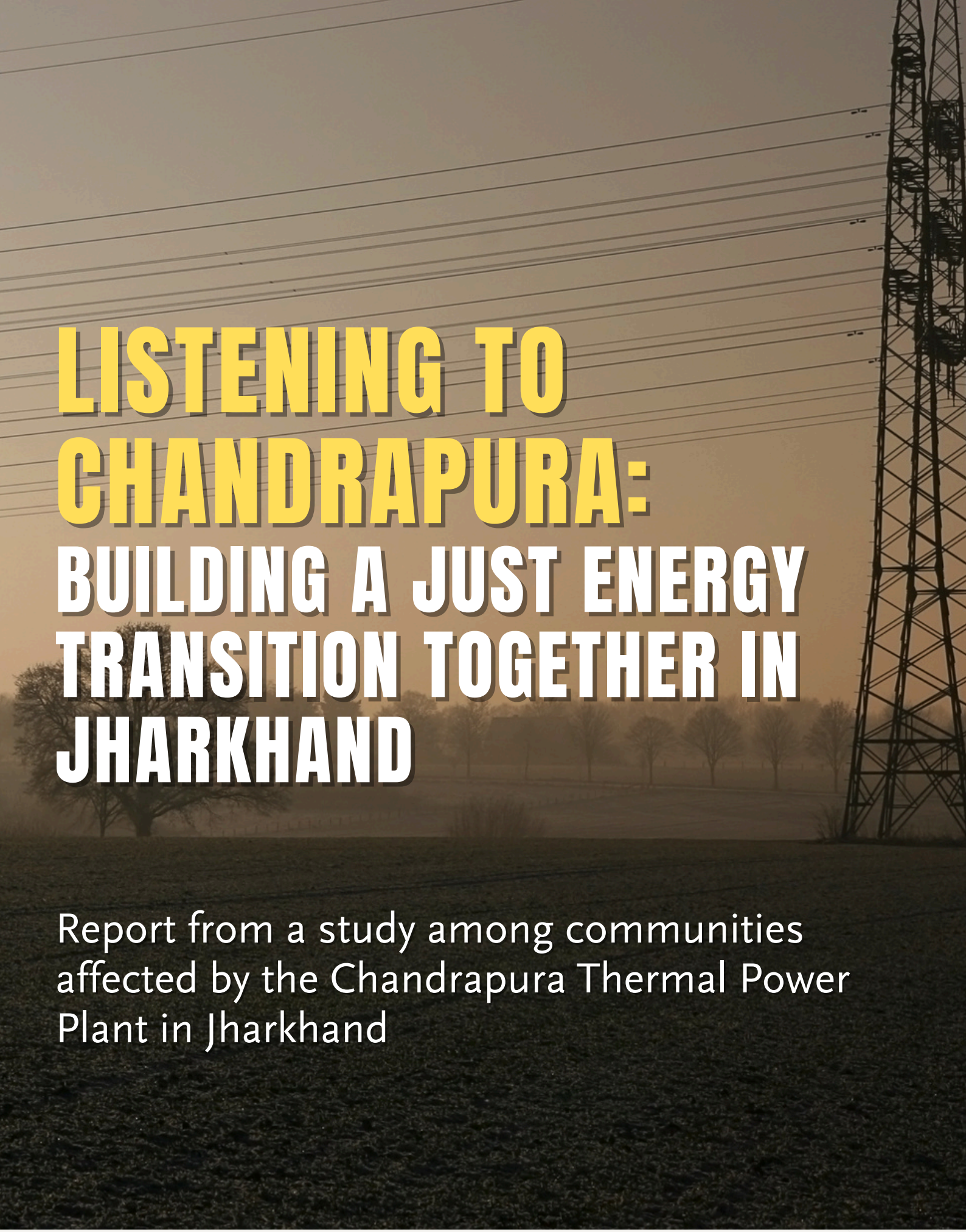

LISTENING TO CHANDRAPURA: BUILDING A JUST ENERGY TRANSITION TOGETHER IN JHARKHAND

Report from a study among communities affected by the Chandrapura Thermal Power Plant in Jharkhand

B.I.R.S.A. CFA Centre for Financial Accountability

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Partners in the study:
This study was conducted by the **Centre for Financial Accountability (CFA)** in partnership with the **Bindrarai Institute for Research Study and Action (BIRSA)**

B.I.R.S.A. started working among the Adivasi people in Jharkhand in the 1970s on the twin issues of human rights as well as the continuing loot and alienation of Adivasi lands and forests by different actors. During this time, there was the Jharkhand movement for a separate state. One of the lacunae in the movement was that there was no one to write the history of Adivasis. Similarly, there was no space, nor were there people available to document the events that were happening. This was necessary for taking the work forward. The movement saw many young people coming into it. However, there was a need to provide training to develop their political consciousness and leadership potential. B.I.R.S.A. was formed in 1989 with all these objectives in mind by a group of village-level activists, Adivasi intellectuals, and University Students to provide a space for Adivasis to document their history, train themselves to produce well-informed leaders, and provide resources for community organisation.

Established in January 2017, the **Centre for Financial Accountability's (CFA)** vision is to transform finance into a positive force for change, advancing social justice, environmental sustainability, and economic inclusivity. CFA's mission is to promote financial accountability, transparency, and responsible investments while empowering marginalised communities, advocating for equity and sustainability in finance, and fostering global collaboration.
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Introduction

Just Energy Transition (JET) has gained significant prominence as the global climate crisis intensifies, emphasising the urgent need to move away from fossil fuels to mitigate climate impacts. India, as the third-largest primary energy[1] consumer globally, presents a complex case for JET due to its heavy reliance on coal, which still accounts for about 80% of its energy demand from coal, oil, and solid biomass combined[2]. Coal has been integral to India's economy for over a century, especially in key mining states like Jharkhand, Chhattisgarh, Odisha, West Bengal, and Madhya Pradesh, where it is deeply embedded in social, political, and economic systems.[3]

