



## Original research article

# “Do you think that coal will finish?”: The (Im)possibilities of living with and without coal in a central Indian coalfield

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## ABSTRACT

This article seeks to understand how experiences of coal extraction and use shape local perspectives on energy transitions. It does this by exploring community struggles over land and labour in India's largest coalfield Korba in Chhattisgarh state. While the Indian government has announced that the country will have net zero emissions by 2070, continuing coal mine expansions built on the dispossession of rural poor and indigenous groups dramatically shape lives, economies and aspirations, and with them expectations around a potential transition away from coal. At the moment coal provides stability and continuity in the context of a depressed agricultural sector and limited non-farm employment opportunities. The coal sector is in this manner a source of hope and aspirations for many, while simultaneously creating enormous social and ecological disruptions. In the article we place specific focus on the interlinked roles of land and labour in the production of fossil-free futures situated within agrarian relations. Long-term resistance to land acquisition for coal mining is in recent years accompanied by the emergence of new relationships that coal communities are forging around land as a transactional asset, to be bartered for mining company jobs, or simply used as a speculative asset which may yield future pay-off as mining continues to expand. Based on a close reading of everyday micro-level negotiations, this paper argues that the possibilities for justice in a post-coal future is rendered complicated by existing coal economy dependencies and narrow conceptions of compensation.

## 1. Introduction

“Coal will never finish here...there are so many mines around. How can coal finish?” [1] For Anjana (pseudonym), tangible plans to transition away from coal appear far away on the horizon. When asked if she desires a future without coal, she replies: “You want to stop coal mining? What's the point of us saying anything? Coal mining will never end.” As a resident of Vishnupur village (pseudonym) close to Korba town in the central Indian state Chhattisgarh, Anjana's life is deeply entwined with the local coal-based economy, living as she does in a *basti* [slum] less than 100 m away from a conveyor belt which continuously feeds a nearby coal handling plant.<sup>1</sup> In this paper, we explore the coal regime in Korba and how it elicits highly ambivalent emotions and uncertain responses among residents affected by the mines. As Anjana and other residents of Korba's peri-urban coal mining expansion grapple with the

increasing precarity of land-based agrarian livelihoods, severe air pollution, and continuing displacement, they simultaneously draw hope from new job possibilities in the coal sector. Such jobs may transform the economic prospects of households with life-long, stable jobs for those able to secure public sector employment, but are looking increasingly precarious as mining work is increasingly outsourced to private sector companies with entirely different recruitment and job security policies.

This article seeks to understand everyday life with and around coal in the Korba coalfield at a crucial juncture when India nationally faces increasing electricity demand [2], needs to tackle varied, regional impacts of climate change [3], and meet international emission-reduction commitments [4]. These contradictory needs have to be met while not further marginalising the millions of people who depend on the coal sector for a living across the country's poor, central-eastern parts [5].

Among these important ‘national’ and ‘global’ needs, the question of

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<sup>1</sup> A coal handling plant is an integral part of a thermal power plant where the unloading of raw coal from coal rake wagons and trucks takes place, along with preliminary treatment such as the separation of stones and metal pieces from the coal.

what will become of the millions who depend on coal in India's 50 coalfields with more than 600 mines remains to be properly addressed. Coal is, as Matthan [6] points out, set within rural areas facing broad-based agrarian distress and highly limited non-farm economic activities making alternative livelihoods highly challenging to conceive of. For these reasons, the fossil-free energy transition seen from the perspective of coalfield residents, is a precarious proposition.

Focusing on the possibilities to generate multiple, grounded understandings of just and fossil-free ways of living, this paper listens to 'local' voices to learn how they express the possibilities (or not) of moving away from coal-based lives and livelihoods in and around India's largest coal mines next to Korba town. What is the nature of negotiations, in both formal<sup>2</sup> and informal ways that coal-side communities engage in, to deal with life next to India's largest coal mines? How do they envision their lives and livelihoods in the near future? How are mine expansions influencing the relationships that coal-side communities have with land, and are these relationships changing? And moreover, what does this tell us about the possibilities of a just transition away from coal in India? These questions assume all the more importance in the context of shifting land use patterns; the expansion of coal mining removes community access to land which is not restored and returned for new uses at the end of mining land. We argue that the nature of responses to land acquisition and coal mining are evolving. As local imaginaries and aspirations around land and jobs shape each other, the increasing unviability and precarity of land-based agrarian livelihoods is pushing local communities to reimagine land. Land and the ownership of land continue to be central to coal regimes, even as resistance to land acquisition takes on new forms with land emerging as a transactional asset to be exchanged for jobs in the coal sector.

