

From Sacred Landscapes to Extractive Frontiers: Development-Induced Displacement, Ecological Stress and the Reworking of Tribal Lifeworlds in Jharkhand

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Abstract

Simultaneously imagined a homeland of Adivasi ecological cultures and an area identified as one of India's mineral-industrial regions is Jharkhand. This paper studies the transition of spaces into extractive frontiers – land, forests, hills, rivers and sacred community sites – through mining, dams, industrial corridors, power projects, urban expansion and forest diversion. To examine the relationship of development-induced displacement and ecological stress with the reworking of tribal lifeworlds, the paper will focus on communities like Munda, Santhal, Ho, Oraon, Kharia. The paper does not claim on ground field data. Methodologically, it makes use of qualitative secondary analysis; critical policy review; and synthesis of case-study based on government reports, lawful frameworks, census material, academic literature and civil-society documentation. The authors argue that displacement in Jharkhand is not merely a transfer of households from one site to another but a rupture of land-based social relations, of ritual geographies, of customary authority, of gendered labour and of intergenerational memory. Tribal communities are not only portrayed as victims of 'development displacement'; but also, of the movements with which they are engaged over land, forest, dam, mine and sacred sites. The conclusion of the paper indicates that mineral-led development cannot be socially sustainable unless it is reoriented towards consent-based governance, community forest rights, culturally-grounded rehabilitation, ecological restoration and empowerment of tribal self-governance.

Keywords: Jharkhand; Adivasi lifeworlds; development-induced displacement; political ecology; sacred landscapes; extractive frontiers; environmental justice

1. Introduction

Jharkhand holds a unique status in the political ecology of India. The state was formed out of Bihar in 2000 after a protracted history of Adivasi mobilisation around autonomy, land, forest and cultural rights. Although its name evokes forests, hilly terrain, and mineral-bearing plateaux, the development of the tribal community seemingly contradicts the fact that the very sites sustaining their life have also been classified as reserve sites of coal, iron-ore, bauxite, uranium, limestone, dolomite, mica, and so on. As per official state sources, Jharkhand is a mineral-rich region, which also notes that it is a huge annual producer of minerals (Government of Jharkhand nd.). The state's control on the population intensifies inequality. According to Census 2011 data published by the Tribal Research Institute, Jharkhand (Tribal Research

Institute, Jharkhand, n.d.), Scheduled Tribes are 8,645,042 persons, that is 26.21% of the population in the state. Many of these settlements are located right on top of the sites of minerals, forests and infrastructure projects.

This paper does not look at Jharkhand merely as an administrative unit but as a historical frontier where state-sponsored development, corporate extraction and tribal territoriality intersect. In the language of economists and investors, a mineral endowment is an asset for growth, industrial job creation, revenue and energy security. In tribal societies, land is not a commodity or a unit for compensation. It is related to the ropes of kin, memory of ancestors, ritual obligations, burial grounds, sacred groves, seasonal agriculture, forest produce water bodies, livestock routes, and village self-rule. The intersection of these two registers land as resource and land as lifeworld has made Jharkhand an important site for the study of development-induced displacement, ecological distribution conflict and tribals' resistances (Martinez-Alier, 2002; Shah, 2010; Sundar, 2009).

1.1 Research Problem and Rationale

The main research question is that development-induced displacement in Jharkhand has often been overly narrowly understood to be a technical problem of land acquisition, compensation and resettlement. This approach fails to see the cultural, ecological and political dimensions of dispossession. When a mine, dam, steel plant, power project or road corridor displaces a village it loses much more than a place to reside. It may lose access to areas where they can fish, the forest patch, sacred sites like Sarnas or Jahers, seasonal grazing grounds, informal labour networks, clan-based settlement patterns, and everyday ecological knowledge. The impacted individuals could also be forced into becoming wage labourers, migrating, residing in peri-urban areas insecurely, or engaging in conflicts with host communities. These results are not accidental by-products, but rather component of a wider frontier process through which extractive development reorganises space, labour and authority (Cernea, 1997; Fernandes, 2001; Nixon, 2011).

1.2 Conceptual Definitions

The term 'sacred landscapes' refers to land, forest, water and hill systems that are simultaneously ecological, social and spiritual. These comprise groves of Sarna and Jaher Than, ancestral sites, the commons of the village, and ritual geographies through which tribal communities reproduce their collective identity. Extractive frontiers refer to spaces which are opened for resource extraction through processes that are legal, infrastructural, financial and administrative which gradually reclassify lived landscapes as mineral blocks, industrial zones, reservoirs or corridors. The term ecological stress refers to the cumulative pressure due to deforestation, air pollution, water pollution soil pollution, waste dumping, loss of biodiversity and disruption of hydrology. Tribal lifeworlds refer to the social, cultural, ecological and moral worlds through others that communities negotiate meaning, organise labour, relate to land and navigate change.

1.3 Objectives and Research Questions

The objective of this paper is four-fold. First, it seeks to conceptualise Jharkhand as sacred tribal landscape as well as extractive frontier. Second, it seeks to study the patterns and consequences of development-induced displacement. Third, it seeks to analyse how ecological stress transforms livelihood, culture, gender relations, and political consciousness. Fourth, it seeks to evaluate the law-policy-governance gaps in relation to tribal ecological justice. The guiding research questions are: How are the tribal landscape of Jharkhand reshaped by mining, dams, industrialisation, infrastructure and urban expansion? What types of displacement and ecological stress are inflicted by such projects? How are lifeworlds of Adivasi being

reworked through loss, adaptation, resilience and resistance? What legal and policy reforms are required for transformative justice?

2. Theoretical and Conceptual Framework

2.1 Political Ecology and Extractive Frontiers

Political ecology is the most appropriate entry point because it refuses to treat environmental change as a purely technical or natural phenomenon. It questions: who controls which resources; who pays the ecological costs; whose knowledge counts; and how environmental degradation connects to power-property-development narratives (Bebbington 2012; Blaikie and Brookfield 1987; Escobar 1995; Peluso and Watts 2001; Robbins 2012). Inside Jharkhand, political ecology helps open up the administrative mapping, leasing, clearance and governance of forests, hills and subsoil minerals, while the tribal claims based on custom, memory and use are often rendered legible only after conflict emerges. Furthermore, it illustrates how a development endeavour can yield various forms of advantage for both the state and industry while shifting ecological liabilities onto those communities which are least likely to externalise risk.