At COP26 in Glasgow, India committed to achieving net-zero carbon emissions by 2070, with a goal to increase non-fossil energy capacity to 500 GW by 2030 and reduce carbon intensity by 45% from 2005 levels by 2030.[4] However, coal remains critical to India's energy security and economic growth. In FY 2024-25, India surpassed one billion tonnes of coal production, with coal contributing 55% to the national energy mix and over 74% of total power generation.[5] Despite this, the government has advised against retiring coal-fired power plants until 2030 to meet growing power demand, reflecting the challenge of balancing energy needs with climate goals.[6]

Phasing down coal in India involves retiring old and inefficient coal plants, with estimates suggesting about 54 GW of coal capacity could be retired by 2030.[7] Yet, the government's current stance is cautious, prioritising energy security and economic stability. The coal sector employs millions directly and indirectly, supporting entire local economies. For example, in coal-dependent regions, up to a quarter of the population relies on coal-related work, making any transition potentially destabilising.[8]

A Just Energy Transition in India must address these socio-economic realities. It means not only promoting clean energy but also minimizing negative impacts on livelihoods dependent on coal. This includes providing alternative employment, retraining, and social safety nets for displaced workers.[9] However, much of the coal workforce consists of off-roll or contract workers, who are often excluded from official data and transition plans, increasing their vulnerability.

Historically, development projects in coal regions have typically been imposed without adequate consultation, leading to loss of livelihoods and social discontent. For a transition to be truly just and inclusive, affected communities must be central to planning processes. Understanding their concerns and incorporating their voices is critical to designing effective, equitable transition strategies.[10]

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1 Primary energy sources represent an energy form that has not been subjected to any conversion and is available in nature, for example, fossil fuels, mineral fuels, solar energy, geothermal energy, wind energy, tidal energy and biomass sources. Secondary energy sources represent an energy form that has been transformed from primary energy sources and is not available in nature, for example electrical energy, refined fuels and synthetic fuels (Lyesse Laloui, Alessandro F. Rotta Loria, Chapter 1 - Energy and geotechnologies, Analysis and Design of Energy Geostructures, Academic Press, 2020, Pages 3-23, ISBN 9780128206232,https://doi.org/10.1016/B978-0-12-816223-1.00001-1.)

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10 Patel, S. Enabling a Participatory Just Energy Transition in India: Legal and Policy Framework. Just Transition Research Centre, IIT Kanpur. https://www.iitk.ac.in/JTRC/file/Enabling%20a%20Participatory%20Just%20Energy%20Transition%20in%20India%20-%20Legal%20and%20Policy%20Framework,%20Sushmita%20Patel.pdf

Objective of the study

This report presents the outputs from a study conducted from October 2023 to December 2024 in the Bokaro district of Jharkhand.

The objectives of this study and the report are:

1. Documenting the Historical and Current Impact of the Thermal Power Plant in Bokaro district.
2. Analysing Employment and Livelihood Challenges faced by coal dependent communities.
3. Gathering the demands and perceptions of communities in Bokaro district, Jharkhand, who are dependent on thermal power generation, regarding the concept of Just Energy Transition (JET): To listen to and document the demands and desires of the local people, particularly regarding employment, alternative industries, and their vision for future development in the area
4. Examine broader community perspectives on the idea of Just Energy Transition within the context of India's energy future.

Just Energy Transition

A Just Energy Transition (JET) refers to the process of shifting from fossil fuel-based energy systems to renewable and sustainable energy sources in a manner that is equitable, inclusive, and socially fair. The International Labour Organization (ILO) defines it this way: "Greening the economy in a way that is as fair and inclusive as possible to everyone concerned, creating decent work opportunities and leaving no one behind." JET should aim to reduce greenhouse gas emissions while ensuring that the economic and social impacts on workers, communities, and vulnerable groups dependent on fossil fuels are addressed. Such a transition prioritises economic, racial, and gender justice by shifting the costs of climate action onto wealthy polluters and protecting the livelihoods of those affected by the energy shift.[11]

Just Energy Transition is an urgent need in the world to address the intertwined challenges of climate change, social equity, and economic development. Fossil fuel-based energy systems are the largest contributors to greenhouse gas emissions, driving global warming and environmental degradation.[12] Transitioning to cleaner, renewable energy sources is essential to limit global temperature rise and protect planetary health. However, this shift must be managed carefully to avoid exacerbating social inequalities, especially for communities and workers dependent on fossil fuel industries. A just transition ensures that these groups are supported through retraining, job creation in sustainable sectors, and inclusive decision-making, preventing economic displacement and social unrest while fostering broad-based prosperity.[13]

Moreover, the global energy transition landscape is marked by uneven capacities and resources, with emerging and developing economies facing disproportionate challenges. Despite accounting for the majority of the world's population and a significant share of global GDP, these regions receive a small fraction of clean energy investments and climate finance.[14] JET promotes energy security and affordability, enabling sustainable development without leaving anyone behind. By integrating social justice with climate action, a just transition paves the way for a resilient, inclusive, and sustainable energy future worldwide.

Just Energy Transition in India

India currently is heavily dependent on carbon intensive carbon-intensive sectors like coal, which provide a significant portion of its energy and employment. The country is the world's second-largest consumer of coal, which continues to play a crucial role in meeting the country's rapidly growing energy demand. Economic growth and rising demand for space cooling are touted as the reasons that are driving electricity consumption higher, with the International Energy Agency (IEA) projecting that India's electricity demand will surpass China's and become the fastest-growing globally by 2026.[15]

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[11] What is just transition? And why is it important? (2022, November 3). UNDP Climate Promise. Retrieved September 22, 2025, from https://climatepromise.undp.org/news-and-stories/what-just-transition-and-why-it-important

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[13] Plimpton, A. (2025, January 15). Powering the Future: The Path to Just Energy Transitions. Salzburg Global Seminar. https://www.salzburgglobal.org/news/regions/article/powering-the-future-the-path-to-just-energy-transitions

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[15] International Energy Agency. (2024). Electricity 2024 - Analysis and forecast to 2026. https://iea.blob.core.windows.net/assets/ddd078a8-422b-44a9-a668-52355f24133b/Electricity2024-Analysisandforecastto2026.pdf

