mining or related industry. The informal dependence was found to be nearly three times the formal dependence, which included, coal gatherers and sellers, casual labourers, and other contractual workers. In fact, nearly two-third of the people belonging to the informal category were found to be coal gatherers and sellers, who occasionally had some other secondary income through casual labour.¹⁶

Figure 1: Proportion of formal and informal workers in Ramgarh



Source: Just Transition in India: An inquiry into the challenges and opportunities for a post-coal future (2020)

Majority of the people belonging to the informal economy also fall within the low-income group, with a monthly household income between ₹5,000- ₹10,000 (US\$ 70- US\$139). This group of people also lack labour protection or social insurance provided by their employers.¹⁷

Interviews and FGDs conducted in the district, and also at the state-level with various stakeholders, suggested that such conditions have been sustained by poverty, poor educational levels, and lack of alternative work opportunities in this coal region with over 100 years of coal mining history.¹⁸

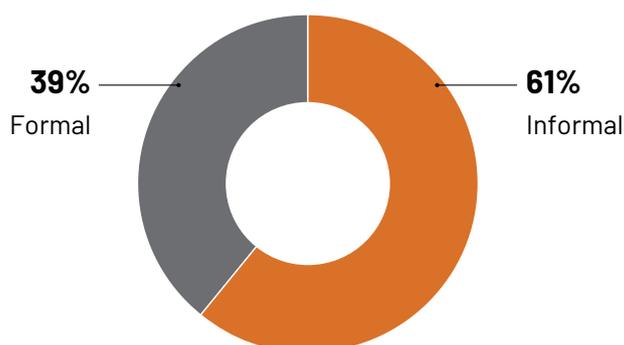
Another study in Korba district of Chhattisgarh, India's largest coal producer (2021), brought out some contrasting observations. A survey of 600 households in the district showed that about 5% of the households were engaged informally in coal mining activities, which is nearly comparable to the proportion of households having a member with formal coal mining job. There are practically no coal gatherers and sellers.¹⁹

However, in Korba, high incidences of informality were observed in the coal transport sector, which is closely associated with coal mining. The study found that coal transportation (by road) employs at least 15,300 people in the district who have a direct dependence on coal mining. Nearly 90% of them are informal. What is also important to note is that the workers involved in coal transport are only 15% less than the formal employment in

coal mines. This still leaves out indirect dependence, such as mechanics, etc. Overall, the informal dependence in Korba was found to be nearly 1.6 times the formal dependence (Figure 2).²⁰

With respect to income range and social insurance, the observations of Ramgarh and Korba were however comparable. The only category of informal workers who reported an earning above ₹10,000 (US\$139) per month were some of the technical workers and drivers engaged by the contractors/subcontractors of the coal companies.²¹

Figure 2: Proportion of formal and informal workers in Korba



Source: Korba: Planning a Just Transition for India's Biggest Coal and Power District (2022)

6.2 Evaluation in other districts

The observations of Ramgarh and Korba provide important perspectives about the informal workers in the coal economy. However, considering the variations that the two studies exhibited with respect to the type and extent of informal dependence, and their relation to the coal economy, five district-level surveys were further undertaken as per the scope of this study to arrive at a comprehensive understanding on informal coal workers.

As noted earlier, given the timeframe of the study, the observations are limited to provide an understanding on the types of informal engagement, terms of engagement, gender issues, wages and skill levels of the workers, and other such issues. These have been captured primarily through FGDs conducted with informal workers in these districts (using a set of semi-structured questions), and interviews with other stakeholders, such as the labour union representatives, and the industry. No estimation on number of informal workers in these districts was done.

There are five key observations that the district-level evaluations provide. These include:

- i. Types of informal workers and informal dependence;
- ii. Terms of engagement, wage distribution and skills;
- iii. Gender aspects;
- iv. Opinion of informal workers on coal mine closure; and,
- v. Aspirations of alternative livelihoods.

The observations on these issues are elaborated below.

