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A Sahajiya, Bharatiya Lens of People-centric Energy Transition

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Abstract

One of the largest and potentially most complicated transitions in the 21st century is India's simultaneous quest for Viksit Bharat by 2047 and Net Zero by 2070, an ongoing transition away from coal for most of the nation's electricity needs. This transition will impact about thirteen million people who depend either directly or indirectly on the coal economy and require a justice model that can address the vast socio-economic, psychological, and spatial impacts of this transition on the people involved while being located within a localised, Global South framework. Traditionally based energy justice frameworks, focusing on Distributive Justice, Procedural Justice and Recognition Justice, commonly neglect the existential and affective aspects of the transition being experienced by mining communities.

In this paper, we develop a conceptual framework to support India's coal transition that includes three elements: (i) the capability approach (Sen, 1999; Nussbaum, 2000); (ii) two elements: the psychoanalytic concepts of Lacan (1977) and hauntological ethics of Derrida (1994); and (iii) two elements based on the work of Lefebvre (1991) and Soja (2010) related to spatial justice. The proposed framework integrates the physical transition process (Distributive Justice), institutional transition process (Procedural Justice), transitional identity processes (Recognition Justice) and the transition's responsibility to future generations (Existential Justice), tied together through an epistemic orientation grounded in a Global South context theorised through a Sahajiya-Bharatiya lens.

Using mechanisms including formalizing the informal workforce, targeting specific capability enhancement, developing regional economic diversity, promoting participatory governance, and producing braided knowledge systems through a Sahajiya lens, the proposed framework offers a path forward for an equitable, psychologically restorative and spatially inclusive coal transition in India, while advancing a set of normative extensions to conventional energy justice frameworks that promote a truly immersive, people-centric energy transition.

Key words: Energy Justice, Just Transition, India, Coal Transition, Sahajiya, Bharatiya, Capability Approach, Psychoanalysis, Hauntology, Spatial Justice, Recognition.

1. Introduction: The Dual Imperative and the Justice Challenge

India is working out the complex relationship between rapid economic development - as envisioned in Viksit Bharat - and its goal of reaching net zero greenhouse gas emissions by 2070. Coal remains the mainstay of industrialization in India, generating the majority of India's electric power and providing employment to around 13 million people. Failure to manage this transition effectively will likely increase inequality in India by creating additional levels of unemployment, informal labor, and social vulnerability, particularly in regions of India which are rich in minerals such as Jharkhand, Chhattisgarh, and Odisha.

Just Transition is not simply a matter of changing technology to produce less carbon; it is also a moral and political endeavor to achieve fairness in how risk and opportunity are distributed among all individuals. Discussions regarding energy justice have traditionally focused upon the distributional, procedural, and recognition components of energy transitions (Sovacool & Dworkin 2015; Jenkins et al., 2016). However, while these elements provide important insights into the experiences of individuals who are impacted by energy transitions in the global south, they do not provide sufficient insight into the personal experiences of loss, changes in identity, and uncertainty that individuals experience as a result of energy transitions. Therefore, an approach that focuses on placing individuals at the center of analysis and incorporates consideration of both the physical and emotional contexts of individuals experiencing energy transitions is necessary for India's context.

The purpose of this paper is to fill this gap in research through the application of three theoretical frameworks. The capability approach provides a framework for assessing an individual's well-being and agency; Lacanian psychoanalysis provides a means of understanding how policies impact individual experiences; and hauntology, from the philosophical theory of Jacques Derrida, provides an ethical lens to assess how individuals deal with loss and change over time. When combined with spatial justice theory, these four theories provide a comprehensive model of energy justice that includes four dimensions of energy justice including material, procedural, relational, and existential dimensions of India's coal transition.

2. Theoretical Foundations: An Integrated Justice Framework

The need for the Integrated Justice Framework was born out of the complexities and the layered deprivations experienced by coal dependent populations in India, that were not addressed by existing justice frameworks.

This is supported by:

Complexity of India's Developmental Pathway

Coal is essential to both Viksit Bharat and Net Zero goals, therefore the challenge of transitioning away from coal will be a long-term process and will require an approach beyond simply phasing it out. Therefore, how justice is viewed by different stakeholders will be shaped by the fact that coal has become deeply ingrained into the Indian political economy.

Addressing Multiple Dimensions of Poverty

More than 50 percent of the population in coal mining regions of India experience multidimensional poverty, which is much greater than the national average of 27.5 percent (Chandra, Pai, Nayak, & Devagudi, 2025). Therefore, the level of poverty in coal mining areas extends beyond income inequality and includes 'real' poverty, and 'un-freedoms', in addition to the entrenched social hierarchies of caste, class, and gender (Pandey & Kumar, 2025).

Identifying Affective and Existential Losses

Traditional policy frameworks typically do not have mechanisms for measuring the emotional distress and sense of loss of identity that accompany environmental degradation and forced relocation. The need for such a framework is supported by evidence demonstrating that many mining community residents have reported high levels of self-reported psychological distress. For example, in Dhanbad and Angul, 94 percent of young respondents to surveys belonged to socially marginalized groups, whose limited reskilling opportunities, mental inertia, and diminished aspirations, limit their ability to create lives of their choice (Sajeev, Singh, & Pandey, 2025).

Traditional energy justice frameworks are based primarily on the three principles of: *Distributive Justice* which refers to the fair distribution of costs and benefits, *Procedural Justice* which relates to the fairness of the procedures used to make decisions about energy transitions and *Recognition Justice* relating to the recognition of people affected by energy transitions.