In fiscal year 2024, India's coal consumption stood at about 1.26 billion tonnes, with imports exceeding 260 million tonnes, reflecting a gap between domestic production and demand.[16] Coal-fired power capacity was around 218 gigawatts (GW) out of a total installed capacity of 451 GW as of August 2024. The government plans to add at least 80 GW of new coal-based power capacity by 2031-32, with 29.2 GW already under construction and 19.2 GW awarded contracts in fiscal year 2024-25. An additional 36.3 GW is in various planning stages.[17] Coal-fired power generation is expected to grow at an average annual rate of about 2.5 to 2.8 percent over 2024–2026, maintaining its dominant share in the power mix.[18]

Meanwhile, India's renewable energy capacity crossed 209 GW by the end of 2024, marking a 15.8 percent year-on-year growth. The total capacity added in 2024 was 28.64 GW, more than double the additions in 2023. Solar power led the growth with 24.54 GW added in 2024, raising cumulative solar capacity to nearly 98 GW by year-end.[19] Wind energy capacity also increased by 3.42 GW to over 48 GW. In fiscal year 2024-25, renewable capacity further rose to 220.1 GW with an addition of 29.52 GW, including 23.83 GW of solar and 4.15 GW of wind, reflecting strong momentum toward the government's 500 GW target by 2030. Despite this impressive growth, the increase in solar and wind generation was offset by a decline in hydropower output.[20] Despite these gains, coal still fuels over 74% of total power generation and remains critical to industrial energy use, reflecting the challenge of balancing energy security with climate goals.[21]

India's updated Nationally Determined Contributions (NDCs) submitted in August 2022 emphasize climate justice and set ambitious targets: a 45% reduction in emissions intensity of GDP by 2030 (from 2005 levels), achieving 50% of cumulative installed electric power capacity from non-fossil fuel sources by 2030, and creating additional carbon sinks through afforestation. The government targets 500 GW of non-fossil energy capacity by 2030, including 450 GW from renewables, and a 43% renewable energy purchase obligation by 2030.[22] At COP27, India released its Long-Term Low-Carbon Strategy, which acknowledges coal's continued role in power generation while projecting a decline in its share. However, no firm timeline for coal phase-out was committed; instead, emphasis was placed on a fair and just transition away from fossil fuels.[23] India has announced a net-zero target by 2070 but faces scepticism due to ongoing coal capacity expansion and industrial coal use. Experts note that while full net-zero by 2070 may be challenging, India aims to achieve 75-80% of its target by then.

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[16] India to drive global coal demand up to 2027: Report. CNBC TV18. https://www.cnbctv18.com/energy/india-to-drive-global-coal-demand-up-to-2027-report-19557686.html

[17] Yearender 2024: India's coal dependence for its energy needs is here to stay. Moneycontrol. Retrieved September 22, 2025, from https://www.moneycontrol.com/news/business/companies/yearender-2024-india-s-coal-dependence-for-its-energy-needs-is-here-to-stay-12900410.html

[18] India Power Sector Overview FY 2024-25. Centre for Research on Energy and Clean Air. https://energyandcleanair.org/publication/india-power-sector-overview-fy-2024-25/

[19] Press Information Bureau, Government of India. (2025, January 13). [India's RE Capacity Registers 15.84% Year-on-Year Growth]. https://www.pib.gov.in/PressReleaseIframePage.aspx?PRID=2092429

[20] India on track to achieve 500 GW renewable energy target: Pralhad Joshi. The Economic Times. https://economictimes.indiatimes.com/industry/renewables/india-on-track-to-achieve-500-gw-renewable-energy-target-pralhad-joshi/articleshow/119599398.cms?from=mdr

[21] India's renewable energy generation lags behind capacity due to weather, surging demand: Analysis. Down To Earth. https://www.downtoearth.org.in/renewable-energy/indias-renewable-energy-generation-lags-behind-capacity-due-to-weather-surging-demand-analysis

[22] Government of India. (2022, August). India's Updated First Nationally Determined Contribution. United Nations Framework Convention on Climate Change. https://unfccc.int/sites/default/files/NDC/2022-08/India%20Updated%20First%20Nationally%20Determined%20Contrib.pdf

[23] Government of India. (2022, August). India's Updated First Nationally Determined Contribution. United Nations Framework Convention on Climate Change. https://unfccc.int/sites/default/files/NDC/2022-08/India%20Updated%20First%20Nationally%20Determined%20Contrib.pdf

India's electricity demand is growing rapidly, with peak demand reaching 250.1 GW in FY 2024-25, a 4.2% increase from the previous year. Electricity generation rose 5% year-on-year, with thermal power generation growing by 2.8%, renewables by 11.4%, nuclear by 18.4%, and large hydro by 10.8%. Many coal-based thermal power plants in India are ageing, with some exceeding the government's retirement age of 35 years. Retiring old and inefficient plants (over 20 years old) could save the government approximately Rs. 18,800 crores by avoiding costly retrofits like flue gas desulfurisers. However, there are currently no clear regulatory frameworks or financial mechanisms to manage the closure of thermal power plants and coal mines or to support workers and communities affected by the transition.[24] The government's plans to add new coal capacity alongside renewable expansion highlight the complex balancing act between energy security, economic growth, and climate commitments.[25]

With this context in mind, India must adopt a comprehensive, multi-sectoral approach to achieve its low-carbon ambitions, even if these goals currently appear inadequate or delayed. This approach should encompass agriculture, industry, and transportation, alongside a decisive initiative to decarbonize the energy sector, which is the largest contributor to the country's emissions. The power sector alone accounts for 34% of India's total emissions, with coal still dominating electricity generation. Adding another layer to this strategy by decoupling energy consumption and emissions from economic growth is necessary to for the success of India's efforts.