The article begins with a section exploring the inherent contradictions in transitioning away from the coal sector which dominates the local economy while also doing enormous damage to local and global environments. Following this, the article outlines the research design and case study of Korba as an exemplar of technologically efficient, coal-based energy generation in India. The next two empirical sections examine contestations and negotiations around land, and livelihoods and jobs respectively. The land section explores land relations in and around the coalfields, while the livelihoods and jobs section connects land questions to the possibilities of livelihoods and employment. In the final discussion and conclusion section we outline the ways in which co-production of imaginations around land and livelihoods are currently taking place. We suggest that coal mining changes land relations via the emergence of land as a transactional asset to be bartered away for future jobs or simply viewed as a speculative asset for better off groups. We conclude with observations about what these micro-level negotiations around land and jobs mean for the possibilities of a just transition from coal in India.

## 2. Grassroots' reflections on lives shaped by coal in the Global South

Many mining regions of the Global South only moved into large-scale, open pit extraction in recent decades as the mechanized extraction technologies and the investments to fund this expansion became available [7]. Open pit mining means significantly larger land use and environmental impacts since the minerals are accessed from above via pits rather than via underground tunnels as has been the case historically in most mining. The open pit additionally affects ground and surface water deposits, and generates larger amounts of waste typically stored separately as overburden (see [8] for an examination of long-term changes due to open pit coal mining in India). The strongly expanding footprint of land by the global mining industry in recent decades has

overwhelmingly taken place on indigenous and other marginalized groups lands [9].

As the coal industry removes landscapes as well as lifeworlds when extracting coal from open pit mines, it, however, also offers new opportunities for many as the economy expands and new jobs become available [10]. Seen from the coalfields the urgent transition away from fossil energy may create a liminal transition; earlier agrarian livelihoods may no longer be desired, or even possible due to widespread degradation from open pit mining,<sup>3</sup> but a lack of viable alternatives can block change [15]. In conditions of informality and uncertainty, seeking multiple pathways away from the present dominance of fossil energy becomes imperative. For these reasons, just transition research emerging in the Global South point to the need for understanding justice differently to earlier prescriptions coming from the West [16–18] based on the informalized labour structure and governance setting, postcolonial history, and incomplete land and displacement compensation processes. Under conditions where multiple groups phase cross-cutting changes from, and dependencies on, the coal sector, justice in the transition away from coal energy needs to be considered in multiplicities [18].

Just transition research focusing on issues of labour highlight the diversity of work beyond the formal sector in coal regions, with "structural unemployment" [19], and a higher proportion of informalization and casualization [20],<sup>4</sup> and a lack of economic diversification, adequate social security and the state's overall inability to adequately support coal regions in required transitions [19,21–23]. In the wider context of decreasing productivity of agricultural land, the limited scope for non-farm occupations and the limited potential of out-migration and sustained employment in nearby towns and cities [24], coal remains central not only to the national development imagination, but also to many within the coalfields in spite of the usually unfavourable conditions under which they relate to, and find employment in, the sector [20].

The centrality of land and land relations in mineral extractive regimes is underlined by a large literature within political ecology [12]. Existing literature suggests that communities living in coal regions tend to have an antagonistic relationship with extractive industries, an antagonism that manifests itself primarily in the form of strident and even militant opposition to land acquisition [25–27]. Land in this literature is understood as a marker of identity and social status, or as an asset to be defended from loss and acquisition [26,28,29]. Alienation from land is consequently seen as having adverse impacts on individuals and land-based communities [30–33]. The relationship with land and claim-making related to land holdings, however, appear to be shifting in recent research [34]. Nair [35] refers to land a transactional asset, possible to utilise by local communities as the means to ensure employment and income stability through jobs in coal mines. The scope and nature of resistance against land acquisition in coal regions is consequently changing.

Narayan et al. [36] and Fischer [37] highlight the need to listen to voices of the poor and the marginalized,<sup>5</sup> and the significance of these voices (and their frequent absences) in policy making on complex environmental concerns which inevitably affect the poor in a multitude

<sup>3</sup> A wide body of research deals with the effect of large-scale open cast mining on rural communities dependent on land-based livelihoods [11–13] in the specific setting of the Global South. Toumbourou et al. [14] draws attention to long-term future of mining landscapes after mine closures.

<sup>4</sup> Existing literature [21] argues that while the dependence on coal mining for income is high in coal regions, this dependence is largely informal and does not provide a decent income. Informalization manifests itself as 'non-inventoried' or 'casual' labour, which could include illegal gathering and selling of coal.

<sup>5</sup> This research tradition draws its lineage all the way back to the seminal contributions of Robert Chambers on participatory and bottom-up research in rural development [38].

<sup>2</sup> For example via written depositions including complaints to the mining company the South Eastern Coalfields Limited, and to the local administration.

of ways. Chanchani and Oskarsson [39], along with Ghosh [40] provide local contributions to this field, by listening to indigenous and marginalized groups in Korba, showing us the complex and multiple ways in which peri-urban groups are affected by energy generation but also sustain their energy requirements from coal. Such grounded perspectives need to be incorporated into regional and national energy and climate change policies. This article adds to existing literature on bottom-up perspectives of justice in energy transitions [41–43] by listening to local anxieties, concerns, and aspirations related to the coal sector seeking possible transitions away from it in ways that allow coal-dependent groups to carry on with their lives.