While traditional energy justice frameworks can be useful in understanding many of the challenges that arise during energy transitions, there are significant limitations to using them to fully understand the scope of challenges associated with India's energy transition:

Failure to Identify Existential/Affective Dimensions of Energy Transition

Traditionally, energy justice frameworks focus on measurable outcomes or processes rather than the existential and affective dimensions of the transition.

Bias towards Western Contexts

Much of the literature upon which traditional frameworks are based is rooted in western contexts and may not reflect the unique socio-economic and political realities of the global south, particularly India.

Limitation of Systemic Focus

Three-tenet frameworks tend to neglect the political economy that produces injustices, focusing instead on "tail pipe" issues (i.e. access and affordability) and neglecting the systemic and ideational foundations of injustice.

Limited Ability to Understand Conflicts

Simply grouping claims into categories of tenets (e.g. procedural or restorative) does not provide adequate insight into the root of disputes surrounding energy justice because it fails to expose contradictions between the tenets regarding what is considered just.

The Capability Approach as Normative Core

The capability approach provides the meta-normative basis for this conceptual framework with its definition of "justice" as the expansion of individual's substantive freedom i.e., their "capability set" to enable individuals to achieve functionings they value (Sen 1999; Nussbaum 2000); while functionings refer to the achieved states of affairs (e.g., health or education), capabilities refer to the real possibilities of achieving those functionings.

In the coal transition context energy is viewed as an instrumental capability that enables access to mobility, education and safety, whereas energy itself is not seen as an end. human agency-the ability of individuals and communities to pursue and negotiate valued outcomes-links the capabilities to justice outcomes.

However, human agency is unequally distributed; structural deprivations of education, land, or political voice limit many coal dependent populations (SC/ST/OBC groups, informal workers).

Gender is also a key axis of structural deprivation; historical inequities of gender and the lack of women having rights to land ownership have limited the agency and capabilities of women in accessing compensatory capabilities (Nayak & Swain, 2023).

Therefore, enhancing capabilities through education, social protection and institutional inclusion represents both a moral obligation and an instrument of policy for implementing energy justice.

Although acknowledging criticisms that the capability approach under specifies how institutions should be designed (Robeyns 2017; Clark 2005), this conceptual framework operationalizes the capability approach with both spatial and procedural mechanisms that link the normative freedoms of capabilities to real entitlements.

2.2. The Psychoanalytical Lens and the Triumvirate of Justice (Lacan)

Transition has many aspects that can be interpreted using Lacan's registers (Goswami, 2024): the Real (that which cannot be symbolized), the Imaginary (the way we think of ourselves), and the Symbolic (the rules of society). Lacan's registers will be used heuristically to explain each of the three pillars of energy justice: distributive justice, procedural justice, and recognition justice.

The Real Register (Distributive Justice)

The Real represents the un-symbolizable: the material and affective dimensions of our lives that do not fit into policy abstractions. Examples include polluted air, the effects of illness, and fear about losing one's job. Therefore, distributive justice addresses tangible burdens and benefits by requiring that resources and risk be allocated fairly and equitably.

The Real appears as physical harm that is long-term and serious. These harms are exemplified by high incidence of respiratory and cardiovascular diseases and high rates of malaria among people living around mining areas. Women experience the Real as the dual burden of being most impacted by environmental pollution (e.g., dust and chemicals contaminating food, water, etc.), and increased unpaid domestic labor for securing clean

water, pasture, and firewood because common resources have been degraded (Nayak & Swain, 2023). Informal coal miners experience the Real as heightened exposure to hazardous work environments and lack of social welfare, increasing their vulnerability to economic instability. Thus, addressing the material realities of transition constitute distributive justice and focuses on the fair distribution of benefits and burdens.

The Symbolic Register (Procedural Justice)

The Symbolic represents the order of language, law, and institutions (policy frameworks, statistical models, etc.). It provides the framework for making the transition understandable to the state. Therefore, procedural justice concerns how fair and inclusive the processes are at the level of the symbolic systems (who gets to participate, whose stories get told, etc.).

Official policies such as the National Coal Wage Agreement, which are made every 5 years, provide the framework for benefits to formal workers. Ensuring fairness and inclusion in these symbolic systems, particularly by providing strong avenues for redressal and contestation, represent procedural justice.

The Imaginary Register (Recognition Justice)

The Imaginary represents the way we identify and image ourselves relative to the larger social world. Recognition justice occurs when the Imaginary does not align with the Symbolic (i.e. when lived identities [as miner, as tribal inhabitant] are misrepresented or erased by official narratives of "green development"). Misrecognition takes the form of epistemological injustice, when local knowledge is dismissed in favor of scientific study, and when communities receive disrespect, stigma, and 'othering.' This erasure is especially acute for women, whose traditional knowledge as "natural scientist" and producers of sustenance (through agroforestry and water management) has been delegitimized and rendered invisible throughout history within the reductionist, patriarchal development paradigm (Shiva, 1988). To rectify this ethical dissonance, it is necessary to recognize the lived imaginaries of marginalized groups as legitimate bases for policy.

2.3. Existential and Spatial Dimensions (Derrida and Lefebvre/Soja)

In terms of the psychoanalytic structure of injustice, Lacan has provided an understanding of the psyche's structure of injustice; however, in terms of the temporal and ethical dimensions of injustice, Derrida's "hauntology" provides the insight needed. Transitioning away from coal is also an example of what can be seen as "spectral presence," the unacknowledged remnants of extractive modernity: the scarred landscapes of the area where mining occurred, displaced peoples, and identities as "coal workers." These cannot be considered either completely in the past or in the present as they continue to exist as absent presences demanding ethical consideration. Therefore, responding to such specters is to provide an opportunity for practicing "Existential Justice," and the process of repairing the loss of meaning and sense of belonging associated with structural changes while avoiding the imposition of premature or externally defined "green" identities. Openness to the "not-yet-formulated future" forms a basis for a restorative ethic, one that places value on mourning, remembrance, and cultural continuity as well as the physical restoration of environmental damage.