The concept of extractive frontier is significant since mining and industrial development do not just occupy a vacant space. By facilitating access to land for extraction, constructing transportation infrastructure, attracting labor markets, implementing security measures in the territory, and transforming local communities into areas of national resource provisioning, they actively create a frontier. The fact that extraction is geographically fixed, materially disruptive; and state-backed rights are bound to land and the subsoil creates a particular kind of environmental politics surrounding mining (Bridge, 2004). Indian mineral-frontier studies similarly show how Adivasi land conflicts can be frozen between community claim, corporate investment and state revenue (Oskarsson, 2018). This is particularly significant in Jharkhand, where even though surface landscape is imbued with tribal tenure, forest dependence and ritual practice, subsoil can be claimed as a national economic asset.

2.2 Development-Induced Displacement and Impoverishment Risks

According to the literature on development-induced displacement and resettlement, compensation is seldom a solution for involuntary relocation. The continual threats of dislocation (Cernea, 1997, 2000) identified by Cernea's impoverishment threats and reconstruction model consist of landlessness, joblessness, homelessness, marginalisation, food insecurity, morbidity, access to common property and social disarticulation. The World Bank safeguards also make a distinction between physical and economic displacement, and specify the need to avoid, minimize and mitigate involuntary resettlement (World Bank, 2017). For Jharkhand, we must expand the framework to include loss of sacred-sites, ritual dislocation, erosion of customary governance and weakening of ecological knowledge systems.

2.3 Environmental Justice and Ecological Distribution Conflicts

According to environmental justice theory, the question raised is not about aggregate development benefit but rather about the distribution of burdens from it, recognition of impacted communities, and participation (Schlosberg, 2007). According to Martinez-Alier (2002), ecological distribution conflicts refer to conflicts regarding access to environmental resources as well as damage due to pollution. In India, this strikes a similar chord with ecology-and-equity scholarship which links environmental degradation with power over nature (Gadgil & Guha, 1995). Such instances of resistance and confrontation can be found in the mining belts of Jharkhand, dam-affected villages and forest-diversion zones. According to them, the most common failure of compensation which is often provided in such case is that the stake is not valued in

monetary terms only, land could be valued as a livelihood, ancestry, sacredness, autonomy and future security and not just exchange value.

2.4 Indigenous Worldviews and Subaltern Agency

Indigenous ways of life are not static culture survivals. They have a history of being produced, differ internally and are constantly changed through labour, ritual, migration, state policy, and political struggle. According to Xaxa (1999, 2008), one must investigate the tribal question in India in terms of land alienation, autonomy, identity, and citizenship. The concept of internal colonialism offers insight into how tribal regions with mineral resources are incorporated in the name of national development but remain politically marginal and socially dispossessed. Subaltern Studies also warns against portraying Adivasis merely as victims. Movements in Jharkhand, whether over demons, forest rights, land acquisition or sacred sites, demonstrate forms of agency underpinned by customary institutions, moral claims and constitutional language (Shah, 2010; Singh, 2024; Sundar, 2009).

3. Literature Review

3.1 Development, Displacement and Resettlement

The subject of development-induced displacement literature reveals that massive projects tend to produce impoverishment even when formal rehabilitation package are available. Fernandes (2001, 2023) shows how India's tribal communities, and other marginalized communities, have suffered excessive displacement. Baviskar (1995), when discussing the Narmada Valley, finds that displacement conflicts are simultaneously material, ecological and symbolic. Involuntary resettlement incorporates a useful comparative risk framework offered by Cernea (1997, 2000), to identify embedded social losses. Nevertheless, economic rehabilitation studies alone do not cover the symbolic and ecological harm suffered from displacement in the tribal area. For Jharkhand, the challenge is the integration of displacement theory with ethnographic attention to land-based identity, customary governance and ritual geography.

3.2 Tribal Society, Identity and Legal Pluralism in Jharkhand

Sociology and anthropology studies on Jharkhand suggest that individual property is not the only way of understanding land and forest relations. Roy's early ethnographic study among the Mundas recorded the village organisation and land relations of Chotanagpur. Singh (1985) and Xaxa (2008) situate tribal society, in contrast, within the wider histories of state formation, citizenship and identity. Sundar's edited collection on legal pluralism in Jharkhand is particularly pertinent because it demonstrates how customary norms, statutory law and administrative discretion interact in conflicts over natural resources (Sundar, 2009). Shah's ethnography, by complicating romantic assumptions about Adivasi environmental harmony, shows us how the villagers negotiate with state power, insurgency, conservation, livelihood and development in everyday life (Shah, 2010).

3.3 Resource Conflicts and Mining Ecologies

The literature on mining highlights that mining brings lasting material and political changes. According to Bridge (2004), the process of mining creates unique environmental conflicts, as it transforms landform, water systems and labour relations. Padel and Das (2010) show how the nation's development renders Adivasi landscapes expendable through the rhetoric of sustainable mining in eastern India. This criticism has been extended to Jharkhand. Research focusing on Jharia has been concentrated on mine fires, air pollution, subsidence and invisibilisation of slow ecological violence (Kumar, 2022; Meenakshi & Shah, 2023). The research on Jadugoda that has drawn attention to uranium mining and health anxieties and the

uncertainty of communities in the vicinity of radioactive and toxic tailings (Majumdar et al. 2025) Saranda-focused work highlights the ecological fragility of the dense sal forests, which are under pressure due to iron ore mining and its associated infrastructure (Mukherjee, 2023; Supreme Court of India, 2025).