By capturing local perspectives of a just energy transition from coal, or the impossibilities to complete this process, we seek to understand the imaginations (or not) of alternative fossil-free futures in a major coal-producing area. Co-production of land and livelihoods may enable the construction of revised agendas and new forms of politics [44] around (often contradictory) conceptualisations of territory and livelihoods. Delina [45] argues that while multiple imaginaries of resources such as land are envisioned, these imaginations are intertwined with local and wider political economy factors, as well as by values and value systems. Some of these alternative imaginaries are constrained and restricted by tensions between discourse and materiality. Carr and McCusker [46] in turn encourage us to study how strategies for managing biophysical conditions are (re)produced and evaluated as a range of market, state and civil society actors influence the process of negotiations around alternative ways of living. In this paper, we use co-production to understand how future imaginations of land and livelihoods are being envisioned in Korba.

### 3. Methods and research design

Korba of Chhattisgarh state has an economy revolving around coal extraction and thermal power generation. Korba is India's largest coal-producing district accounting for 16 % of the country's coal extraction [47]. A total of approximately 20,000 ha is currently leased out to various operational mines (Table 1) [48]. The extended time period of operations and the enormous scale of coal mining in Korba makes the coalfield a suitable explorative case study to seek emerging bottom-up understandings of transitions away from coal. Such a research design does not seek to generalise but rather explore situated meanings of the dominant energy sector set within a history of land dispossession in indigenous territories.

Despite being an important coalfield, agriculture remains the main source of livelihood for 36 % of the population in Korba [49]. Korba, despite its rich mineral resources, has poor human development indicators. According to the multidimensional poverty index used by UNDP, 32 % of Korba's population is multi-dimensionally poor and lacks adequate access to education, healthcare, clean drinking water and electricity [50]. It is in this backdrop of widespread economic precarity and informal work with increasingly unviable agricultural and forest-

based livelihoods that we need to approach the question of changing relationships with land and the search for jobs in Korba. In this setting coal is simultaneously a source for hope and a threat.

Fieldwork was conducted in December 2022, May 2024 and December 2024, with each period lasting 10–20 days. In addition to the fieldwork, the authors draw on long-term research in the area for more than 15 years conducted by two of the authors. Attempts were made to speak to a wide range of people, both men and women, engaged in different occupations, having different histories of engaging with coal with varying levels of dependency. Five sites were specifically chosen for this purpose. The first site, Vishnupur (pseudonym), is a *basti* [slum] near a conveyor belt that feeds a coal handling plant. It is a small settlement, housing around 25 families, the vast majority of whom are lower caste, poor families who migrated from Pathalgaon in Jashpur district of Chhattisgarh three decades back in search of better livelihood options. Korba, being an emerging industrial town at that point, offered the prospect of more lucrative jobs either in the coal sector or in town's informal economy. The conveyor belt next to Vishnupur came up three years ago, cementing the proximity to the coal economy. Two other sites – Ramnagar and Salegaon (both pseudonyms) – were selected because they are resettlement sites, housing families displaced by coal mining operations of the South Eastern Coalfields Limited (SECL). Salegaon was created as a rehabilitation village for families displaced from the Dipka mine 25 years ago, and Ramnagar was similarly set up in the late 1980s to host families displaced from several villages in Korba. The fourth site, Narayanpur (pseudonym), was selected because it currently exists on the fringes of the Gevra mines, and is slated for displacement. The fifth site is Devaria (pseudonym), a small village of around 75 families surrounded by the current and expanding Manikpur mines on three sides. These sites, between them, will help to provide different perspectives on the local engagements with coal. This research includes the perspectives of villagers who are dealing with ongoing coal mining and land acquisition; however fieldwork was not conducted in the rural hinterlands and forested areas surrounding Korba where coal expansions are not yet happening.

The methods utilised during fieldwork were open-ended interviews and focus group discussions. Focus group discussions were conducted with farmers whose lands had been acquired by SECL, women in villages slated for displacement in the near future, informal workers of SECL, people living in *bastis* (low income areas) in close proximity to coal handling operations, canteen owners and proprietors of small businesses such as roadside eateries (*dhabas*) as well as *mitanins* (local healthcare workers). Semi-structured interviews and focus group discussions were conducted with people whose families are long-term residents of the district, as well as people who migrated to Korba in search for jobs. 5 interviews and 1 focused group discussion each were conducted in both Vishnupur and Salegaon. 5 interviews were conducted in Ramnagar, and 2 focus group discussions were conducted during protest events organised by the residents of Ramnagar at the gates of one of the SECL offices in Korba. 2 focused group discussions and 5 interviews were conducted in Narayanpur. 4 interviews and 1 focused group discussion was conducted in Devaria. Apart from these interviews and discussions, detailed interviews were conducted with key informants in Korba, including local journalists, environmental activists, trade union leaders, political activists and leaders of anti-land acquisition movements. Secondary literature on Korba and coal mining in the district was also used. This includes reports by private think tanks and government bodies, as well as official records submitted by the SECL as part of its operations.