The application of spatial theory as an addition to the temporal ethics described above. According to Lefebvre (1991), the "production of space," and Soja (2010), the articulation of "spatial justice," transitional processes occur geographically unevenly and are mediated by the spatial relationships of core-periphery, flow of infrastructure and the spatial ecology of a region, thereby producing different justice outcomes. As a result, when mining peripheries pay the ecological and social price of national decarbonization, they do so without receiving corresponding benefits, therefore, all dimensions of justice: distributive, procedural, recognition, and existential, must be viewed through a spatial lens recognizing the importance of place attachment, ecological destruction, and the right to redefine the future of a region.

3. Operationalizing the Framework: Justice Claims and Policy Mechanisms

The transition from theory to practice requires mechanisms that address the asymmetries of governance, information, and power embedded in India's coal landscape.

3.1. Scale, Scope, and Temporality of Transition

Three interconnected levels of just transition are identified by stakeholder perspectives (labour, regional, systemic): labour-oriented justice which protects and compensates workers; regional justice which encourages a diverse range of local economies; and systemic justice which demands a fundamental transformation to enable an inclusive and sustainable economy.

Temporal pragmatism is also important. A gradual, staged approach that aligns with the 2070 Net Zero timeline will allow sufficient time for capacity building, regional planning and the alignment of institutions, thereby reducing the negative impact of social and economic shock caused by the rapid closure of industries. This temporal dimension corresponds with what Schlosberg (2013) refers to as 'sustainability justice' - a form of justice that evolves over time and space.

3.2. Governance and Vulnerability Assessment

Just Transition has to be considered a governance mechanism to ensure that the transition is both socially inclusive and economically and politically viable. For this reason it is necessary to have a system of coordination at multiple levels to break down the existing institutional silos between central, state and local authorities. The design of policies needs to include tools to assess vulnerability such as the Five Capitals Framework (Human, Natural, Physical, Social, Financial). This provides a systematic way to identify significant gaps in human capital (e.g., low education/health levels); physical capital (e.g., unreliable electricity access/poor sanitation); and financial capital (e.g., reliance on unproductive lending).

A key issue is the inherent inequality of power, representation and voice. Central Government Agencies and Industry Actors generally dominate decision making through policy direction and financial influence. As a result, marginalised groups can often be excluded from formal planning processes, and their involvement is limited to tokenistic consultation rather than substantive participation. The inclusion of these assessments in participative planning processes will ensure that both procedural and distributive mechanisms address real lived inequalities.

4. Analysis and Application of Justice Dimensions

The integrated framework presents methods for resolving the ethical conflicts identified by the psychoanalytic lens using tangible forms of justice.

4.1. Justice of Recognition: Bridging the Imaginary Gap

Justice of recognition addresses the conflict of policy representations vs. real life experiences; it focuses on recognizing the different identities and the different contexts of the marginalized groups.

Loss of Existence - Systemic Misrecognition and Identity

Marginalized communities (STs, SCs, OBCs) have been relegated to the majority of informal labor roles that are vulnerable in nature, and many times have fewer educational credentials.

The loss of the coal-related sense of existence (the specter of loss) is the existential threat to identity that recognition justice must address. To avoid epistemological injustices in this context, there must be a recognition of local lay knowledge and the experiential understanding of the marginalized communities and expert knowledge.

Education and Caste

An analysis of survey data shows a direct relationship between the amount of education and the individual's caste in coal producing districts such as Dhanbad and Koriya. Approximately 57% and 52% of marginalized communities respectively in coal producing districts had either no formal education or only completed primary education. There were significant percentages of OBC (35.53%), SC (18.27%) and ST (3.55%) households in Dhanbad who had either no/primary education. Due to lack of access to quality education, the educational achievement of the marginalized communities limits their ability to move to alternative opportunities (National Foundation for India, 2022).

Testimonial Epistemic Injustice

Technical and scientific studies are generally viewed as more important than local lay knowledge in energy transition planning. This devaluation of local knowledge can lead to testimonial epistemic injustice when concerned citizens are labeled as "an unruly, autonomous and insurrectionary" resistance group, or a vocal minority (Gürtler & Herberg, 2021). These exclusions are particularly pronounced for women whose ecological and sustenance-based knowledge is often intentionally delegitimized by the reductionist, patriarchal development paradigm (Shiva, 1988). Testimonial justice in this regard will require acknowledgment of the local lay knowledge and experiential understanding of the impacted communities.

Case Study : Caste Based Exclusion (The Real Gap)

Manoj Kumar Bhuiyan exemplifies this gap clearly. Manoj Kumar Bhuiyan is an informal SC worker from Nathkhurki (Dhanbad). He performs the physically demanding, unskilled job of loading/unloading coal trucks. He states that the traditional socio-economic restrictions of his caste limit him from getting any type of regular job. When coal work is not available, he performs manual scavenging for his survival. The absolute dependence of Manoj Kumar Bhuiyan on coal work for his survival reflects the total absence of dignified alternatives (in the coal economy) that are commonly overlooked by macro policy narratives (in the coal economy). (The Symbolic) (The National Foundation for India, 2022)

Gender and Social Dynamics

While there are many aspects of the coal transition that have serious impacts on gender justice, there are few issues where gender differences are more apparent than when it comes to the environmental and social costs of the coal transition. As stated above, women bear the "double burden" of the coal transition i.e. the environmental degradation caused by coal mining and the resulting social disintegration.