3.4 Forest Rights, Sacred Groves and Cultural Landscapes

The Sacred Grove Scholarship postulates that small patches of forest can have ecological and ritual importance greater than their size. The sacred groves of India were analysed by Malhotra et al. (2001), who document their cultural and ecological aspects. They state that those trees are being preserved with the help of the Jaher Than and Sarna traditions, and these belong to larger systems of community conservation. In Jharkhand, such places are not only religious sites; they also organise festival cycles, relations with ancestors, village authority and ecological restraint. Discussions surrounding indigenous conservation also warn against the marginalising of customary users through forest governance, when decisions about protected areas, and diversions, do not account for community tenure and their cultural authority (Colchester, 2004). The Forest Rights Act of 2006 formally recognises individual and community rights of forest-dwelling Scheduled Tribes and other traditional forest dwellers. Implementation of the Act has often been uneven and bureaucratised (Ministry of Tribal Affairs, 2021; Sahoo and Sahu, 2019). Observation of the implementation of FRA in Jharkhand by Oxfam India similarly shows gaps between legal promise and field recognition of rights (Oxfam India, 2018).

3.5 Resistance Movements and Ecological Mobilisation

The tribal communities are often projected as obstacles to development but the literature challenges it. Singh (2024) studies the Koel-Karo, Netarhat and Pathalgadi movements to argue that Adivasi assertions are founded on customary rights, ecological belonging and constitutional critique. According to Shah (2010), indigenous politics in Jharkhand is heterogeneous and can include everyday scepticism towards both state-led development and external activist narratives. According to Schlosberg (2007) and Temper et al. (2018), the environmental justice literature helps position these movements as (partial) struggles over recognition, procedural justice and not merely opposition to projects.

3.6 Research Gaps

Current literature provides robust insights into displacement, mining, forest rights and tribal politics; however, three gaps exist. To begin, displacement examinations often underrepresent sacred landscapes and faith-based milieu. Second, sometimes they focus on pollution indicators within environmental studies of mining, with no connection to the transformation of lifeworld. Policy analysis commonly takes PESA, FRA, LARR and environmental clearance procedures in isolation, whereas affected communities see them as a single governance field. This study fills the gaps by bringing together displacement, ecological stress, cultural reworking and tribal assertion into one analytical framework.

4. Research Methodology

4.1 Research Design

The research employs a qualitative and analytical research design that is based on secondary data and documentary evidences. This is not a statistical impact assessment and does not claim original field interviews, household surveys, or experimental data. The appropriateness of the design is derived from the fact that the research problem is of historical processes, policy regimes, legal frameworks and interpretation questions of landscape transformations. Document analysis helps to study how various public texts, reports, legislation, academic sources, etc. construct the relationship between development and affected communities (Bowen, 2009).

4.2 Data Sources

The researcher principally relied on the academic books, peer-reviewed journal articles, governmental reports, Census 2011, Statistical data from Forest Survey of India, Ministry of Tribal Affairs, Ministry of Panchayati Raj, Government of Jharkhand, Legal-Policy documents and case-based scholarship. The official sources are used for demographic, legal, forest and mineral context, while the scholarly sources are used for theoretical framing and interpretation. Evidence for the case comes from published studies on Jharia, Jadugoda, Saranda, Koel-Karo and other Jharkhand-specific cases. Within India, displacement data is often available in a disaggregated form amongst various departments and project authorities. Thus, the paper does not make any unsubstantiated....

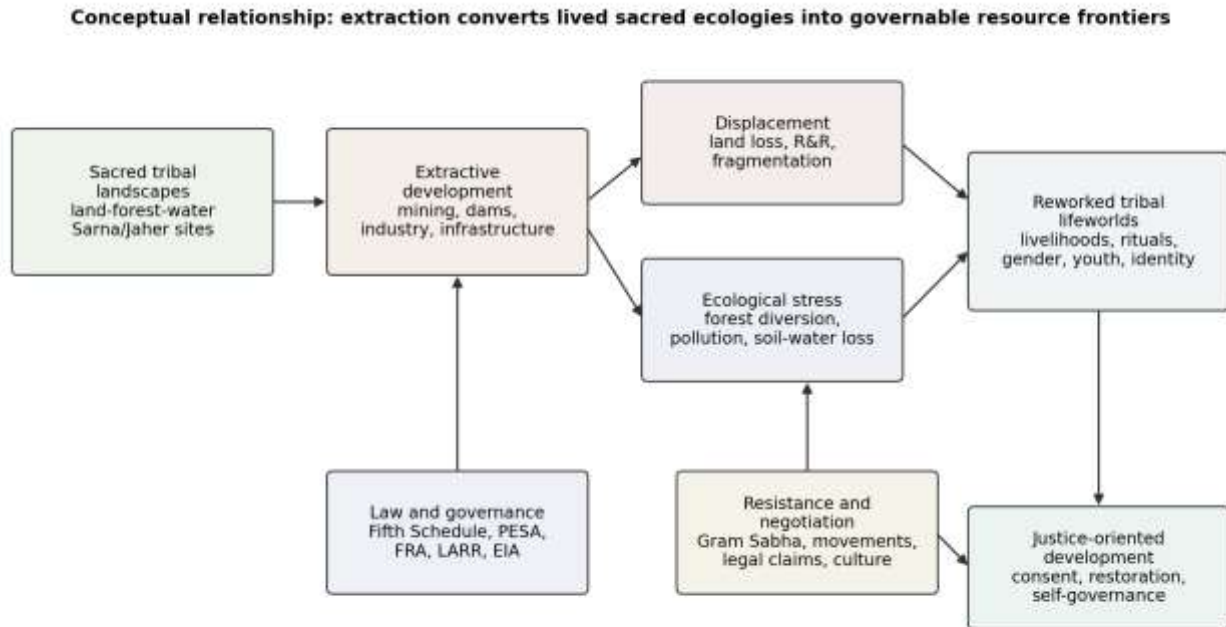
4.3 Analytical Procedure

Analysing was done with the thematic coding in context of qualitative thematic analysis (Braun & Clarke, 2006). The researchers sifted through documents and identified five major themes: sacred landscape and dependence of the community, forms of development-induced displacement, ecological stress and health-livelihood consequences, reworking of tribal lifeworlds and governance, law and resistance. This was followed by a policy review to see how legal frameworks acknowledge or fail to acknowledge the composite nature of tribal land rights.

4.4 Ethical Considerations and Study Limitations

The no primary fieldwork has been undertaken, which means the paper does not make attribution of statements to unnamed respondents nor lay claim to village-level findings not already in published sources. The paper's ethical stance is to avoid extractive representation: communities are treated as historical and political actors, not data objects. Secondary data is limited, as they cannot capture the complete diversity of experiences, be it the districts, tribes, gender or project sites of Jharkhand. A primary future study that will be purposively sampled from displaced and mining affected villages will collect data from separate interviews with women, youth, elders and Gram Sabha representative with free and informed consent, anonymity, local-language instruments and institutional ethics approval.