Thermal Power Generation in India

India's thermal power journey began in 1920 with the commissioning of the Hussain Sagar Thermal Power Station in Hyderabad, the country's first thermal power plant. This plant, established under the seventh Nizam of Hyderabad, initially had a generation capacity of 22.5 MW and replaced earlier diesel generators, marking the beginning of coal-based power generation in India.[26] Over the decades, India steadily expanded its coal-fired power capacity. By 2007, the country had reached 71 GW of coal power capacity. The subsequent decade witnessed an explosive growth, with over 130 GW of new coal plants commissioned between 2007 and 2018, reflecting the country's rapid industrialization and increasing electricity demand.

As of early 2025, thermal power remains the dominant source of electricity in India, accounting for approximately 75% of total electricity generation with an installed capacity around 243 GW. Despite aggressive growth in renewables, coal-based thermal power plants continue to supply the majority of India's power, especially during peak demand periods.

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[24] India Power Sector Overview FY 2024-25. Centre for Research on Energy and Clean Air. https://energyandcleanair.org/publication/india-power-sector-overview-fy-2024-25/
[25] India to drive global coal demand up to 2027: Report. CNBC TV18. https://www.cnbctv18.com/energy/india-to-drive-global-coal-demand-up-to-2027-report-19557686.html
[26] Indian coal power faces long-term headwinds. Powering Past Coal Alliance. https://poweringpastcoal.org/insights/indian-coal-power-faces-long-term-headwinds/

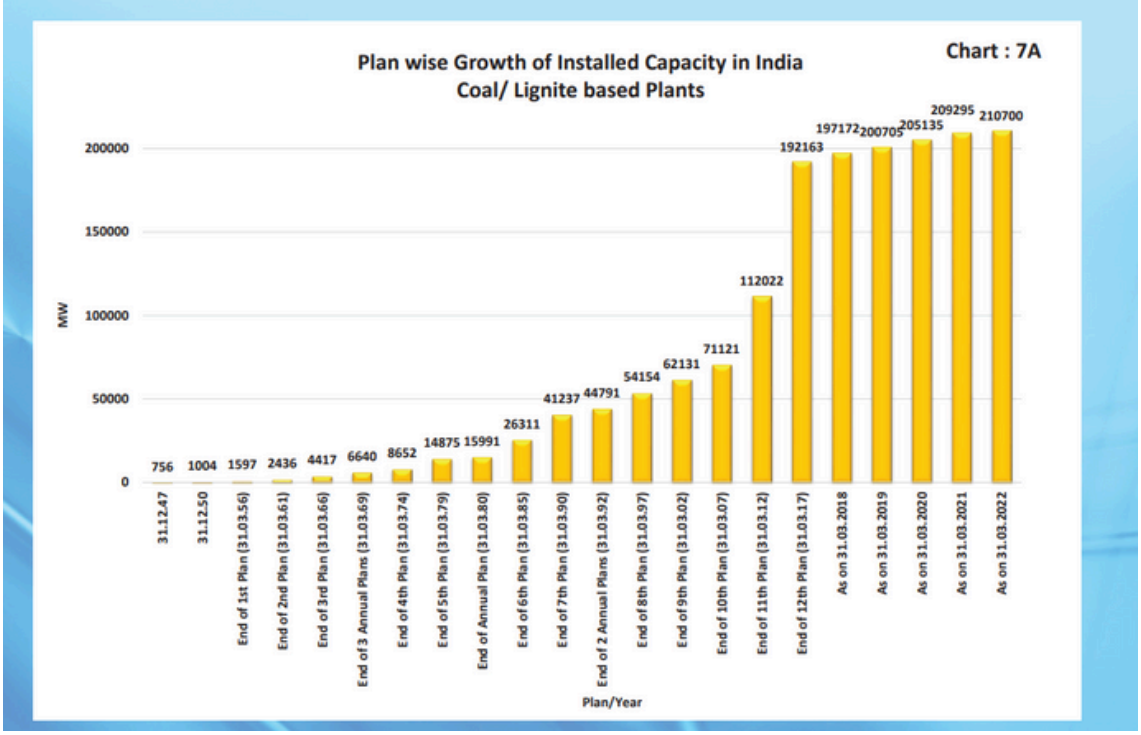

Figure 1: Growth of Installed capacity of Coal/Lignite plants (Source: CEA)[27]

In FY 2024-25, India added only 4.53 GW of thermal capacity, falling short of the 15.4 GW target. Delays in commissioning and construction have slowed thermal capacity growth. As of March 2025, 46 thermal units totalling 34.56 GW remain under construction, with expectations to add about 12.86 GW in FY 2025-26.[28] State-owned NTPC, India's largest power generator, plans to add 30 GW of coal-based thermal capacity by FY 2032, an increase from the earlier target of 26 GW, to meet rising power demand. This includes expansions at existing plants and new units such as Barh, North Karanpura, and Patratu.[29] The pace of thermal power capacity addition has slowed due to environmental concerns and the availability of coal.

India's future thermal power landscape is characterised by a complex balancing act between ensuring energy security, supporting economic growth, and meeting climate commitments. With this context in mind, the retirement of thermal power plants will become a necessity in the coming years. Thermal power plants typically have an operational lifespan of around 35 years. Based on this, it is estimated that by 2050, around 180,000 MW of thermal power capacity may reach retirement age, increasing to approximately 320,000 MW by 2070 as India's capacity grows.[30]

However, there are currently no regulatory requirements mandating the closure of thermal power plants or coal mines, nor established frameworks or financing mechanisms to manage the transition when these facilities shut down. Despite India's commitment to achieving net-zero emissions by 2070, the government has no plans to retire coal-fired power plants before 2030, citing the need to meet a projected 6% growth in electricity demand for FY2025 and beyond.