### 4. The different values of land in an extractive economy

If land is taken away, who will provide for livelihoods? Land is more important than sons and daughters. We can produce more sons and daughters, but from where can we produce land? Children can let us down, but the land will never let us down. Land is more valuable than children. They who have land will never have to beg [51].

**Table 1**  
Operational mines In Korba.

Name of mine	Type of production	Production capacity (MT/year)	Actual production (MT, 2023–24)	Lease area (hectares) <sup>a</sup>
Gevra	Open cast	60/70 <sup>a</sup>	59.1	4782
Kusmunda	Open cast	50/62.5 <sup>a</sup>	50.1	3510
Dipka	Open cast	40	33.42	1656
Smaller mines in Korba	Open cast/UG	7.7	7.56	9792 <sup>b</sup>
Total		157.72	150.199	19,740

<sup>a</sup> Figures corresponding to proposed expansions.

<sup>b</sup> 2021 figures.

(Source: [48].)

Korba town presents important contrasts. On the one hand, it has been a significant industrial centre for close to four decades, on the other it hosts a large agrarian hinterland. Large-scale coal mining operations in the district began in the 1940s, and picked up momentum in the 1980s. It has a quickly growing town centre filled with emerging middle class, caste Hindu residents, but a rural hinterland inhabited by indigenous adivasis dependent on its forests, and small, typically lower caste farmers whose livelihoods are tied to land. Nowhere are these contradictions more apparent than in the contestations around land in Korba where the mines expand in the countryside taking away livelihood opportunities but further growing business opportunities in town. Land therefore remains a contested entity. Livelihoods – both current and future imagined jobs – remain tied to land, thus necessitating co-production of imaginaries of land and livelihoods. As local communities grapple with fast-expanding mines and the concomitant loss of land, new imaginations of livelihoods emerge, embedded as they are in tensions around land and dwindling access to other productive sources of livelihoods.

The village of Narayanpur (pseudonym), located on the fringes of the Gevra OC mine, is slated for displacement and allows us a glimpse into these ongoing tensions. Gevra is one of the largest mines in the region, and Narayanpur is an exemplar of what coal mining typically entails for local communities. As the mines expand, Narayanpur (like other villages on the fringes of existing large mines) bears the brunt of displacement and increasing commodification of land. Agriculture, which was previously a significant source of livelihood for many residents, is an increasingly unviable proposition as productivity is impacted by loss of soil fertility and falling groundwater availability. The fall in agricultural productivity is nevertheless not the only reason for the decline of agriculture in the region. There is a growing interest in non-farm occupations, a sentiment in keeping with a broader trend in the global South [28,52]. It is this vexed and changing relationship with land – a relationship influenced in turn by rising aspirations among the younger generation for non-farm jobs and the growing precarity of land-based livelihoods – that is driving responses to land acquisition by mining companies in Korba:

The groundwater levels are so low here, how can anyone survive? People are building new homes here not because they want to farm here or settle down here, but only in the hope of compensation [53].<sup>6</sup>

Villagers living in close vicinity to existing mines, such as those in Narayanpur, are well versed in SECL's rehabilitation and resettlement rules; dealing with and having to negotiate settlements is a necessary component of life near a coal mine. Details of the acquisition process – such as dates of notification of acquisition, award of compensation, SECL's track record of awarding compensation in other sites and announcement of new policies – are readily available with men in the village. We are informed that:

SECL's policy stated that one job will be provided for losing 2 acres [0.8 hectares] of land. For land between 2-4 acres [0.8-1.6 hectares], one could have opted for one job and claimed money for the remaining land [53].

SECL's current compensation policy [54] has in fact led to competition among members of a family, as young men in the same family fight among each other to secure the coveted permanent job in SECL [53]. In the villages slated for displacement, every change to SECL's rehabilitation policies is accompanied by landowners calculating how many jobs have opened up. They discuss compensation packages and subject these packages to detailed analysis and criticism; conversations frequently brought up the fact that SECL reneged on some of its earlier promises to provide jobs, monetary compensation and skill training. Residents

speak, with some degree of resignation, of their ongoing negotiations for better compensation packages, their apprehensions about the feasibility of the rehabilitation site being offered to them and their tentative plans to adjust to a new future, even as scepticism about SECL animates all discussions.