Figure 1. Conceptual Framework Linking Sacred Landscapes, Extractive Development and Reworked Tribal Lifeworlds



Source: Author's synthesis based on political ecology, development-induced displacement and environmental justice literature.

5. Jharkhand as a Sacred Tribal Landscape

5.1 Land, Forest and Community Memory

In Jharkhand, tribal communities view land as a realm of social relations. It is not an isolable asset. The moral geography of settlement histories, clan identities, burial grounds, agricultural plots, forest paths and water sources is an integral part of belonging. Land mediates relations not only between living generations of the Munda, Santhal, Ho, Oraon, Kharia and other communities. Tribal society is not socially homogeneous nor does it imply that every household uses land in the same way. Land ties mean that relationships over land are located within community institutions and ritual obligations. Consequently, displacement is a disruption of social reproduction as much as it is an economic shock (Roy, 1912; Singh, 1985; Xaxa, 2008).

As a result, the phrase sacred landscape is not employed romantically. It denotes the shared existence of ecology, livelihood and ritual in a single space. The small forest areas yield fuelwood, fodder, leaves, fruits, lac, mushrooms, MFP, and medicinal plants. Farms offer sustenance and seasonal employment. The process of flowing water conducting minerals to fertile land. It is possible that gods or spirits of dead people and often community festivals take place in groves, and on hills. When a project gains land or diverts forest, it commonly disintegrates this integrated landscape into distinct administrative categories: private land, government land, forest land, mining lease, road alignment, compensation plot or rehabilitation colony. Although the categories may be legally efficient, they may be socially destructive.

5.2 Sarna, Jaher Than and Sacred Groves

Sarna and Jaher Than sites are two of the most important markers of Jharkhand's sacred geography. Groves are connected to the sal as well as other trees, a community deity, and annual festivals, which involve prayer for fertility and the monsoon. According to Malhotra, Gupta and Singh (2001), sacred grove literature shows these sites potentially sustain and support biodiversity together with community institutions. In Jharkhand, sacred groves serve as cultural archives. They preserve the collective memory of settlements, kinships, and customary authorities. It cannot be compensated merely by giving money or planting another grove elsewhere because sacredness is historically placed and ritually performed.

Urbanization and the expansion of infrastructure are increasingly causing sacred sites to get encroached into roads, flyovers, public buildings and real-estate pressure. This shows that extractive transformation is not limited to distant mining belts. In Ranchi and other areas undergoing urbanization, the issue of Sarna space has taken on the qualities of a quest for recognition, religious identity and cultural citizenship. Consequently, the safeguarding of holy sites should be interpreted as an essential part of the rights of tribes and not just a symbolic heritage issue.

5.3 Customary Rights and Sustainability

Dependence of tribals on forests and common lands is multi-dimensional. This includes provision for subsistence, seasonal cash income, food security, women's labour, herbal knowledge, grazing and children's cultural education. According to the Ministry of Law and Justice (2007), forest-dwelling Scheduled Tribes and other traditional forest dwellers have depended on forests for their requirements. Moreover, their rights were not recorded in the past. However, formal recognition through titles may still fall short where community forest resource rights are delayed, reduced or regarded as individual plots. Thus, the sacred landscape of Jharkhand is also a governance landscape: whether law recognises community institutions as being able to conserve, manage and make decisions regarding the future of forests.

6. Development-Induced Displacement in Jharkhand

6.1 Developmental Processes and Forms of Displacement

Displacement in Jharkhand has emerged through several forms. These include coal mining in Dhanbad, Bokaro, Hazaribagh and other coal belts; iron ore mining in West Singhbhum and neighbouring zones; bauxite extraction in upland districts such as Lohardaga and Gumla; uranium mining in East Singhbhum; dam and hydropower projects like Koel-Karo; industrial expansion around Jamshedpur, Bokaro and Ranchi; power projects; rail, road and urban infrastructure; and diversion of forests for non-forest uses. The processes do not affect all communities in the same manner, yet they constantly intersect with tribal and forest-dwelling communities.

Displacement may be physical (the relocation of households away from a project site); economic (restriction of access to land, forest, water or livelihood); social (disruption of settlement networks); and cultural (weakening of sacred places, festivals and customary institutions). Under-counting often occurs of the other forms, while the focus of formal resettlement policies is on the first one. Due to the above reasons a family can be listed as compensated while being displaced in a deeper sense, having lost the ecological base of livelihood, the proximity of kin, the right to forest produce, the rhythm of festivals, and the dignity associated with autonomous landholding (Cernea, 1997; Fernandes, 2001).

Table 1. Major Forms of Development-Induced Displacement in Jharkhand

Development form	Typical spatial expression	Primary displacement risks	Analytical concern
Coal mining and mine-fire zones	Jharia, North Karanpura and other coal-bearing regions	Relocation, subsidence risk, air pollution, loss of housing and informal livelihoods	Rehabilitation must address long-term hazards, not only housing transfer.
Iron ore and manganese mining	Saranda, Chaibasa and West Singhbhum belts	Forest diversion, road construction, habitat fragmentation, labour-market dependency	Mining governance must integrate forest rights and biodiversity safeguards.
Bauxite and upland extraction	Lohardaga, Gumla, Latehar and plateau zones	Loss of upland agriculture, water stress, erosion and migration	Compensation rarely captures the value of upland commons and water systems.
Uranium mining and processing	Jadugoda and East Singhbhum	Land acquisition, health anxieties, tailings exposure and uncertainty	Risk governance must include transparent monitoring and community trust.
Dams and hydropower	Koel-Karo and river-valley projects	Submergence, relocation, loss of riverine and forest livelihoods	Consent, cultural sites and cumulative river impacts are central.
Urban and infrastructure expansion	Ranchi, industrial corridors, roads and railways	Sacred-site pressure, peri-urban land loss, informal displacement	Urban planning must recognise tribal heritage and common lands.