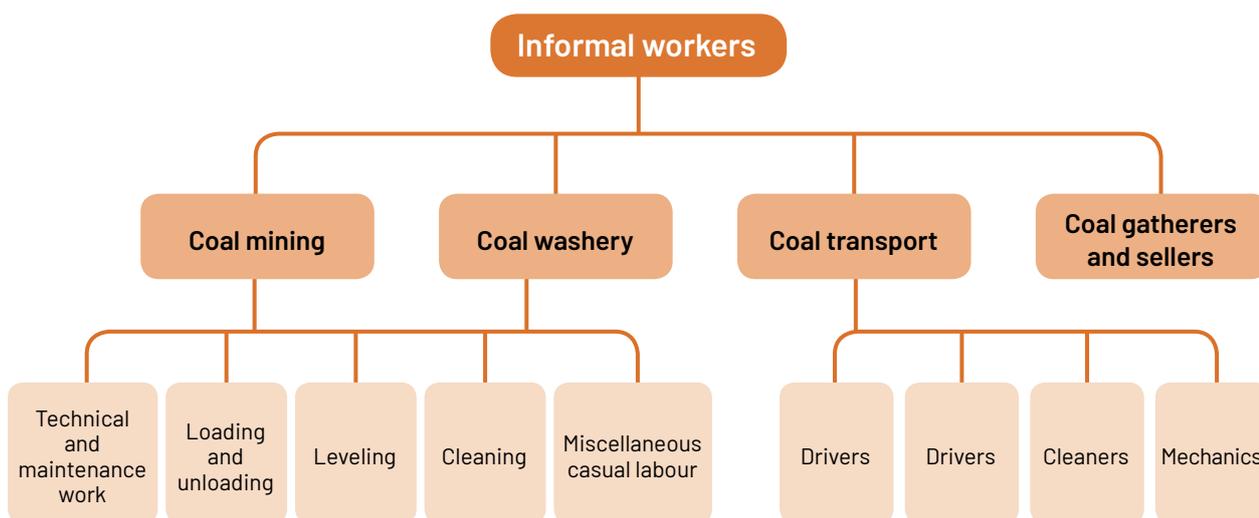
i. Types of informal work

The assessment brought out broadly four areas in which informal workers are engaged in the coal economy. This includes, engagement of informal workers in the formal sector, as well as, engagement of informal workers in the informal sector. These two collectively constitute the informal coal economy.

Informal workers engaged in the formal or organized sector included workers involved in coal mining related activities, coal washeries, and the coal transport sector. Informal workers engaged in the informal or unorganized sector included the coal gatherers and sellers, who can also be referred to as 'own account workers'.²² Under these areas, the informal workers are engaged in various types of works (Figure 3).

The proportions of these workers however vary as per coal regions. For example, while workers engaged in coal mining related activities, coal washeries and coal transport are present in varying degrees in various districts, the coal gatherers and sellers were primarily found in three districts, Hazaribagh, Bokaro and Angul, which include some of India's oldest coal mining regions, such as the North Karanpura coalfields, the West and East Bokaro coalfields, and the Talcher coalfields.

Figure 3: Engagement of informal workers in the coal regions



ii. Terms of engagement, wage distribution and skills

The wages of the informal workers are generally low for most types of work they are engaged in. Almost all informal workers were found to be employed by private contractors, who are either engaged by the coal companies, or are sub-contractors. The terms of their engagement are either highly fragmented (based on short-term contracts), or ad-hoc and need based. There is also considerable involvement of middlemen.

The ad-hoc nature of engagement has also given rise to a large number of casual labourers or daily wagers in these coal regions. These people are engaged in activities, such as, loading and unloading, leveling, cleaning, miscellaneous labour work, etc. The daily wage rate of these workers depends on the kind of work people are engaged in, and also on the contractor/sub-contractor. Overall, the unskilled and poorly educated workers involved in such activities earn between ₹300-₹400 (\$4-\$5) per day. Typically, these workers are having work for 16 to 20s days per month, which makes their monthly earnings about ₹6,000 to ₹8,000 (\$83-\$110).

For technical maintenance and transportation work, which require engagement of semi-skilled workers, the wages are comparatively higher. Also many of them have regular wages (monthly payments).

For coal gatherers and sellers, the wage rate depends on the selling price of coal in the local market. However, an estimation considering districts of Jharkhand (Bokaro and Hazaribagh), and Odisha (Angul), show that the average daily earning is about ₹400 (\$5) for people who are just selling coal. These people buy coal from the gatherers and sell it in the local market, on an average three to four days per week. For people, where the family is involved in both gathering and selling coal, earnings are comparatively higher (Table 2).