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[27] Central Electricity Authority. (2023, February). Growth of the electricity sector in India, 2022. https://cea.nic.in/wp-content/uploads/pdm/2023/02/Growth_Book_2022_PDF.pdf
[28] FY25 thermal power target missed by a wide margin. The Financial Express. https://www.financialexpress.com/business/industry-fy25-thermal-power-target-missed-by-a-wide-margin-3844881/
[29] NTPC to add 30 GW coal-based thermal capacity by 2032 to meet demand. Business Standard. https://www.business-standard.com/companies/news/ntpc-to-add-30-gw-coal-based-thermal-capacity-by-2032-to-meet-demand-125041101060_1.html
[30] India has no plans to phase out old coal-based power plants: Power Minister R K Singh. ET EnergyWorld. https://energy.economictimes.indiatimes.com/news/power/india-has-no-plans-to-phase-out-old-coal-based-power-plants-power-minister-r-k-singh/102606438

The government has brought about several policy decisions recently that are supposed to aim at reducing dependence on coal [31]

- As per the draft National Electricity Plan for 2022-27, the Government intends to retire coal-based capacity totalling 4,629 MW between 2022 and 2027. The Plan also indicated retiring old and inefficient power plant units that cannot undergo renovation and modernization, to reduce carbon emissions.
- The Green Energy Open Access Rules were released in 2022 to make it easier for consumers to access green power by promoting the generation, purchase, and consumption of green energy.
- As per a notification released by the Government on 6 March 2023, India has introduced a "Renewable Generation Obligation (RGO)" that requires all new coal-based power plants to obtain 40% of their capacity from renewable energy sources.

Despite the above measures, the Central Electricity Authority (CEA) has issued a notice that no thermal plants will be decommissioned till 2030. The Coal Additional Secretary has also stated that coal demand will grow with the economy, and the government is working to augment coal output while balancing environmental sustainability and community wellbeing. The government is also preparing to launch a coal exchange in 2025 to facilitate trading and rate determination, indicating a continued focus on coal as a key energy source.[32] The dissonance between what India speaks on the international stage vs what is implemented nationally is quite large. There is an urgent need to put clear transition plans in place for what happens when many thermal power plants and coal mines are shut down.

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[31] Climate Trends & EY. (2023, April). [Title of report]. https://climatetrends.in/wp-content/uploads/2023/04/climate-trends-EY-report.pdf
[32] India's coal industry set for major action in 2025: Trading exchange, output boost on high priority list. The Economic Times. https://economictimes.indiatimes.com/industry/indl-goods/svs/metals-mining/indias-coal-industry-set-for-major-action-in-2025-trading-exchange-output-boost-on-high-priority-list/articleshow/116702763.cms

Study Area: Jharkhand

Jharkhand, located in eastern India, is a major contributor to the country's mineral wealth. The state lies predominantly on the Chota Nagpur Plateau and shares its borders with five states: Chhattisgarh, West Bengal, Odisha, Uttar Pradesh, and Bihar.Jharkhand accounts for approximately 40% of India's total mineral resources, making it one of the richest mineral zones in the country.[33] It holds about 29% of the country's coal reserves, making coal mining a critical industry in the state. The state contributes around 26% of India's iron ore reserves and 19% of copper ore reserves. Other significant minerals found in Jharkhand include uranium, mica, bauxite, granite, limestone, silver, graphite, magnetite, and dolomite. Jharkhand is uniquely the only Indian state producing coking coal, uranium, and pyrite.[34]

Mining and mineral extraction are the primary industries in Jharkhand, significantly impacting the state's economy. The total value of mineral production in Jharkhand was approximately Rs 75,358 crore as of March 2024. Mining royalties are projected to generate Rs 19,300 crore in fiscal year 2024-25, reflecting a 20% increase from the previous year, underscoring the sector's robust growth and economic importance. As per records, the mining sector directly employs only about 20,000 workers. This figure, however, does not reflect the indirect employment that this sector generates. There is no official estimate of the numbers employed in the mining sector.

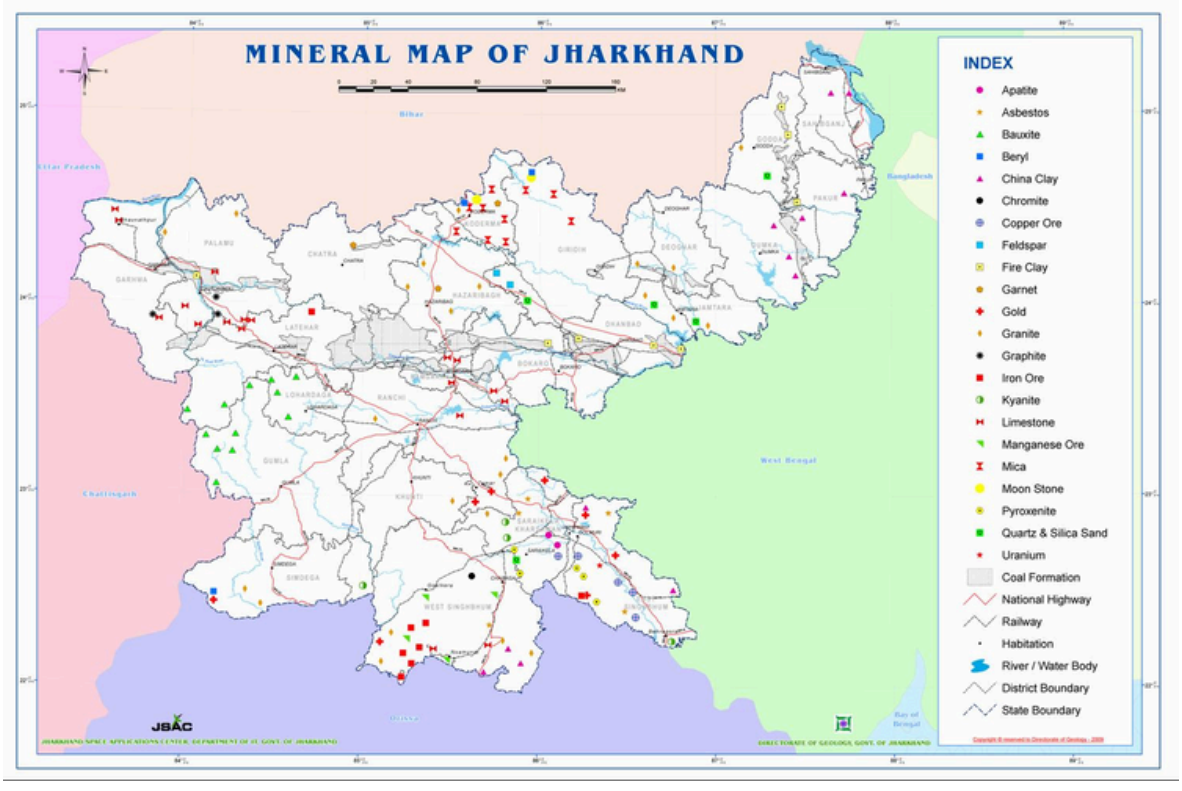

Figure 2: Growth of Installed capacity of Coal/Lignite plants (Source: CEA)
https://testbook.com/jharkhand-gk/minerals-of-jharkhand