Historical Exclusion

In India, women were a major part of the coal mining workforce during the colonial period. However, after the 1920's, women were excluded from all underground mining, and later excluded from surface jobs because of their inability to operate heavy machinery and because of societal prejudices against women working in those environments. The women were also excluded from receiving the land compensation paid out to men for the loss of their land as a result of mine closure. While this process of exclusion has existed for some time, it seems likely that the process will continue and expand under the current transition to renewable energy, which is both highly technical and land-intensive, and therefore likely to exclude women and be based on traditional male-defined work environments (Nayak & Swain, 2023).

Social Disintegration

Economic instability, or lack thereof, results in severe social disintegration as people lose their livelihoods after mines are closed. The community of Rampur Colliery, located in Brajrajnagar, Odisha, experienced widespread unemployment, rampant substance abuse (including alcohol and ganja), and significant domestic violence. Women in the area specifically identified the issue of domestic violence as the greatest concern within the community (The Energy Resource Institute, 2022).

Restorative Action

The recognition of the negative effects of the coal transition on women and society as a whole must translate into the development of gender-sensitive policies that address these concerns. The framework calls for corrective actions such as public education campaigns regarding substance abuse, increased support services for women, and the establishment of women-centered businesses through joint liability groups (JLGs) (The Energy Resource Institute, 2022).

4.2. Procedural Justice: Bridging the Symbolic Divide

Procedural justice is concerned with the inclusion and clarity of processes in which decisions are made; it can counteract the symbolic nature of success that obscures true citizen participation in decision-making processes.

Exclusion of the Informal Workforce

India has an exceptionally large proportion of the labor force that works as contract/off-roll labor. Contract labor is present in over 70% of the total labor in every sector. In transportation alone, the percentage of contract labor reaches almost 90%. (National Foundation for India, 2021).

These informal workers do not have legally enforceable employment contracts or social security protection and thus are extremely susceptible to mass layoffs. Thus, formal estimates of labor force trends will likely omit this substantial segment of the labor force, thereby excluding them from proposed transition strategies.

Co-creation and Institutional Reform

At present, power imbalances and top-down planning characterize the approach to implementing current transition policy. Procedural justice demands a shift from merely soliciting input from citizens to having them involved in the development of policy as co-producers and participants in governance from the beginning. For procedural justice to be successful in these contexts, specific institutions need to be created; e.g., tripartite institutions comprising worker representatives, mining company representatives and local government officials, in order to create space for dialogue and problem solving to occur at the local level (panchayats/ blocks). Furthermore, procedural effectiveness needs to go beyond a simple avoidance of "NIMBY" concerns to truly integrate the knowledge and experience of indigenous peoples, common sense and everyday experience.

4.3. Distributive Justice: Securing Material Realities

Distributive justice focuses on how we allocate resources equitably, which reflects the material reality of our world as observed by the real lens.

Livelihood and Economic Security

The shutdown of mines has created an extreme disruption in the coal-based economy, resulting in a serious reduction in household income; distributive mechanisms will need to create new livelihood opportunities through re-training and vocational training to fit market demand (i.e. solar energy, MSME).

DMF (District Mineral Fund) money is seen as a potentially key financial tool to fund a regional socio-economic transformation and the funds must be used appropriately to promote local development and enhance social infrastructure; the development of abandoned mine site can be converted to clean energy projects such as solar grids, which was studied in Angul, Odisha.(CarbonCopy, 2024).

Additionally, abandoned mine pits can be used for fish farming/aquaculture and reclaimed land can support agroforestry/biochar production units for improving soils and represent a type of green development, which would change the physical identity of the place from being related to extraction.

The Lived Realities of Financial Precarity and Capability Deprivation

Coal community members experience multiple layers of capability limitations beyond low income, but fundamentally they cannot access nor utilize available resources.

Income Disparity and Vulnerability

Mining districts (such as Ramgarh and Koriya) have been found to have lower incomes than more diversified districts (such as Angul). For example, 92% of the labor force in Ramgarh works in the informal sector, and do not have any written job contracts, and therefore face high levels of vulnerability due to the fact that they could lose their jobs at any time. (National Foundation for India, 2024)

Debt and Financial Stress

Many people are financially strained due to the uncertainty caused by the shutdown of the mines. In Chhattisgarh, 30.8% of the sample population felt uncertain about their future and 29.4% were concerned about paying off debts due to the mine closure. (The Energy Resource Institute, 2022)

Villages in the affected areas of mining within the Talcher coal field area spend more than ₹5,000 per year on medical expenses, which is much higher than the amount spent before the mine existed and those of control villages and represents the extremely large cost of poor health. (NITI Aayog, 2019)

According to surveys conducted by NITI Aayog in Dhanbad and Angul, 94% of youth in both cities fall under one of three categories of marginalized groups: SC/ST/OBC. The lower-class category made up 20% of the sample population in Dhanbad. The limited financial resources of this group is exacerbated by widespread reliance on coal and lignite as the main cooking fuel source for households (more than 90%) (Sajeev, Singh, & Pandey, 2025)

Skill Gaps and Inertia to Transition

Limited human capital development is a major obstacle and creates a gap between education and work opportunities.