The ongoing process of commodification and monetisation of land in Korba needs to be seen in the context of SECL and its policies, and the continuing expansions of mines. For communities in Korba, SECL appears to be in a hurry to acquire land at any cost, while less concerned about addressing the adverse impacts of coal mining including compensating the dispossessed or addressing waste storage and pollution generation concerns [51]. SECL's rules and regulations, their tardy implementation as well as real and perceived violations of the law generate points of contention for local communities in Korba. SECL's original policy provided monetary compensation as well as one job for land acquired [55]. However, SECL refused to entertain claims for compensation filed by women and sons of original landowners whose lands had been acquired. Each one of these clauses of SECL's rehabilitation policy has been the subject of much contestation in Korba.

Following long-running protests with demands for a better compensation package, SECL revised its policy in 2012 (applied retrospectively from 2010) to state that one job would be provided for every 0.8 ha of land acquired [54]. It also agreed to entertain claims from women too, even though there are complaints that SECL has not uniformly implemented these changes. Long-standing claims, dating back to acquisitions done in 1978 and 2004, have not yet been settled [56]. In the process, there are ongoing legal struggles over the legitimacy of land deeds and various land-related records [57].<sup>7</sup> It is only recently that SECL changed the criteria for eligibility in its rehabilitation policy; in 2022 12 land losers were offered employment in SECL after a year-long agitation forced the company to entertain long-standing claims and to recognize sons and daughters of the original landowners as legal claimants.

Other aspects of SECL's compensation policy have also come under the scanner. Displaced farmers are demanding a "clubbing" policy, wherein small patches of land acquired (less than 0.8 ha) can be clubbed and therefore together made eligible for SECL's jobs-for-land package. Small and marginal farmers, owning less than 2 ha, constitute 64.5 % of landowners in Korba [49]. They work as agrarian labour or are dependent on precarious occupations and fall through the cracks of the current policy, since they receive very little monetary compensation. Yet again, we see negotiations and contestations at work. Deepak Sahu, district secretary of the All India Kisan Sabha, tells us that in the meeting where the clubbing policy was discussed and voted against, the adequate quorum was not met [58]. This issue has also been attracted attention in political circles in Korba, with the local Congress party also protesting existing provisions and demanding that the clubbing policy be instituted by SECL.

*Jabbe chahe tabbe utha sakte hain haman ko, zameen ka parchi nahi hai* [They can evacuate us whenever they want, since we don't have papers for the land], residents of Salegaon (pseudonym) tell us [59]. This uncertainty generates a sense of unease among residents of the village, set up to rehabilitate displaced from the Dipka mine 25 years ago, and also speaks of the enduring significance of land in Korba. Land acquisition by SECL often takes place in stages, with SECL purportedly hoping to slowly diffuse tensions and local protests. Roads are often the first to be acquired, followed by acquisition of *bastis* and homestead lands. Agricultural lands are the last to be acquired. One of the demands raised in Korba is the end to partial acquisition of village land [60].

Acquisition of land by SECL is therefore a process embedded in various complexities. Land, while still a coveted asset even as the

<sup>6</sup> According to the respondent, groundwater used to be available at 100–150 ft around 12–13 years back, but now the levels have fallen to 250–300 ft.

<sup>7</sup> SECL is refusing to accept a land deed [*wrin pustika*] issued by the Chhattisgarh government. The respondent currently runs an electrical appliances shop in Korba.



viability of agriculture declines in the region, is now a marker of the possibility of jobs and upward mobility. Treasured and defended, land is an entity to be carefully marked out and delineated. Land owners, rather than protesting land acquisition, are now deploying the law to secure better compensation for land [61]. The ownership of land is a key negotiating tool for agrarian communities in Korba, a means of securing a better deal for the future. Farmers and small peasants in Korba are collecting paperwork, writing letters and keeping records of their negotiations with SECL and the local administration.

Land is additionally emerging as a speculative asset when outsiders to the affected villages, and also often to the district, build houses in the hope of receiving compensation when land is acquired by SECL [62–64]. While land remains a marker of identity and social status as well as a source of livelihood security, the constant expansions of mining generate new meanings to land. Land, in this new imagination, can be bartered as a “transactional asset” [35] by those with sufficient funds and an ability to understand acquisition processes. In Korba, these shifting imaginations of land reconfigure and even disrupt relationships as various land investors move into villages and seek to acquire land for speculative purposes prior to the mining company. This speculation drives further land loss but may also be the only realistic hope for many to receive any compensation at all for often undocumented land with weak protection. This increasing commodification of land that we are seeing in Korba is co-produced through negotiations around local aspirations and national plans and remains embedded in local power dynamics, wherein local communities gauge and negotiate the possibilities available to them and in turn craft their responses.