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[33] Mining royalties projected to generate Rs 19,300 crore in FY25: Jharkhand eco-survey. The New Indian Express. https://www.newindianexpress.com/nation/2025/Feb/28/mining-royalties-projected-to-generate-rs-19300-crore-in-fy-25-jharkhand-eco-survey

[34] Mining royalties projected to generate Rs 19,300 crore in fiscal 2025: Jharkhand eco-survey. NDTV Profit. https://www.ndtvprofit.com/business/mining-royalties-projected-to-generate-rs-19300-crore-in-fiscal-2025-jharkhand-eco-survey

Coal extraction in Jharkhand officially began in 1774 by the East India Company in the Raniganj Coal Field, initiated by Englishmen John Summer and Grant Heatly[35] of the British East India Company discovered coal near Ethora, now in the Salanpur area. This infact marked the start of coal mining in India. [36]By 1900, annual coal production was approximately 6.2 million metric tons, rising to 19 million metric tons after 1920, highlighting Jharkhand's important contribution to coal mining in India.

The boom in coal production in Jharkhand was primarily driven by the advent of the steam engine and the impact of World War I. The steam engine significantly increased the demand for coal as fuel for locomotives, ships, and industrial machinery. Additionally, World War I disrupted coal imports from England, further boosting Indian coal production to meet the growing domestic demand. [37] In 1894, Seth Khora Ramji Chawda, an Indian entrepreneur from Kutch, challenged the British monopoly by beginning coal extraction and production in the Jharia coalfield. He discovered coal while working on railway contracts in the Jharia region and established collieries such as Jeenagora, Khas Jharia, and Gareria. His success inspired [38]other Indian communities—including Punjabis, Marwaris, Gujaratis, Bengalis, and Hindustanis—to enter coal mining in the Dhanbad-Jharia-Bokaro area after the 1930s. The Gondalpara coal mine in Hazaribagh, Jharia, is noted as the largest coalfield in Jharkhand. Other significant coalfields in the state include Giridih, Ramgarh, Karanpura, and Daltonganj. [39]

As of 2023, Jharkhand's coal production reached approximately 156.48 million tonnes, marking an increase from about 130.10 million tonnes in 2022. This is the highest recorded annual coal output from the state to date. In early 2025, Jharkhand also saw significant developments in commercial coal mining, with the Rajhara North Coal Mine in Palamu district starting production ahead of schedule, which is expected to further boost coal output in the state. Overall, Jharkhand remains a major coal-producing state in India, contributing substantially to the country's total coal production, which has been growing steadily year-on-year.[40]

Thermal Power Plants in Jharkhand State

Jharkhand's thermal power generation is dominated by coal-based plants operated by various entities, including Damodar Valley Corporation (DVC), Tata Power, and other private and public sector companies. These plants harness the abundant local coal to generate electricity, making thermal power the backbone of Jharkhand's energy infrastructure. The state's thermal power capacity is crucial for supporting its industrial sectors, including steel and mining, as well as providing power to neighbouring states. Several thermal power generating plants are operating in Jharkhand; the most important of them are the following:

State Generating Power Plants:

- Tenughat Vidyut Nigam Ltd, Coal-Based Thermal Power Plant (2x210 MW)
- Subernarekha Hydel Project, Hydro-based Power Plant (2X65 MW)

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[38] Simeon, Dilip (1980). Coal and Colonialism: Production Relations in an Indian Coalfield, c. 1895–1947. The Journal of Peasant Studies, 7(3), 313–349. https://doi.org/10.1080/00472558008419760
[39] Azadi Ka Amrit Mahotsav. Retrieved September 22, 2025, from https://amritmahotsav.nic.in/district-reopsitory-detail.htm?25249
[40] CEIC Data. (n.d.). Coal: Production: Jharkhand. Retrieved September 22, 2025, from https://www.ceicdata.com/en/india/coal-production-by-major-states/coal-production-jharkhand

Central Generating Power Plants:

- NTPC, North Karanpura Thermal Power Plant (3X660 MW)
- DVC, Bokaro Thermal Power Station-A (1X500 MW)
- DVC, Chandrapura Thermal Power Station (2X250 MW)
- DVC, Koderma Thermal Power Station (2X500 MW)
- Patratu Vidyut Utpadan Nigam Limited (JV of Government of Jharkhand & NTPC Limited) for development of 4000 MW
- Tenughat Vidyut Nigam Limited from 2 x 210 MW to 2 x 660 MW
- DVC, Panchet Hydel Station (2X40 MW)
- DVC, Tilaiya Hydel Station (2X20 MW)

Private Generating Power Plants:

- Adani Power Limited, Godda Thermal Power Station (2X800 MW)
- Tata Power Co. Ltd., Jojobera TPS (2X120 MW)
- Adhunik Power & Natural Resources Ltd., Mahadev Prasad STPP (2X270 MW)
- Maithon Power Ltd., Maithon RB TPP (2X525 MW)
- Inland Power Ltd. (2X63 MW)