Table 2: Wage distribution and skills

Type of work	Skill level	Average daily wage (₹)
Maintenance work	Semi-skilled	750
Drivers in coal transportation	Semi-skilled	700
Helpers in coal transportation	Unskilled	250-300
Loading/unloading	Unskilled	400
Cleaning	Unskilled	250-300
Miscellaneous casual labour	Unskilled	Varied
Coal sellers only*	Unskilled	400
Coal gatherers and sellers	Unskilled	550

*The amount reflects their net earnings deducting the cost of buying coal from the coal gatherers

However, in all cases, the wages are highly compromised for the informal workers. There are basic wages clearly outlined for the workers who are employed by the contractors, which can be considered as the basic wage for all informal workers engaged in the formal coal sector (such as in coal mining related activities, coal washeries, coal transportation). These wages are determined by the Joint Bipartite Committee for the Coal Industry (JBCCI), which constitutes of representatives of Coal India Limited (CIL) and all its subsidiaries, the Singareni Collieries Company Limited (SCCL), and representatives of various Central Trade Unions.²³

As per the latest rates (December, 2021) specified by the Committee, the basic daily wages for workers with various skill levels range between ₹787 to ₹877 (\$11-\$12) per day (Table 3).²⁴ The wages as specified by the Committee when compared to the responses of the informal workers clearly brings out the discrepancy.

Table 3: Wage rates for coal workers engaged by contractors

Worker categories	Basic wage rate (₹/day)	Variable Dearness Allowance (VDA) (₹/day)	Basic wage+ VDA (₹/day)
Unskilled	787	163	950
Semi-skilled	817	170	987
Skilled	847	176	1023
Highly skilled	877	182	1057

Source: CIL (2021, November)

The wages received by the informal workers are also much lower than occupation-wise minimum wages as specified by the Government of India.²⁵ For example, the minimum wage for loading/unloading and cleaning work is ₹553 (\$7.7) per day.²⁶ However, the informal workers engaged in cleaning activities get half of this, and those involved in loading/unloading get about three-fourth.

Interviews held with union leaders in Jharkhand,²⁷ Chhattisgarh,²⁸ and Odisha²⁹ also reflected similar observations. According to them, many of the informal workers are paid one-fourth of the wages as compared to their counterparts with similar skill sets employed by the coal companies. They consider that contracting out various mining related work to contractors sustains the problem. The contractors engage informal workers for several semi-skilled, and largely unskilled work through low wages. The contractors also take their own cuts.

The union members in Angul said that they have been attempting to ensure that all payments are made through direct deposits in the bank accounts of the informal workers, so that payments can be monitored and direct cuts by the contractors are reduced. However, there have not been much success so far.³⁰

iii. Gender issues

Gender is a major factor in the informal coal economy. The gender proportion in coal mining activity is highly skewed towards men in the formal workforce. It has been estimated that the overall proportion of men in the formal workforce is 2.5 times that of women.³¹ This gender bias in formal coal mining activities arguably has

resulted in a concentration of women in lower-level informal work, which are manual, often unsafe, low-wage, and lacks security.³²

The observations from the FGDs and community interaction in Jharkhand and Odisha suggested that women are engaged informally in the coal economy primarily for low-skilled or unskilled labour work. These include, cleaning activities, casual labour work and coal gathering.

For example, ground observations in Jharkhand show that the women are the ones who go down dangerous slopes of old mine sites for gathering coal. The women go out in the morning to gather coal from abandoned mines or overburdens (that are poorly managed), and bring back the coal to be bagged and taken to the local market for selling by the male workers.

Women informal workers engaged in gathering coal contribute to the family earnings. There is no separate estimation of their wages. Women who are engaged in cleaning activities or casual labour work while receive wages, the rates are usually lower as compared to the men counterparts, as observed during the FGDs and community interactions.

iv. Opinion on coal mine closure

While the informal workers have extremely low wages and no job security or social insurance from their employers, most of them consider coal mining related activities to be the mainstay for providing them some earning. Therefore, among all the FGD respondents, nearly 80% feared a closure of mining activities and considered it should not go away.

However, the rest considered that coal mining activities should close down because it has made them landless, affected their agricultural production, polluted land and water, and has also increased exploitation of people in the area. Such observations particularly came from the ST community in districts with high proportion of tribal population, such as Raigarh and Koriya.