6.2 Compensation, Rehabilitation and Social Fragmentation

The 2013 Act is a significant departure from older acquisition regimes that were followed until quite recently. It introduces social impact assessment, consent clauses for certain acquisitions, compensation norms and rehabilitation measures (Ministry of Law and Justice, 2013). There is inconsistencies in the incorporation of statutory safeguards in tribal contexts. Payouts comprising cash could get depleted quickly or intercepted by middlemen; similarly they could be pooled at the households or become inadequate due to inflation in land prices. In practical terms, land-for-land rehabilitation is often difficult to achieve, but resettlement colonies can become sites of dependency rather than reconstruction without productive land and access to commons.

The consequences that follow including social fragmentations is at times not easily visible. Village life is dependent on closeness among kin, labour-sharing groups, ritual specialists, youth groups, women's networks and customary leaders. When people are forced to relocate, it often rearranges their network into an administrative plot or a colony that does not reproduce the earlier social ecology. Local communities often see resettled individuals as rivals for resources like land, water, and jobs. When water, fuel and forest products become far off, women tend to pay extra. Young people may gain access to schools, roads or

wage aspirations but also experience precarious labour markets and cultural dislocation. Consequently, it is important to assess development-induced displacement in terms of a reconstituting of social relations, rather than mere loss of acreage.

7. Extractive Transformation and Ecological Stress

7.1 Forest Conversion, Pollution and Land Degradation

The State of Forest report 2023 has classified the total area of forest cover in Jharkhand at 23765.78 square kilometer. This is equivalent to 29.81% of the calculated geographical area. The forest department of Jharkhand presents forests as a key ecological and administrative resource in the state (Government of Jharkhand, Department of Forest, Environment and Climate Change, n.d.). Although useful, these data and official narratives do not reveal by themselves the quality of forests, community access, fragmentation of biodiversity nor pressures from roads, mining leases, settlements and fires. Despite their classification by remote-sensing data as being the same land-cover class, dense sal forests, sacred groves and mixed-used community forests may carry very different social values.

Opencast mining and industrial projects exert ecological stress due to activities such as excavation, blasting, overburden dumping, dust emission, water table pumping, chemical leaching, and dumping of tailings. Also, the development of transport corridors and expansion of settlements inflict ecological stress and degradation. Coal mining regions are affected by air pollution and fire hazards. Jharia is in news particularly specially because of the mine fires, subsidence and air quality (Kumar, 2022; Meenakshi & Shah, 2023). The areas rich in iron ores can cause forest fragmentation, dust from roads, surface runoff and pressure on wildlife corridors. Bauxite mining has the potential to impact upland hydrology and soil stability. According to Majumdar et al. (2025), mining uranium brings in more worries over exposure to radioactivity and heavy metals, risk communication and public trust.

7.2 Water, Soil, Biodiversity and Agrarian Systems

The water, soil and food systems affect tribal communities the most directly. Mining activities can contaminate streams or cause them to flow seasonally when catchments are changed. Dust deposition, loss of irrigation sources, soil compaction or siltation may affect agricultural fields. Forest biodiversity loss limits access to fruits, leaves, medicinal plants, mushrooms, lac host trees, and fuelwood. These changes influence food security not solely through crop productivity, but also through loss of wild foods and seasonal forest products, which play a vital role in lean-period survival.

Loss of biodiversity is loss of culture. Plant species are incorporated into religious practices, medicine, handicraft, construction and ecology. Kids visit forests, streams and fields with their elders to learn cycles. The interruption of knowledge transmission transpires when access is constrained or landscapes are harmed. As a result, ecological stress is gradually transforming into a form of violence. Such injuries accrue through respiratory illness, water insecurity, declining soil productivity, migration, debt and cultural amnesia (Nixon, 2011).

Table 2. Ecological Stressors and Their Social Consequences

Ecological stressor	Illustrative source	Social consequence	Gendered or cultural dimension
Deforestation and forest fragmentation	Mining, roads, forest diversion, urban expansion	Loss of minor forest produce, grazing, shade, medicinal plants and wildlife habitat	Women and elders lose everyday access to forest-based knowledge and labour networks.
Air pollution and dust	Coal mining, transport, blasting, stone crushing, industrial stacks	Respiratory risk, reduced quality of life, crop dusting, school disruption	Children, elderly persons and mine-adjacent workers face cumulative exposure.
Water contamination and depletion	Mine runoff, tailings, ash, industrial effluent, catchment disruption	Drinking-water insecurity, livestock stress, disease anxiety, irrigation decline	Women's water-collection burden increases where local sources decline.
Soil degradation and overburden	Open-cast mining, dumping, erosion, siltation	Reduced agricultural productivity, land abandonment, migration	Ritual and agrarian calendars weaken when cultivation becomes insecure.
Biodiversity loss	Habitat disturbance, fire, monoculture compensation plantations	Loss of wild foods, medicinal plants and ecological resilience	Cultural knowledge tied to species, festivals and healing declines.
Landscape severance	Rail, roads, fenced industrial zones and security perimeters	Fragmented mobility, restricted commons, weakened inter-village networks	Sacred routes and festival movement may be obstructed.

7.3 Health, Food Security and Migration

Health consequences are often difficult to prove in strict biomedical terms without longitudinal studies. But affected communities come to experience environmental risk through illness, uncertainty and mistrust. Jharia and Jadugoda studies show how air pollution, mine fire, tailings and industrial hazards are enfolded in the everyday insecurity (Kumar, 2022; Majumdar et al., 2025; Meenakshi & Shah, 2023). The decline in agriculture and forest produces affects food security. When people migrate, it is both a coping strategy as well as evidence of dispossession. Young men and increasingly young women migrate to brick kilns, construction work, domestic work, security services and urban informal labour. While earn cash income through such mobility, this also puts a strain on kinship networks and leaves migrants vulnerable to new risks.