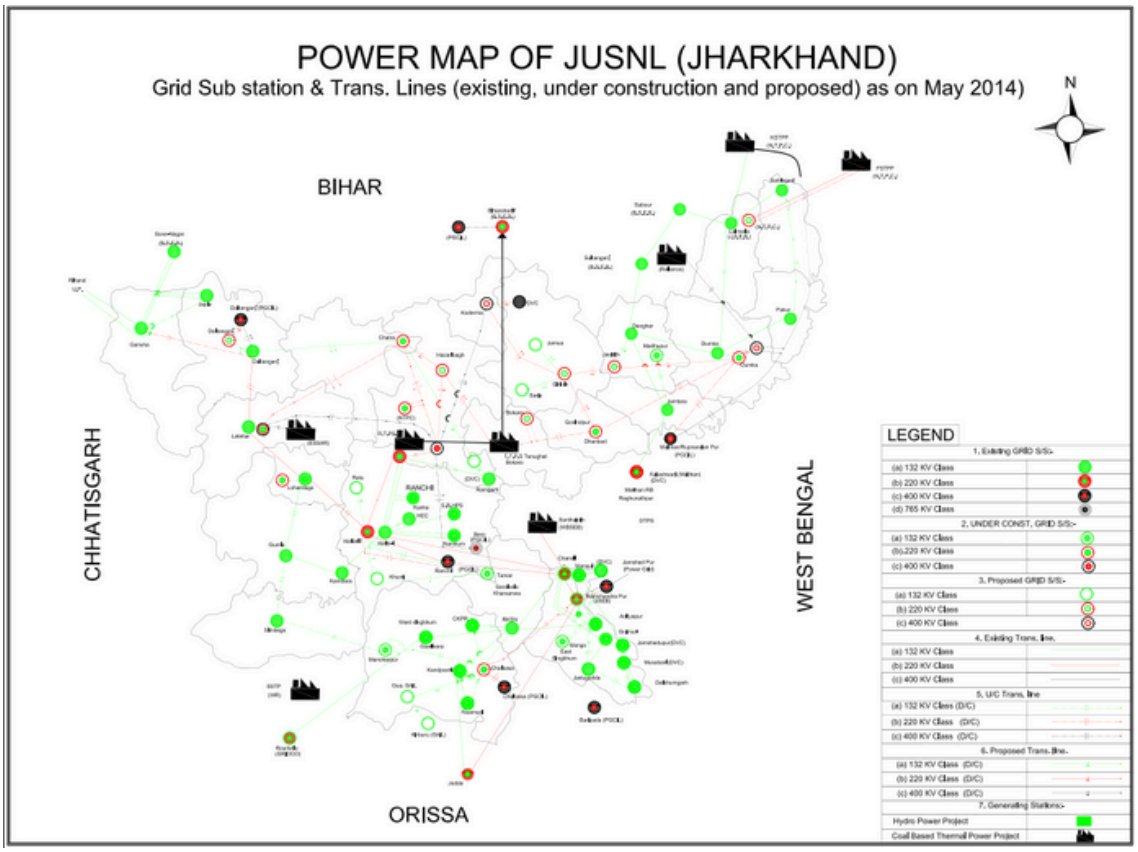

Figure 3: Power Map of Jharkhand [41]

[41] Jharkhand State Electricity Regulatory Commission. https://jserc.org/powermap_jusnl.pdf

As of the latest available data in 2025, Jharkhand's total installed power capacity is approximately 5,990 MW, which is a significant increase from the 2,678.50 MW reported as of April 2023. This capacity includes contributions from the central sector (about 3,400 MW), private players (around 2,036 MW), and the state government (approximately 554 MW). Coal-based thermal power remains the dominant source, with major projects like the Patratu Vidyut Utpadan Nigam Limited (PVUNL) phase-1 project (2,400 MW) expected to be fully operational by the end of 2025, adding significantly to coal-based capacity.[42]

Renewable energy capacity, particularly solar, is growing but still constitutes a small fraction. As of 2022, Jharkhand had about 97 MW of renewable energy capacity, which was only 3.5% of the total installed capacity at that time (around 2,734 MW). The state has ambitious plans to increase solar capacity to 4,000 MW in the next five years under the Jharkhand State Solar Policy 2022.[43] [44]

Despite Jharkhand being a coal and electricity surplus producing state, based on recent survey data and reports, approximately 13 percent of rural households in Jharkhand still lack access to electricity as of the latest assessments around 2020-2023. Given that Jharkhand has roughly 7 million rural households (estimated from census and state data), this translates to around 900,000 households still unconnected to electricity.[45] Additional official audit data from 2019-20 indicates that about 641,000 households (including APL, BPL, and agricultural consumers) remained uncovered primarily due to incomplete coverage under various government schemes and the addition of new households over time.[46] Around 56% of rural households were unconnected as per the 2011 Census (see figure below), but intensive efforts by Jharkhand Bijli Vitran Nigam Limited (JBVNL) and government initiatives have reduced the gap. Although official government statistics claim near 100% electrification, on-the-ground surveys reveal gaps mainly due to affordability and last-mile connectivity challenges.[47]

[42] PVUNL promises 2040 MW power to Jharkhand by 2025. The Times of India. https://timesofindia.indiatimes.com/city/ranchi/pvunl-promises-2040-mw-power-to-jkhand-by-2025/articleshow/117002507.cms
[43] After starting off slow, Jharkhand eyes mega projects to boost clean energy in state. Mongabay-India. https://india.mongabay.com/2022/05/after-starting-off-slow-jharkhand-eyes-mega-projects-to-boost-clean-energy-in-state/
[44] Jharkhand Renewable Energy Development Agency. https://api.jreda.com/all-uploaded-img/img/6360e972de5e0.pdf
[45] Rural Electrification in Jharkhand: Progress and Gaps. ET EnergyWorld. https://energy.economictimes.indiatimes.com/energy-speak/rural-electrification-in-jharkhand-progress-and-gaps/4146
[46] Comptroller and Auditor General of India. (2022, June 25). Report No. 3 of 2022: Indian Railways, Year-end Review, 2019-20. https://cag.gov.in/webroot/uploads/download_audit_report/2022/Report%20No.%203%20of%202022_IRES%202019-20_English_(25-6-2022)-062f10466813bb3.42642350.pdf
[47] Clean Energy Solution Eastern Club. Tracking Progress. https://india.tracking-progress.org/wp-content/uploads/sites/35/2021/04/Clean-Energy-Solution-Eastern-Club.pdf