Training Gaps

In Ramgarh, 98% of all households received no training or opportunity to develop skills. In the informal sector of Angul, 64% of survey participants had no technical education during the past year, and 35% had no contract when working.(National Foundation for India, 2024)

Mental Inertia

FGDs in Dhanbad reveal greater social obstacles. Young men pursuing technical qualifications (such as ITI) do so primarily to increase their marriage prospects and dowry amounts, as opposed to purely for career mobility; the pursuit of social status instead of occupational readiness limits the success of re-skilling initiatives. (Sajeev, Singh, & Pandey, 2025)

Market Mismatch

Youth find it difficult to locate employment, meet the required skills to perform the job, and travel long distances; this suggests that reskilling efforts should be founded upon a systematic analysis of required skills and market needs to avoid positioning mismatches. (Sajeev, Singh, & Pandey, 2025)

Health and Social Protection

Pervasive Health Crisis

Many communities in Odisha, Jharkhand, and Chhattisgarh have serious health problems, especially related to breathing, joints and skin due to coal dust pollution and environmental damage. (The Energy Resource Institute, 2022) Respiratory illnesses such as Coal Workers' Pneumoconiosis (CWP) can occur when people breathe in coal dust. For example, nearly all surveyed households in the Talcher coalfields of Odisha (93.77%) reported having had serious illnesses over the past three years. Of these, gastric disorders were the most common illness.(NITI Aayog, 2019)

Water Contamination

Health problems also arise from polluted water sources. High levels of minerals in groundwater in Sundargarh and Chhendipada (Odisha) cause skin diseases, gastritis, and joint pain; in Patel-para, Surguja district, Chhattisgarh, residents experience skin irritation due to high mineral content in the local water causing it to "stick" to their bodies which results in itching and tears.(The Energy Resource Institute, 2022)

Inadequate Healthcare Infrastructure

Healthcare access varies greatly depending on where you live and how much money you make. Since the closure of BCCL hospitals in Lodna (Jharkhand), many residents must now pay high prices for private healthcare. In Odisha, there is a shortage of Primary Health Centres (PHCs) and adequate Community Health Centres (CHCs); as a result, women living in Harijan-sahi, Chhendipada, must travel far and take out loans from friends and family to receive medical treatment in Angul or Cuttack. Hospitalization costs in Dhanbad are extremely high annually. (The Energy Resource Institute, 2022)

4.4. Existential/Restorative Justice: The Open Future

Restorative justice seeks to repair previous harms (corrective justice), and to create the open structures required for a lasting, unplanned future (transitional justice).

Physical and Natural Capital Degradation

Long term financial burden results from both physical capital (infrastructure) and natural capital (environment) being depleted.

Sanitation and Water Access

Access to clean water and sanitation are capabilities that exist but are lacking in Angul and Dhanbad. (Sajeev, Singh, & Pandey, 2025) Although, Jharkhand has somewhat better in house toilet access (71%); the external or public toilet reliance rates of Odisha (40.5%) and Chhattisgarh (11.9%) far exceed this, creating public health concerns.

Impact on Agriculture

As much of the area impacted by mining and heavy industry is made uninhabitable, so too is agriculture, as a result of destruction of ecosystems, lack of irrigation, and removal of grazing lands. As a result, in Raigarh, because of ecological destruction and inadequate irrigation systems, agriculture is no longer viable. Therefore, families that have lost land have had no option but to rely exclusively on mining income, creating a monocentric economy.

CSR and Infrastructure Gaps

Mahanadi Coalfields Limited (MCL) utilizes CSR funds for building community centers and shopping areas. These facilities are often built centrally and are therefore restricted to MCL employees and their families and exclude the non-employees and marginalized communities most negatively affected by pollution.

Ecological Repair and Green Development

Intense degradation of natural capital (i.e., water, air, soil, and biodiversity) results from mining activities. Thus, it is critical to implement extensive environmental restoration and repurpose efforts (The Energy Resource Institute, 2022).

Therefore, restorative justice requires the strict implementation of full-scale mine closure policies and the repurposing of all lands. Many stakeholders have suggested implementing mandatory reclamation and redevelopment of abandoned mine sites (National Foundation for India, 2024).

For example, abandoned mine sites can be converted to clean energy infrastructure (e.g., solar grid systems, as has been proposed in Angul, Odisha). (CarbonCopy, 2024) Additionally, abandoned mine pits can be used for fish farming/inland aquaculture, and reclaimed land can be utilized for agroforestry/biochar production units for improving soil quality. These are examples of green development initiatives, where a location's identity is physically shifted away from resource extraction. (Coal Ministry, 2025) It is also critical that enabling programs such as MGNREGA schemes are allowed to operate within Coal Bearing Area Act (CBAA) lands (which are often prohibited), to provide immediate income support and improve livelihood opportunities for families that are landless (National Foundation for India, 2024).

Addressing Loss of Identity and Social Cohesion

Existential justice recognizes the profound effects that coal mining has on the social structures of the community.

Social and Cultural Loss (Talcher, Odisha)

In the Talcher coalfield, the economic gains from mining jobs created a previously unseen level of loss in the social structure, social capital, family, kinship, and caste structure of the region.

The displacement of tribal communities has destroyed the social capital, which is a major source of life support for many tribal communities. Displacement has also resulted in psychological and economic trauma, and has contributed to an increase in unwed mothers, woman trafficking, immoral behavior, and domestic violence. (NITI Aayog, 2019; National Foundation for India, 2022)

Disruption of Place Attachment

The creation of a dependence through mining creates a high-risk situation; when decline occurs, the disruption of place attachment and asset-based development will lock people into the town, thereby creating a barrier to coping with decline.