8. Reworking of Tribal Lifeworlds

8.1 Livelihood Transformation

Experiences in livelihood transformation revamping tribal lifeworlds. Economic activities on land, whether it is subsistence agriculture, collection from the forests, rearing of livestock and seasonal work

for wages are more and more giving way to working as precarious labour in the mine, transport, construction, contract security, domestic work, petty trading and migration. This is not a transition from tradition to modernity. It's often a progression from varied ecological survival to monetary vulnerability. As defined by De Haan and Zoomers (2005), Livelihood scholarship shows that it is not just occupations that change but capabilities, assets, social relations and security in the future. While mining can create jobs, employment impacts are often unequal, skills biased or contractual. People who lose their land are typically not absorbed into stable industrial work, especially where schooling, technical training and social networks are lacking.

8.2 Kinship, Ritual and Gender Relations

Displacement of people disrupts kinship by severing the nexus between disperse households and lineages, thereby altering the spatial basis of mutual aid. It is difficult to practice rituals linked to a particular grove, stream, hill or ancestral site in a resettlement location. Even if festivals continue, a strong ecological foundation can weaken if the community is far from the sacred grove or farmland. There Are Redone Gender Relations Women are usually responsible for collecting water; fuelwood and forest produce; when access within the environment becomes scarce, labour time increases. Often mediated through male land titles or household heads, compensation can informally delegitimise women's claims, even though they are centrally involved in subsistence production. Women are not only victims of development but also significant political actors as they engage in forest protection, anti-displacement protests and cultural assertion.

8.3 Youth, Language and Identity

Young people feel ambivalence in removal and displacement. The road, schools, mobile phones and town growth open up aspirations beyond just agriculture. A percentage of youth look for higher education, government jobs, private jobs, and urban lifestyles. However, when people begin to move away from natural environments and traditional livelihoods, they may suffer from unemployment, loss of language, alcohol vulnerability, informal migration and alienation from their elders. Identity is thus reconfigured rather than eliminated. A young Adivasi can articulate constitutional rights, jobs and modern schooling while at the same time asserting Sarna identity, land rights and community autonomy. This duality is a key feature of contemporary Jharkhand politics (Shah, 2010; Xaxa, 2008)

8.4 Cultural Erosion and Resilience

Remodelling of lifeworlds consists of adaptation and resilience. The loss of sacred place; the decline in the use of native languages; the disconnecting of festivals from ecological cycles; the bypassing of customary governance by administrative decision increases in cultural erosion. Renewal of Sarna assertion, Gram Sabha mobilisations, environmental protests, youth cultural organisations, legal claims under PESA and FRA signify the resilience. The job of the analyst is neither to pronounce tribal culture destroyed nor unchanged. Communities reconstructing an understanding of meaning under conditions of pressure is important. More importantly, the reconstruction should lead to new forms of political consciousness.

9. Case-Based Discussion

9.1 Coal Mining and Ecological Degradation in Jharia

Situated in Jharkhand, Jharia is a potent example of slow violence through extraction. Coal being one of the earliest industrial fuels supported industrial development and national energy systems. However, the coalfield is also associated with mine fires, subsidence, air pollution, relocation stress, and poor living

conditions. Kumar (2022) appraises the mine-fire and air-quality situation of Jharia and notes the relevance of such evidence for management. Ignoring the ethical implications of consuming coal, we failed to seriously examine the long-term harm involved in this process that disrupts the livelihood of peasants and threatens grassroots sustainability. Jharia shows that by the time a household may be formally displaced, change may have already occurred. A household can be said to be displaced if it is living above fire, smoke and unstable ground. Environmental conditions may be pushing such a household out even if it is formally not being relocated.

9.2 Uranium Mining and Risk Governance in Jadugoda

Jadugoda in East Singhbhum exemplifies a different type of extractive frontier because uranium is implicated with national strategic priorities and nuclear energy. Majumdar et al. (2025) research investigates health worries of residents of uranium mining areas and presents a case for improving the transparency of risk governance. The importance of Jadugoda is not just biomedical; it also involves trust, consent, secrecy, and the challenge of rendering invisible risks publicly accountable. For tribal folk, even uncertainty becomes a social burden. When people cannot know if the water, the soil or bodies are safe, everyday life is structured by suspicion and anxiety.

9.3 Saranda, Iron Ore Mining and Forest Rights

Saranda is often referred to as an area of dense sal forest landscape and a zone of iron ore interests. The case highlights the tension created by biodiversity, mining, tribal habitation and forest rights. The latest hearings in the Supreme Court in regards to Saranda Wild Life Sanctuary reveal that the claims of conservation, mining and forest-dweller rights need to be settled together, not sequentially (Supreme Court of India, 2015). When conservation policy excludes communities, it may reproduce dispossession. Similarly, if mining is allowed without ecological safeguards or community consent, it may destroy the very forest systems that sustain the lives of tribes. Saranda, therefore, requires a governance model that integrates CFR rights, biodiversity corridors, transparent limits to mining, and meaningful Gram Sabha participation.

9.4 Koel-Karo, Dam Development and the Politics of Consent

The Koel-Karo movement occupies an important space in the political memory of Jharkhand because it demonstrates how dam-affected communities can mobilise around land, river, forest, shrine and self-rule. The movement was not simply against electricity or development. It questioned the legitimacy of development without consent and without adequate recognition of cultural landscapes. Koel-Karo was put in the context of Netarhat and Pathalgadi, two other Adivasi environmental movements in Jharkhand. The case shows how resistance can be grounded in ecological knowledge, customary authority and constitutional reasoning at the same time.

9.5 Industrialisation, Urban Expansion and Sacred Sites

The growth of industrial corridors and urban areas establishes a different frontier. Ranchi, Jamshedpur, Bokaro and other urban-industrial centres have expanded over landscapes that were once used for agriculture and forestry or were village-based.

Peri-urban land acquisition may not always involve overt displacement, but it can still lead to the eviction of cultivators, fragmentation of village commons and pressure on sacred sites. The urban frontier gives rise to a new politics of recognition whereby the tribal community insists that planning authorities recognize Sarna sites, akharas, graveyards, and commons as living cultural spaces rather than obstacles to infrastructure.