Carr and McCusker [46] urge us to pay attention to the manifestations of social processes through which communities understand their challenges and mobilise resources to negotiate these challenges. In Korba, discourses of ‘progress’ and energy security that accompany the expansion of mines contend with and produce tensions around the materiality of land as well as livelihoods as we saw from experiences delineated in this section. The next sections speak of how old imaginations of (agrarian) livelihoods are being replaced by new ones; aspirations of jobs in the coal sector are co-produced by landowners as well as actors such as the state, the SECL, private sector companies and contractors who take on tasks outsourced by the SECL. These imaginations are in turn bolstered by the newly emerging land markets which are shaping and being shaped by multiple actors in coal regions such as Korba.

## 5. Labour and labouring in Korba

Raghu, lives in the Vishnupur *basti* and suffers from bone Tuberculosis as a result of a lifetime spent doing *mazdoori* [manual labour]. At present Raghu earns about Rs. 210 [US \$2.5] per day in the nearby coal handling plant, and relies on the government run Rani Dhanraj Kunwar Devi public health centre for medical treatment. When asked how he manages his health, Raghu speaks of the precarity of his employment in the mines: “What can I do? I work on a daily wage basis [*dihadi*], I can't afford to take leave. I'll lose my wage. It's a struggle” [65]. A small canteen just outside the *basti* serves snacks to employees in the coal handling plant, and the family running the canteen uses coal scavenged from the conveyor belt as fuel. Vishnupur, in many ways, is symbolic of the varied kinds of coal-related and coal-dependent engagements poor people experience in Korba. Raghu's *basti* hosts several migrant families who came to Korba in quest of livelihoods. A few in the *basti* are now employed in temporary and contractual positions in the mines, working as manual labour or as cleaning staff in the mining offices nearby. Most however find work as *coolies* doing manual labour, as masons or as domestic help in Korba. In the mines, contractual (and mostly temporary) manual jobs pay Rs 200–300 per day [US \$2.5–3.6] organised via various private sector companies rather than directly with the mining company. In Salegaon, the rehabilitation village built for those displaced by the Dipka mines 25 years ago, four women and 28 men are

permanently employed in SECL. The women work in the SECL offices, and the men work as shovel operators and in the trucks that sprinkle water around the mines and on transport roads in order to reduce dust [66].

In the rehabilitation village Ramnagar where around 600 families from several displaced villages built their homes with compensation money provided by the SECL in the late 1980s, demands for coveted jobs in the mines continue. Rajesh (pseudonym), an indigenous adivasi whose land was acquired for the Gevra mine in 1980, hopes for employment in the mines. Rajesh's brothers secured such jobs, leaving the remaining unemployed in the village to attempt to negotiate for jobs over the past few decades. Instead of jobs they are willing to accept a monthly SECL displacement stipend of Rs 10,000 per family, but this long-standing demand also remains unfulfilled until today. Each family who moved to Ramnagar received Rs 7500 [US \$91] per hectare of land lost as compensation in 1980.<sup>8</sup> The total compensation by SECL for 647.5 ha of land was Rs 0.1 million [US \$1212] as well as 6 decimal land [0.024 ha] for a house plot in Ramnagar. People built their own homes and had to arrange for water and electricity. The local school was also moved as part of the rehabilitation process but ended up elsewhere 12 km away, making it difficult for children in the village to get an education.

The coal sector is also an indirect source of income for many in Korba. Lakshmi runs a small roadside eatery near Vishnupur, along with her husband, catering mainly to mine workers. She uses 10–12 bags of coal per month, according to her estimation, scavenged from one of SECL's conveyor belts every morning and evening. The informal coal sector in this manner provides energy security in Korba for households and various cottage industries where coal is used for cooking, heating and industrial purposes [39]. Various other jobs too, such as guarding vehicles outside mines, are connected to the coal sector.<sup>9</sup> In Korba, apart from jobs related to coal and allied industrial sectors, people are looking for livelihood options in and around the town – setting up small shops, selling vegetables, searching for daily informal and manual work for instance.

In Devaria (pseudonym), a small village literally nested in between the Manikpur mines, one perhaps gets the best glimpse of the relationship between work and coal in Korba. Prior to the arrival of mining, the local economy was characterized by agriculture and trade of forest-based produce such as timber, *tendu* leaves and mushrooms. The mines arrived, and with it several socio-economic shifts. Agriculture and forest-based livelihoods were lost and scavenging coal, temporary jobs in the mines or masonry work in Korba town became the mainstay of the village economy. Devaria also saw some in-migration from other parts of Chhattisgarh, people were “lured by the idea of earning a living from coal” [67]. Bags of coal scavenged from the mines are now a ubiquitous presence around houses and in open lots in Devaria. Scavenged coal is typically sold in Korba for Rs 2–4 per kg.