Interviews with unions (in all three states) also suggest that there are apprehensions about mine closures in the near future. However, there is a growing interest among some of the union representatives (particularly in Jharkhand), to start unionizing the informal workers, as the share of formal workers are going down steadily and informal workers are growing. The union representative (INTUC) in Jharkhand suggested that currently more than 500 informal workers have joined them. While this is only a fraction, the informal workers directly engaged in coal mining work can be gradually brought under protection of the union. This they consider can also be helpful for coal transition.

v. Aspirations for alternative work

Considering that most of India's coal districts, particularly in the states of Jharkhand, Chhattisgarh, Odisha and Madhya Pradesh, have a coal-centric economy, the aspirations of informal workers about alternative work is limited. It is difficult for them to envisage that with their existing skill sets and education levels they can be fit for any other work, particularly considering the limited opportunities that exist in their respective areas.

Therefore, for about three-fourths of the FGD respondents, alternative livelihood just meant 'any other work'. Among them many considered that if mines close, they will have to migrate elsewhere for work. However, since the workers were largely inhabitants of the concerned districts, and not migrant workers, they had inhibitions about migrating elsewhere if mines close down.

However, certain types of work were specified by some of the workers that they can do in the future. For example, one of the most common aspirations expressed by the younger workers (within 20-35 years of age), was to start some business if they receive necessary support from the Government. Workers who are semi-skilled considered working as drivers, electricians, or other maintenance personnel. Some of the workers considered the brick industry to be an immediate recourse, as it requires large number of workers and are present in many of these rural and peri-urban areas.

The informal workers who earlier were involved in agricultural activity, or have some agricultural land also considered that they can go back to it. However, apprehensions remained about earning security, as because of low earnings for agriculture they have sought work in the industry.

However, for most respondents, the clear demand was for secure income.

7. Observations and inference

The literature review, expert consultation, stakeholder interviews, and observations of the FGDs in various coal districts of India provide important insights on the role of informal workers in the coal regions, and well as the aspects that need to be considered in the event of just transition. While the study helps to arrive at some important conclusions, considering the complexity of the coal economy in the coal states and districts of India, further studies shall continue to enrich the understanding.

The key inferences that can be drawn from the study on informal coal workers and the informal economy are outlined below.

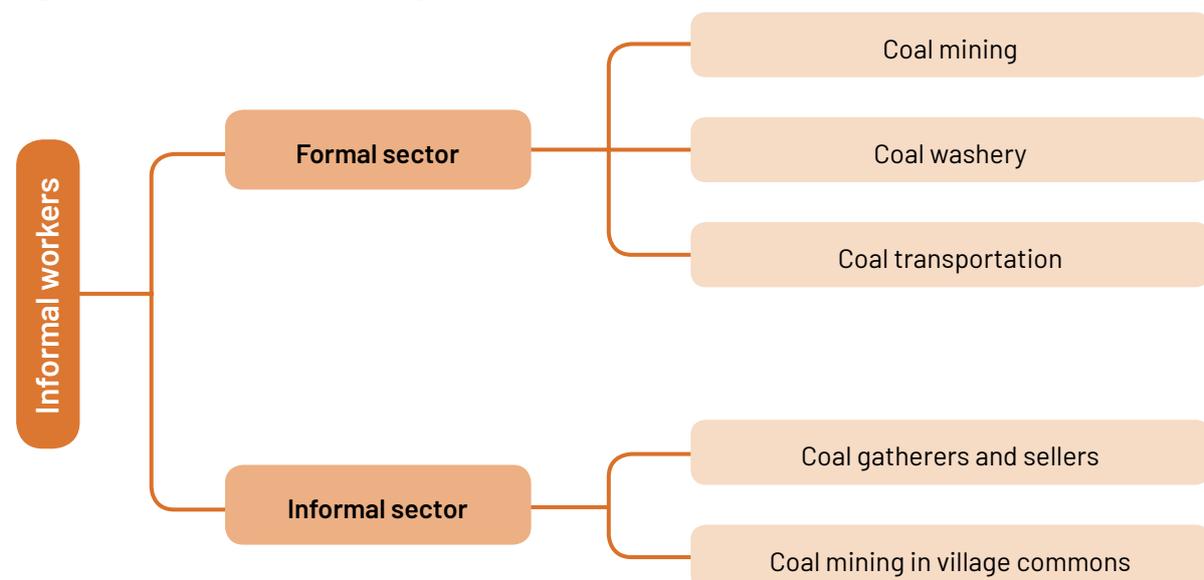
i. Categorization of informal engagement in the coal economy

The information on informal workers in the coal economy has been largely descriptive and anecdotal in nature, without a clear classification. The study provides an understanding on the types of informal engagement in the coal economy and helps to arrive at a classification.