Policies need to be implemented to help restore traditional art forms, languages, crafts, and rituals that have been disrupted by mining, and thereby strengthen the cultural identity of the affected communities. (Marais, 2023; Coal Ministry, 2025)

Case of Resilience and Agency

Despite the negative effects of coal mining, marginalized communities exhibit strong levels of resilience. For example, in Talcher, Odisha, villagers staged a dharna (sit-in protest) and hunger strike when Mahanadi Coalfields Limited (MCL) issued notice to relocate them without providing any alternate land for relocation. As a result of the resistance by the villagers, MCL was compelled to withdraw suspension notices and charges against the villagers, which demonstrated the ability of the affected communities to protect their damaged social articulations and identities. The ongoing contestation of the narrative by the affected communities is a critical factor in achieving transitional justice. (NITI Aayog, 2019)

4.5 The Sahaj way

The paper so far offered an integrated justice framework through the capability approach, psychoanalysis, hauntology and spatial justice. This research, however, remains unfinished without offering an epistemic orientation grounded in a Bharatiya civilizational context. The above-mentioned frameworks still operate within a modernist epistemological prism to assert energy justice through participatory governance, policy design, capacity building and procedural inclusion. They risk insufficiently accounting for the epistemologies and lived realities that emerge from a localised, culturally grounded, Global South-specific context.

The coal economy is premised on the colonial extractive logic of industrial modernity and built on layered histories of caste, economic marginalisation, displacement, dispossession, and ecological degradation. A Bharatiya energy transition cannot just address economic and administrative dimensions but also ecological, civilizational, affective and spiritual ones that restore the relations among humans, land, ecology, labour and energy.

This section uses the Sahajiya tradition, which emerges from multiple heterodox Vaishnava, Baul, Tantric and Bhakti traditions of Bengal, as an epistemic intervention. Sahajiya philosophy is premised on being “sahaj” (easy or natural), a rejection of dualism, embracing immanence and locating the human body as the primary site of spiritual experience. It explicitly rejects caste hierarchies, organised religion, and operates as a knowledge

apparatus that foregrounds alternative modes of inhabiting and relationality as a way of life. It articulates a mode of thinking from the margins and potentially, of immersion in socio-ecological systems (Ostrom 2009).

This section frames the Sahajiya way as not an alternative model of transition but a lens to reorient the normative foundations of energy justice that foregrounds epistemic plurality, accounts for ecological and kinship loss, and seeks a relational way of living that champions the porosity of the space between the self and the other. The sahajiya way of life is offered as a "practical" and "transformative philosophy" that offers a social cure to an individual dis-ease (Dhar 2025), as a "micropolitics of self-transformation" and a "macropolitics of a much larger way, form, evolution and transition of life".

This approach challenges the dominant frameworks of the energy transition and questions the extractivist nature of land relations by examining the erosion of relational worlds that exist outside this framework in which the human and non-human coexist: the co-existence of labour, land, forests, rivers, minerals, and memory. The fragmentation of ecological and social relations within coal communities in Talcher and Raigarh in Orissa, and Ramgarh in Jharkhand undergirds this extractive relationship. The loss and fragmentation of kinship systems, ritual ecologies, women's ecological knowledge, both agricultural and medicinal (which can be understood as a form of environmental stewardship), and the externalisation of environmental costs "expose the frailties of modern economic development" and the "prevailing logic of capital accumulation in a peripheral economy" (Marx 1976, cited in Pathak 2025). These forms of rupture cannot be accounted for through just reskilling and compensation.

The Sahaj way can reframe the idea of energy justice through an immersive practice for the recognition and preservation of forms of embodied local knowledge. Premised on "a state of equilibrium between the self and the world and a recognition that the individual is the microcosm" (in Dhar 2025), Sahajiya traditions are premised on dissolving separations between nature and society. This links to ecocentricism, a framework that situates nature as the spiritual and moral centre and recognises the inherent value of living beings. This worldview opposes extractive systems that deplete not just a cultural or moral but a spiritual and civilizational anchorage in natural ecosystems, replacing them with technical and scientific expertise over embodied local knowledge.

This lens also offers a form of relational ecology that views environmental damage as a rupture in the socio-environmental fabric of living systems. This idea enriches the concept of restorative justice by positioning ecological restoration as civilizational restoration and practices of affective repair through agroforestry, mine reclamation, fishery restoration and regeneration of common lands.

As Menton et al (2020) argue, the understanding of GDP maximisation as a continually applied metric for economic growth and development is a dominant epistemology and takes primacy in policy decisions, subordinating other forms of knowledge, such as the social costs of extractivist logic. The experiential knowledge of informal coal workers, Adivasi communities, women, and displaced people becomes central to transition planning. Lived experience becomes an archive of environmental knowledge that traces respiratory illnesses, dust inhalation, silicosis, and gendered labour burdens as diagnostics of extractive violence.

Sahajiya's rejection of caste orthodoxy, which is premised on forms of ritual exclusion of socially marginalised groups that obscure the conditions of their economic exploitation, offers an ethical basis for addressing labour stratification based on caste within coal economies. By viewing labour relations not at the periphery of transition planning but at their centre, this approach can address the informalization of labour and demand an ethics of dignity, adequate compensatory structures, and draft welfare systems into labour policy during transition planning.

"Institutional procedures and processes need to be designed so that they nurture sound epistemic interactions" (Fricker 2023). These interactions can include shared contexts and social meanings deriving from socio-economically marginalised groups whose knowledge systems emerge from their lived experience and constitute a social world where their embodied knowledge is represented in planning frameworks.