Only a few Devaria residents have permanent jobs in the mines, received a long time ago when the Manikpur mines first began displacing people in the area. Now, those with jobs in the mines are employed by private contractors such as the Odisha based Kalinga Commercial Corporation, KCCL who have a contract with SECL to handle overburden, and WSS Security Solutions for private security guards. Young men in the village aspire for these jobs, driven by the relative affluence offered by the higher wages that the coal sector provides. Rajkumar (pseudonym), a young adivasi resident of Devaria who works as an operator in mines, is a case in point. He paid money to acquire professional training in Raigarh along with 25 others from

<sup>8</sup> This would amount to approximately Rs. 1.76 lakhs [US \$2052] at the current monetary value.

<sup>9</sup> For example, a woman living in a small hut next to the Gevra mine earns a livelihood by collecting money (Rs. 200 per person per month [US \$2.37]) from each mine worker who parks his two-wheeler.

Korba, following which he has been working on a three-year contract with KCCL. “There is a lot of tension...what if my contract does not get renewed next year”, says Rajkumar. The job, however, even as it is contractual and temporary, offers him a sense of well-being. Mentioning that his child goes to a private school nearby, he says, “If you have a good job [like mine], a good income, why would you send your child to a *bakwaas* [useless] government school?”. His friends, working as security guards and living in the labour camp near the entrance of the village, agree [67].

Devaria is slated for yet another onslaught of displacement as the Manikpur mines continue to expand. Tensions run high, and anger and distrust against SECL is palpable during our interactions in the village. “SECL hasn't done anything for us. And if you can't help us, we don't want to just repeat our woes to you”, an elderly resident tells us [68]. Yet one can witness the many layers of the relationship between work and coal that underlie local narratives, aspirations and lived experiences, as distrust of SECL is often mixed with demands from the same company for jobs. It therefore comes as no surprise that ongoing protests in Korba for jobs in the coal sector remain a source of contention. A protest rally organised in December 2022 by the *Urjadhani Bhuvisthapit Kisan Kalyan Samiti* [Committee for Protection of Displaced Farmers in the Energy Capital] demanded, among other things that all small landholders be given employment in the mines premises [60]. The *Chhattisgarh Kisan Sabha* (The Chhattisgarh Farmers Association) is demanding that work outsourced by SECL to private entities should be given to unemployed persons in the affected villages [69].

There is, however, some tension and resentment in Korba that the best paid, stable skilled jobs in the mines are not available to the local project displaced youth, given the low levels of education and the lack of technical skills required for employment in the industrial sector [70]. This has led to demands that the government as well as SECL take steps to improve educational facilities in the region [60]. In Korba, the competition over jobs in the coal mines and the perceived lack of local infrastructure in education and healthcare is leading to considerable resentment against “outsiders”, who are increasingly seen as usurpers of local jobs [53]. As Noy [71] points out related to coal in Jharkhand, local politicians in Korba also build on the outsider discourse to broker deals with SECL and secure jobs for select locals. The result might be better job opportunities for at least some well-connected youth in Korba, but appears to deflect wider concerns of better and more sustainable forms of work for India's rural precariat.

Land contestations in Korba generate, as we saw, expectations that the coal sector will become a crucial source of livelihoods. It is, however, clear that the formal coal sector in India including allied sectors such as thermal power generation does not provide direct employment in very large numbers. Estimates vary from 0.35 million to 0.5 million direct jobs [21,72], a mere 0.8 % of total employment in India. Employment in the sector is additionally declining in recent years, but for the lucky few able to secure employment the terms might be relatively attractive compared to other potential alternatives [72]. Labour research in coal-rich districts in India [49,70,72] have delineated the nature of the existing labour economy and shown enduring similarities. The share of contract workers in coal and related sectors is high, an estimated 81 % of the labour force is employed in the informal sector [70]. Unemployment, partial employment and precarity of existing livelihoods are endemic to these districts especially in the blocks with concentration of mines and TPPs (an estimated 54 % of non-workers in Korba) [49]. Given these socio-economic parameters, it is perhaps not surprising that permanent jobs in the coal mines are much coveted. Korba, in some ways, characterises many of these trends.

Individuals and groups, and the state, along with SECL and private corporations working in the coal sector co-produce imaginations around livelihood and fresh engagements with land. Imaginations around land and livelihoods, as the previous sections show us, are deeply embedded within each other, informed, influenced, and shaped as they are by actors attempting to navigate fresh challenges engendered by the

expansion of mines. Land as a commodity and an asset to be bartered for a better livelihood, as we see in Korba, emerges as a by-product of this process of co-production. This process of co-production in Korba, is however also influenced by local power dynamics and the relative abilities (or not) to negotiate alternative futures. Imaginations of post-coal lives and livelihoods are conspicuous by their absence, given the various social and economic bottlenecks to decarbonisation.