As per the observations of scholarly work and ground perspectives captured in the various coal mining districts, the informal engagement in the coal economy can be categorized into two types. These include, informal work in the formal sector, and informal work in the informal/unorganized sector. These two categories collectively make the informal coal economy (Figure 4). The categorization also follows the classification of informal workers and informal economy as considered by the Labour Bureau, Government of India, as well as the ILO, as discussed earlier.

The informal worker in the formal/organized sector is related to activities in coal mining (considering company operations), coal washeries and coal transportation. Informal work in the informal/unorganized sector includes coal gathering and selling, as well as small-scale village coal mining³³, often in 'commons land', as observed by researchers.³⁴

Figure 4: Informal coal economy



ii. Wage issues and engagement terms

The informal workers engaged in various types of activity are grossly low-paid, as compared to what is stipulated for the 'workers of contractors' by the JBCCI. Particular discrepancy remains with wages of the 'unskilled' workers which is less than one-third of the stipulated minimum wage rate. The wages 'received' by the informal workers also fall much short of national minimum wage rates as stipulated for respective workers.

Poverty and underdevelopment in many of the coal districts, particularly in the rural areas, sustains a distorted supply demand market, where these workers have no other options but to engage in such daily-waged work. For example, in Hazaribagh (Jharkhand), over 72% of the rural households have the highest earning member earning below ₹5,000 per month. In Raigarh (Chhattisgarh), which is also a tribal district, the corresponding proportion is 90%.³⁵

The informal workers are also largely unskilled and have poor education levels (large below tenth standard) across various districts. This also leads to their poor employment terms and wages. The only exception is the drivers or maintenance personnel who are semi-skilled and have comparatively better wages.

Collectively poverty, poor levels of education, lack of bargaining power, and involvement of contractors and middlemen, have created a highly compromised wage structure.

iii. Gender disparity

There is significant gender disparity among the informal workers. While the presence of women is less in formal jobs in the coal industry, the number of informal women workers are significant (but could not be quantified at the time of this study).

As literature review and ground observations during this study suggest, women are mostly engaged in low-paying informal work, such as of cleaners and miscellaneous casual labour (which they do beside their household work). The women are also largely engaged in coal gathering, which is often one of the most challenging tasks, with extremely low returns.

However, just transition provides the opportunity to address the gender-specific challenges in the coal sector and the region. This is because the mechanism of just transition fundamentally calls for an inclusive approach. A well-planned just transition project can in fact, create a model for gender-sensitive energy transition and sustainable development. This can be ensured by taking adequate caution about having a gender balance during stakeholder consultations, undertaking a detailed mapping exercise of women's employment challenges and aspirations in the study areas, designing just transition policies, strategies and investments in a manner that focus on gender equality and can ensure women empowerment.

iv. Inadequacy of data

Finally, one of the most critical issues with informal workers is the lack of data, especially at the micro-level. While micro-level empirical studies (such as household surveys at the district level) will be important for transition planning, solely relying on such assessments will not be adequate. Besides, such assessments can lead to data discrepancy and subjective bias at instances.

Generating government data on informal workers is extremely necessary. In the event of just transition, reliable government data will be crucial for designing policy instruments, undertaking targeted and meaningful planning and implementations measures, and estimating financial support that will be necessary for the transition.

To conclude, it can be noted that the informal economy in the coal regions of India is a by-product of the socio-economic conditions of many of these districts, as well as local political economy aspects that have shaped land and labour relations in these regions. Understanding the informal workers and the informal economy in India's coal regions, and designing strategic interventions for them to ensure a just transition will require a holistic understanding. This will involve generation of reliable baseline data, undertaking ground assessment to capture worker diversity, their skill and education levels, aspirations, etc., and understanding the local context through multi-stakeholder engagement.

At the same time, just transition in India will not be a linear question of job substitution for a 'defined' workforce. Considering the diversity of workers in the informal coal economy, their fragmented engagement, poor education and skill levels, lack of power and voice in decision-making, just transition will need to be a well-planned and broad-based socio-economic transition process. It must also be a long-term process, allowing sufficient time and scope for engagement with the informal workers, and planning a new economy, in which they will have a new social contract, that is secure and dignified.

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