10. Legal, Regulatory and Governance Frameworks

10.1 Constitutional and Statutory Frameworks

Most of the tribal areas in Jharkhand are governed through different legal frames. Constitution's Fifth Schedule has special provisions for administration and regulation of Scheduled Areas and Scheduled Tribes. The Ministry of Panchayati Raj states about the various Jharkhand districts being fully or partly notified Fifth Schedule Areas (Ministry of Panchayati Raj 2023). The Ministry of Tribal Affairs reporting about Scheduled Area governance relates it more to overall tribal welfare obligations (Ministry of Tribal Affairs 2023). The PESA Act, the law that was passed in 1986 by the Indian government aimed at making the central role of Gram Sabhas which is basic village assemblies, for the scheduled areas in the MPR Act, 1996. The FRA acknowledges various community forest rights which were denied in the past to mitigate the legacy of wrong-doing in forest governance. The Ministry of Law and Justice of the Government of India confirmed that the LARR Act of 2013 offers an updated mechanism for land acquisition, social impact assessment, compensation, and rehabilitation. As per the EIA Notification, 2006, environmental clearance procedures include prior assessment and clearance for declared projects (Ministry of Environment, Forest and Climate Change, 2006). Judicial and expert-policy interventions, such as *Samatha v. State of Andhra Pradesh* and the High-Level Committee on tribal socio-economic status (Govt. of India, 2014; *Samatha v. State of Andhra Pradesh*, 1997), have also shaped constitutional debates on Scheduled Areas. The ILO Convention No. 169 and the UN Declaration on the Rights of Indigenous Peoples (UNDRIP) support consultation and land and cultural rights of Indigenous peoples. However, their effectiveness depends on domestic adoption and implementation. (International Labour Organization, 1989; United Nations, 2007)

10.2 Implementation Gaps

The implementation of law is uneven and fragmented, not lack of law. The Gram Sabha consultation may be procedural than substantive as the latest policy pronouncement after PESA stresses self-governance or 'Swaraj' (Ministry of Panchayati Raj, 2025). Forest rights for communities may still be pending or under-recognised. National FRA monitoring reports indicate that forest rights recognition is still an ongoing administrative process rather than being a completed reform (Ministry of Tribal Affairs, 2025, 2026). The assessment of social impact might reduce cultural degradation, community property, gender labor and ecological dependence. Environmental impact assessments often concentrate on mitigating the impacts of specific projects, disregarding the cumulative impacts over an entire mining belt, river basin or forest corridor. Compensation can reach land-title holders while leaving out sharecroppers, forest users, women collectors pastoral users and landless labourers. The legal system does something about different fragments of tribal landscapes. However, it does not usually legally protect the landscape as an integrated lifeworld.

Table 3. Legal and Policy Frameworks Related to Tribal Land, Forest and Displacement

Framework	Core relevance	Potential protection	Implementation concern in Jharkhand context
Fifth Schedule of the Constitution	Administration of Scheduled Areas and protection of Scheduled Tribes	Special governance arrangements and role of Governor/Tribes Advisory Council	Protective intent can be weakened by weak consultation and administrative discretion.

Framework	Core relevance	Potential protection	Implementation concern in Jharkhand context
PESA Act, 1996	Gram Sabha-centred self-governance in Scheduled Areas	Customary governance, consultation, local resource control	Operationalisation depends on state rules, institutional capacity and respect for Gram Sabha autonomy.
Forest Rights Act, 2006	Recognition of individual and community forest rights	Community forest resource rights, livelihood security, conservation authority	Slow or partial recognition can leave communities vulnerable to forest diversion and conservation displacement.
LARR Act, 2013	Land acquisition, compensation, rehabilitation and social impact assessment	Higher compensation, SIA, R&R provisions and consent in specified cases	Cultural landscapes, commons and non-title-based livelihoods may remain undercounted.
EIA Notification, 2006	Prior environmental clearance for listed projects	Impact assessment, public hearing and mitigation conditions	Project-wise clearance may not capture cumulative mining and industrial stress.
Compensatory Afforestation Fund Act, 2016	Funds for compensatory afforestation after forest diversion	Possibility of restoration funding	Plantations cannot automatically replace biodiverse community forests or sacred groves.

10.3 Environmental Clearance and Public Hearings

The process of granting environmental clearance is designed to create formal opportunities for impact assessment and public hearing of developmental projects. The efficacy of this clearance process for actual impact assessment will depend on the availability of information, disclosures in the local language, meaningful participation and post-clearance monitoring. In tribal regions, technical jargon and power imbalance may undermine public hearings along with distance, intimidation by authority, or inadequate recognition of customary institutions. A procedural hearing cannot replace free, prior and informed consent where project impacts are serious and irreversible. Various international guidelines, such as the UN Declaration on the Rights of Indigenous Peoples, maintain that indigenous peoples must not be forcibly removed from their lands and territories without free, prior and informed consent, and just and fair compensation (United Nations, 2007).

11. Resistance, Negotiation and Tribal Assertion

11.1 Movements and Legal Struggles

Jharkhand has witnessed a variety of mobilisations against dispossession: anti-dam mobilisations, forest-rights claims, opposition to firing ranges, protests against mining leases, sacred-site protections, court petitions, cultural festivals, youth organisations and Gram Sabha assertions. The movements are not merely anti-development. Often they require development on various other terms – development that respects land rights and cultural sites; self-governance, ecological limits and future generations. According

to Singh (2024), the environmental movements that emerged from Jharkhand are relying on customary rights and ecological belonging while also contesting legal arguments of the colonial and post-colonial era that strip Adivasis from their landscapes.

11.2 Women, Civil Society and Local Governance

Women are centrally involved in ecological stress as they interact with water, fuel, food, care, health at home. Women's participation in agitations, forest conservation and cultural mobilisations counters the assumption that land politics is a male project. Many local grievances have been interpreted in terms of rights because of civil-society organisations, legal activists, researchers and church or community networks. But when does external support become legitimate? Where does it strengthen agency and when does it undermine it by speaking over agency? If empowered, Gram Sabhas can be spaces for women, youth and elders to deliberate on land use, forest rights and project impacts. If turned into a mere signature-collecting formality, they are ineffective.

11.3 Cultural Assertion and Identity Politics

Material politics is not separate from cultural assertion. Exigences for acknowledgment of Sarna identity, safeguarding of sacred groves, utilization of tribal tongues, commemoration of festivals and defence of conventional institutions are also claims to land, recollection and dignity. Extraction-based development typically treats culture as something that can be displayed after land has been acquired, while tribal assertion holds that culture cannot be divorced from land. This is the reason why a road, mine or flyover close to a holy site can become a political issue, symbolizing the wider rejection of the recognition of Adivasi landscapes as living spaces of law, memory and worship.