## 6. Discussion and conclusion: the (Im)possibility of a life without coal?

Landscapes and livelihoods in and around India's vast coalfields speak not just to the ubiquitous presence of coal, but equally to the contradictions that have emerged in the wake of its still expanding extraction. The simultaneous emergence of contradictory narratives engendered by mining and the concomitant socio-economic forms of precarity are accompanied, ironically perhaps, with a sense of hope for better lives driven by the coal-based economy. The main responses emerging to date are demands that coal mining is better ‘managed’ in the future – pollution should be better controlled, money from mining should be used for schools and hospitals, jobs should be provided more widely, and the local infrastructure improved. Some of the dispossessed have been able to secure permanent mining jobs and draw benefits whereas the majority struggle. And yet, even the ‘losers’ and those admitting to be struggling continue to be drawn to the coal economy for its promises of relative economic opportunities compared to the agrarian economy.

There is, moreover, little evidence that local communities reflect on what to do with mined out areas from closed mines, including the alternative livelihoods that could emerge in for example agriculture, forestry, and aquaculture, as well as in new industrial ventures. How will the ‘co-production of territory and livelihoods’ beyond coal take place in Korba, given these specific circumstances [44]? How will land and livelihoods be arranged in the inevitable post-coal economy? Such questions assume significance in the backdrop of the Government of India's announced plans to move away from a dependence on coal, while it is simultaneously making it clear that it is not abandoning the coal sector. At the moment the discursive dominance of coal appears to block alternative activities even in areas where mining has been closed as coal reserves were exhausted.

Co-production, if seen as the coming together of disparate voices to articulate viable and desirable imaginations of territory and livelihoods able to build alternative and fossil-free futures, lie at the heart of current debates around a just transition. Evidence in the literature point to some instances where collective approaches to the end of coal have created firm deadlines and clear roadmaps which include wider populations and the remaking of coal territories. Here Germany's 2038 coal deadline appears as the main planned approach to a transition [43,73], but even regionally among Germany's coal-dependent neighbours such visions remain contested [74,75]. And the other examples of actually completed transitions from coal including the UK's earlier coal exit to presently ongoing transitions in the United States appear mainly as stark warnings of what not to do if seeking justice [76,77].

As a wider literature on Global South transitions starts to emerge we note authors able to capture varied perspectives on the meanings of justice in such transitions [16,17]. There are also important discussions about power and politics shaping mine closure and post-mining futures [14,15,78]. Where and how the wider, coherent and systematic approaches to constructing alternative futures in the Global South remain to be worked on. In India multiple, cross-cutting activities appear at the moment as contestations over land escalate, mines inevitably close down when coal reserves have become exhausted, and more lands open up for alternative uses. Within these processes, and the evidence that solar power generation is about to surpass coal energy additions, clearer contours of the meanings and purposes of co-production may slowly start to emerge.

The energy transitions literature typically analyses existing policies – including workforce development, environmental reclamation and the transformation of local economies – to address socio-economic challenges of the transition process, and to advocate for policies specifically aimed at coal workers and local coal communities [73]. It has been shown that local dependency on coal is strongly tied to livelihoods, and tends to be spatially concentrated [79]. Literature also indicates that “temporal” governance [80] focussing on compensatory policies, perpetuates continuation of the past, rather than transformation. The co-production of land and livelihoods that we are seeing in Korba, foregrounds how a narrow conception of compensation (mining jobs for land loss) can perpetuate status quo, based on, and affirming a sense of, the inevitability of continued mining. The emergence of land as a transactional asset as a byproduct of this co-production, while posing challenges to the transition process, also indicates the need for a broader definition of compensation. Literature alerts us to how historical legacies of the industrial system continue to drive narratives of anger in coal communities [81]. Attempts to upturn these legacies require transformative policies, which the current compensation regime is not designed to address.

At present there is, however, preciously little evidence in India of the creation of meaningful futures beyond the heavy emissions and ravaged environments of coal, as mining companies hold on to their lands also after active mining has come to an end. Creative work will by necessity require extensive periods of deliberation and experimentation when seeking alternative and sustainable ways of living that are equitable, inclusive and respect local cultures In Korba, even as the acquisition of land for coal faces resistance, the process of co-production is not solely characterized by organised resistance to land acquisition. It is equally informed, shaped and influenced by acts of negotiation, by compromises struck between various stakeholders through multiple transactions. Any imagination of life beyond coal, we argue, will need to listen to voices from the ground and respond to the hopes and aspirations which continue to be tied to coal. Post-coal imaginations will need to reckon with the changing notions of land in coal bearing areas, and the new entanglements between land and livelihoods.

#### CRedit authorship contribution statement

**Radhika Krishnan:** Writing – original draft, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Patrik Oskarsson:** Writing – review & editing, Methodology, Funding acquisition, Formal analysis. **Kuntala Lahiri-Dutt:** Writing – review & editing, Methodology, Funding acquisition, Formal analysis.

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#### Data availability

The only data we have used are interviews. The names of the interviewees have been kept confidential, unless the interviewee expressed willingness to be identified.

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