The Sahaj way can also extend the scope of recognitional justice by foregrounding epistemic plurality, recognising that knowledge about transition is not exclusively generated through formal institutions, but also through lived practices and marginal contexts. In doing so, it deepens the paper's margin-driven approach, which treats peripheral lifeworlds as sites of insight rather than merely sites of vulnerability.

To further develop this epistemic contribution, the concept of braiding as an eco-philosophical intervention can be a valuable complement to the Sahajiya lens. Braiding provides the conceptual vocabulary for understanding how diverse and heterogeneous

knowledge systems, such as energy regimes, livelihood structures, institutional arrangements, and knowledge forms, are interwoven and integrated to address the sheer scale and diversity of India's energy transition. Crucially, braiding preserves the integrity of distinct strands while enabling relational coherence, thereby resisting homogenising tendencies inherent in universalist transition models.

To meet the epistemic requirements of a Bharatiya energy transition, braided knowledge systems must account for the integration of scientific and local ecological knowledge, decision-making GIS systems with lived geographies, oral histories with policy expertise, and engineering knowledge with feminist political ecology. This will also enrich procedural justice frameworks to be inclusive of participatory governance structures that account for localised knowledge in the transition planning and policy process.

For example, women's knowledge about fuel choices, scarcity and household power relations should inform decentralised energy planning as they often can decide the nature of fuel choices. Existing traditional practices of agroecology should inform post-mining land use. Oral histories of displacement should inform mine repurposing and rehabilitation frameworks.

Read together, Sahajiya and braiding advance a set of normative extensions to conventional energy justice frameworks. They shift the emphasis from distributive outcomes alone to relational justice, foregrounding the maintenance of socio-ecological interdependencies that sustain livelihoods, particularly in coal-dependent and resource-intensive regions. This reframing is critical for evaluating transition strategies that may otherwise prioritise efficiency or decarbonisation at the expense of embedded social systems.

5. Discussion and Policy Implications

The apparent consensus among stakeholders regarding the importance of developing a comprehensive, integrated justice framework that simultaneously considers labour, regional, and systemic changes, and the reorientation of epistemic frameworks of energy justice, presents a compelling model for policy in India.

5.1. Institutional Reform and Capacity Building

The underlying challenge remains the imbalance of power and the fragmentation of governmental structures. For institutions to dismantle structural barriers and recognise the relational, ecological, effective, and epistemic dimensions of justice, policy interventions must be designed to accomplish this goal.

Institutionalizing Epistemic Justice in Transition Governance

Just Transition Cells must be created at both the State and District levels in coal regions to enable authentic stakeholder participation, tracking of processes, and coordination of regional development. These cells should include informal coal workers, Adivasi representatives, women's collectives, and community elders as active participants than passive stakeholders.

They must create conditions in which local actors can establish capabilities they value. They must also be involved in participatory mapping, community-led ecological assessments, and included in mine closure planning.

Mandatory Data and Formalization

The extreme informality of the workforce creates an absolute need for conducting a census of informal workers, contract labourers, transport workers, women workers and caste-based marginalized workers and providing ID cards to this undocumented workforce. This formal acknowledgment will make them eligible for re-skilling, social security, and livelihood programmes. Moreover, they should have access to transferable social protection systems, health protection and compensation against occupational illnesses such as respiratory illnesses, silicosis, etc., and gender-sensitive welfare systems. As such, it addresses the procedural exclusion of the most vulnerable.

Regional Economic Diversification

The necessity of economic diversification is another area of agreement among all stakeholders; all recognize that one size fits all will not suffice for different districts.

District-Specific Challenges

The vulnerability assessment revealed that each district is geographically unique, with distinct demographics and economic structures. Place-Based Transition Frameworks will be essential to account for specific regional environmental degradation patterns, employment structures, caste dynamics, and cultural identity.

Angul (Odisha)

A very young industrial district with multiple forms of industry, and a higher percentage of formal jobs, however, has a high dependence on coal for employment. The coal-dependent economy surrounding Angul must be included in policy considerations (National Foundation for India, 2024).

Ramgarh (Jharkhand)

Ramgarh presents itself as an area of significant coal phase-out, as well as having abandoned mine sites. A high number of unskilled individuals exist in Ramgarh, as does a high migration rate, and substantial problems related to land degradation and water shortages. Micro and small-scale units (brick making, food processing, handicrafts), that have arisen around closed mines as a result of the transition process, must be utilized as alternative livelihood options in Ramgarh (National Foundation for India, 2024).

Chatra (Jharkhand)

Was selected as a primary study site due to the extreme dependency of Chatra's economy on coal mining and the lack of presence of other major industries, which indicates that Chatra is highly exposed to the consequences of the transition process (Pandey & Kumar, 2025).

Induced Job Loss

The transition will also cause economic shock in the induced job ecosystem, or the network of jobs that rely on the coal worker's demand for goods and services, including street vendors, tea sellers, and mechanics. If alternative means of support are not provided to this ecosystem, it is "at risk." (National Foundation for India, 2024)

Policy Pathway

Economic diversification will require utilizing DMF funds, creating product-based clusters through JLGs, and using government incentives/subsidies to promote new businesses and develop beyond simply compensating those affected by the transition process (Pandey & Kumar, 2025). Communities must be invited to participate in co-designing grounded and sustainable livelihood diversification pathways and ecological restoration plans according to present land-use systems.

There should be community-defined parameters for well-being that look beyond GDP metrics and recognise the socio-environmental cost of coal mining and extraction, and that attribute value to restoration, not mere compensation.