12. Results and Discussion

12.1 Thematic Findings

The analysis revealed five thematic findings. Firstly, the tribal landscape of Jharkhand is ecological, sacred and political. According to them, they transform into extractive frontiers through administrative acts that render complex lifeworlds into land parcels, mineral blocks and clearance files. Second, displacement includes not just physical removal but also economic dispossession, loss of commons, ritual dislocation, social fragmentation and identity reconfiguration. Moreover, ecological stress acts like slow violence, as the toll it takes accumulates on our bodies, soils, water, trees, and generations. Law offers crucial protective language, but fragmentation in land forest panchayat environmental regimes is apparent. Fifth, it is essential to clarify that tribal resistance is not simply defensive; it is also the creation of alternative vocabularies of justice that is based on consent, eco-stewardship and self-governance.

12.2 Theoretical Linkages

The political ecology findings confirm the argument that environmental destruction cannot be separated from power and control of resources (Robbins, 2012). They also expand the framework for displacement by demonstrating that cultural and sacred losses must be treated as central impoverishment risks in tribal regions (Cernea, 1997) In his 2007 book, Schlosberg demonstrates how theory development can be usefully interrogated and rationalised through environmental justice discourses The Jharkhand instance strengthens the idea of ecological distribution conflict as it shows how extraction distributes benefits and burdens unevenly: energy, steel and revenue get circulated widely, while pollution, displacement, and damage to the culture remain local and more concentrated.

12.3 Mineral-Led Development and Tribal Ecological Justice

The main contradiction is that while mineral-led development considers the land of Jharkhand to be pro-

ductive, which is to say that it provides benefits to the nation, when the minerals are extracted, it does not similarly consider it productive when it supports tribal agriculture, forests, rituals and commons. You can't resolve this paradox by rejecting all forms of development or accepting all projects. According to the author, such a framework oriented towards justice, the first question is not just whether the project in question is economically viable, but whether it is ecologically defensible, democratically consented, culturally respectful and socially reconstructive. The idea of destroying the conditions which can allow for tribal self reproduction can not be sustainable development even if it raises the total output.

13. Policy Recommendations

13.1 Participatory and Consent-Based Governance

The first recommendation is to make consent-based governance substantive. Processes in Gram Sabha in Scheduled Areas should happen before finalisation of design of a project, not after technical decisions are taken. It is essential to deliver project information in a local language and in an accessible format letting enough time for community discussion. Consent should be understood as decision-making made by all parties involved. Especially decision making when it due to sacred sites, community forests or irreversible ecological impacts. The rules and processes of PESA should buttress customary institutions and strengthen the authority of Gram Sabhas.

13.2 Community Forest Rights and Sacred-Site Protection

The mining-affected landscapes as well as forest-fringe and sacred-grove landscapes must get priority in granting community forest resource rights as per the FRA. The mapping of the area should include Sarna, Jaher Than, burial grounds, akharas, seasonal streams, grazing routes, minor forest produce areas etc. The district land records, urban planning documents and environmental clearance screening should capture sacred sites. An intensively-developed sacred landscape register backed by community verification instead of an external heritage classification, can avoid accidental destruction.

13.3 Culturally Grounded Rehabilitation

Rehabilitation should go beyond those with house plots. It should as far as possible include productive land, access to forests and water, relocation planning for communities, sacred sites that are either preserved or relocated with community consent, livelihood restoration particularly for women and landless households, school continuity, health monitoring and longer-term support. Compensation plans ought to acknowledge common property users and non-title based livelihoods. The planning of resettlement must be done in such a way that it protects kinship clusters and ritual institutions instead of splintering households into isolated beneficiaries.

13.4 Ecological Restoration and Health Safeguards

At the landscape scale, mining and industrial projects should undergo cumulative impact assessment. Restoration should focus on native species, watershed restoration, stabilisation of overburden, control of dust, tailings safety, accountability of mine-closure and monitoring by the community. Areas that are polluted by coalfields and uranium mining need independent health surveillance, clear environmental data and grievance redress system. Ecological restoration needs to be part of the economics of the project and not only a post-project exercise.

13.5 Livelihood Security and Just Transition

The dependence on extractive employment should be reduced through development strategy that is justice oriented. Skill programs should be aligned with local aspirations and actual access to labor market opportunities. In addition, it should strengthen the agriculture value chain, lac cultivation, forestry

produce, and agroforestry. Also, community tourism, crafts, and decentralized renewable energy will benefit. The tribal communities must be part of assessing and redirecting growth as state economic planning is still assigning mining, infrastructure and industrial growth as significant development sector (Government of Jharkhand, Finance Department, 2024). With the growing intensity in debate on just transition in coal-dependent regions, Jharkhand must ensure that its tribal and mining-affected communities are not again excluded from the decisions around the future economy. The planning of transitions must cover areas such as land restoration and worker protection.

14. Conclusion

Jharkhand's development has demonstrated that through a potent mix of mineral policy, land acquisition, forest diversion, infrastructure and industrial planning, sacred landscapes can be converted into extractive frontiers. For tribal communities, this change is not merely material but civilisational: it changes the manner of ownership of land, manner of forest use, performance of rituals, futures imagined by the youth and manner of negotiations with the state. Displacement is, then, not a one-off event but a process that disturbs ecological dependence, ancestral memory, social relations, and political identity.

Similarly, the Adivasies are not silent in Jharkhand. The indigenous communities have consistently opposed the idea of development which treats their lands as wastelands with the empty resource zone principle. The resistance to this idea has been through movements, Gram Sabha assertions, legal claims, sacred site protection, forest rights struggles and cultural renewal. Jharkhand development future is possible if the state moves away from extractive frontier model towards a model of ecological justice. A framework must entail genuine consent, robust community forest rights, culturally-sensitive rehabilitation, transparent environmental governance, gender-sensitive livelihood restoration and respect for self-rule. The issue in Jharkhand is not that it is developing, or should develop. It is the question of whether the development can be made to answer to the people, the landscapes and histories that have sustained it for long.

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