Creating Transition Metrics Beyond Economic Growth

There is the need to create developmental paradigms that look beyond GDP maximisation as a key indicator and enabler of economic growth. A Sahajiya-Bharatiya framework for energy transition can include ecological and relational indicators to acknowledge socio-ecological loss and broaden the definition of development to include well-being for humans and other lifeforms. These can be achieved through restoration of common lands, increasing access to ecological resources, regeneration of soil and water, reducing incidents of occupational disease and improving indicators of human health; restoration of local food systems, regenerative agriculture and agroforestry practices; and preserving traditional knowledge systems.

To enable genuinely decentralized and progressive renewable energy systems, the transition framework must recognize and compensate women for their unpaid care work and ecological labour (DiNovelli-Lang and Hébert 2018 in Mahato 2025), and systems must be designed through women-led participatory planning mechanisms. Women's expertise in seed conservation and taxonomical expertise on medicinal plants must be recognized and championed in ecosystem and biodiversity conservation.

To confer ecological value and acknowledge ecological work is to think through the lens of an ecological moral economy (Mahato 2025), as a perspective on natural resource management, which can sustain lives and livelihoods and regenerate environmental indicators that can enable local communities to live in harmony with the land.

This can encompass a truly Sahajiya-Bharatiya lens for India's energy transition that leaves no one behind. To integrate national just transition frameworks with labour, ecology and social justice will require the integration of the Ministry of Coal Ministry and Ministry of New and Renewable Energy with the Ministry of Tribal Affairs, Ministry of Rural Development, the Mahila Kisan Sashaktikaran Pariyojana (MKSP) under DAY-NRLM. It will require the mandating of social impact assessments alongside economic impact, and the recognition of ecological restoration and community well-being as central to a Bharatiya energy transition.

Territorial Ecological Reparations Framework (TERF) for Coal Regions

A Bharatiya just energy transition should establish a Territorial Ecological Reparations Framework (TERF) for coal-bearing and extractive regions. This framework will recognise the disproportionate ecological, health, social, and affective burdens of national energy production on coal-dependent districts, while receiving unequal developmental benefits in return.

Under this model, a proportion of the surplus generated through coal extraction, energy transfer, and associated industrial activity would be mandatorily redirected toward community-controlled restoration and transition mechanisms within affected regions. However, unlike conventional compensatory frameworks, the model would not treat ecological destruction as financially compensable but operate through a relational justice approach grounded in ecological repair, social regeneration, and inclusive post-extractive transition planning.

Such a framework can develop participatory environmental accounting systems that integrate technological and community-based knowledge; systems for tracking the ecological and public health burden of coal mining at the district level; valuation systems for women's ecological labour; funds for biodiversity restoration and greening initiatives; locally owned and governed renewable energy systems; participatory social audits. Finally, this should be integrated within India's long-term decarbonization goals and economic diversification strategies to balance economic growth with inclusive and responsible development.

5.2. Global Responsibility and Temporal Pragmatism

India's Net-Zero 2070 timeline outlines a measured approach to development and climate action, aiming to find a balance between these two priorities as part of its Viksit Bharat vision. Nevertheless, international collaboration will be key. The discourse surrounding climate issues at an international level can reflect normative positions of the Global North which do not take into account the development and distributive interests of India. The assertion that it is the obligation of developed countries to provide financial support to developing countries to enable their transition, while the Carbon Border Adjustment Mechanism (CBAM), represents a mechanism for creating structural inequalities through the imposition of penalties on carbon intensive economies in the Global South. Climate Justice will require that international efforts focus on the enhancement of the capabilities of vulnerable countries such as India so that they can transition according to their own preferences.

6. Conclusion

The Indian Coal Transition is not simply a matter of replacing dirty fossil fuels with clean renewable energy sources. It represents an important social transformation for the Indian people. This transition provides an opportunity to test the resilience of Indian society to balance its desire for economic growth while also creating greater Justice. This paper has provided a theoretical framework to analyze the multi-dimensional nature of energy transition using the Capability Approach and extending this framework using Lacanian, Derridean, Spatial and Sahajiya philosophies to provide a basis for understanding the transition process as both redistributing wealth and providing a fair process for decision-making based on recognition of identity and existential repair of ecological and emotional fractures, while also expanding energy justice frameworks to affective, ecological and relational dimensions.

To operationalize "Justice" within the context of India's coal transition will require that institutions be capable of executing the transition, that all parties be transparent about executing the transition, and those most impacted be empowered to co-create their future with the government. For there to be distributive justice, the government must ensure fair compensation for jobs or income lost due to the transition, alongside investments in human capital. For procedural justice, the government's decision-making processes must be democratized to open participation by all parties. For recognition justice, the government must value and recognize the identities of local communities. For existential justice, the government must help to heal the ecological and emotional fractures created by the coal industry. For epistemic justice, the transition must include braided frameworks to integrate heterogeneous knowledge systems to repair ecological and social relations and foreground socio-ecological interdependencies. This can be foregrounded through establishing a TERF model which recognises the various social, health and ecological costs of energy production on coal-bearing regions and addresses this imbalance through ecological repair, social regeneration and inclusive transition planning. These are not sequential requirements but rather concurrent responsibilities that must exist simultaneously for a transition to be considered "humane".

Ultimately, the success of India's transition away from coal will depend on the ability of the government to use policy to create a situation where Structural Vulnerability is transformed into Capability, Loss is converted into Renewal, and Displacement is turned into Dignity. A Just Transition is one where communities are allowed to not only survive the death of the coal industry but to imagine and live out new ways of flourishing in consonance with the environment.

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