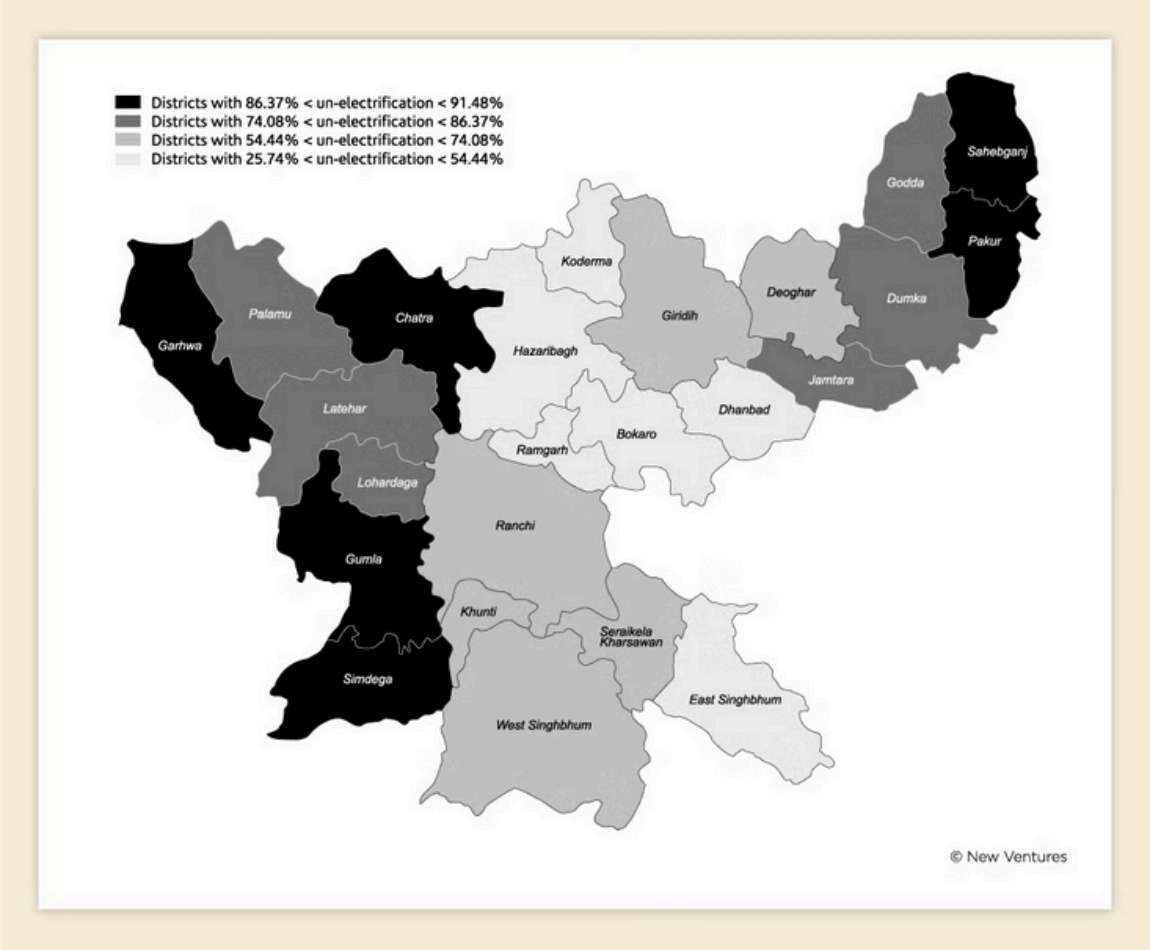

Figure 3: Power Map of Jharkhand [48]

About the study area

The present study focuses on the Chandrapura Thermal Power Plant in the Bokaro district of Jharkhand. The Chandrapura Thermal Power Plant (CTPP) is a significant coal-fired power station located in the Bokaro district of Jharkhand, India, operated by the Damodar Valley Corporation (DVC). Jharkhand is a key region for coal mining and thermal power generation, with Bokaro being one of three districts in the state with a high concentration of coal mines and thermal power plants. The economy of eight districts in Jharkhand relies heavily on coal mining and its associated industries, making the continuation of coal-based power generation crucial for local livelihoods. Without proper planning and transition strategies, districts such as Dhanbad, Hazaribagh, Ramgarh, Ranchi, and Bokaro could face economic crises due to the decline of coal-dependent industries.

Chandrapura TPP was established in October 1965 by DVC. The first six generating units were commissioned between 1964 and 1979, although details about units 4-6 are less clear, with some units later retired or omitted from official listings. The plant originally operated multiple units of 130 MW each.

[48] Identifying Markets for Clean Energy Access in Jharkhand. World Resources Institute. https://www.wri.org/upload/energy/identifying-markets-clean-energy-access-jharkhand.html

Table 1: Chandrapura thermal power plants and their status [49]

Unit name	Status	Fuel(s)	Capacity (MW)	Technology	Start year	Retired year
Unit 1	Retired	coal: bituminous	130	subcritical	1964	2017
Unit 10	Announced	coal: unknown	130	supercritical	1964	2017
Unit 2	Retired	coal: bituminous	130	subcritical	1968	2020
Unit 3	Retired	coal: bituminous	250	subcritical	2011	-
Unit 7	Operating	coal: bituminous	250	subcritical	2011	-
Unit 8	Operating	coal: bituminous	800	subcritical	-	-
Unit 9	Announced	coal: unknown	800	supercritical	-	-

Figure 5: Map of DVC power stations and connected transmission lines [50]

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[49] Data obtained from http://GlobalEnergyObservatory.org/ (n.d.).

[50] Kumar, R (2018) Location of Bokaro thermal power stations along the River Damodar, ResearchGate Retrieved September 22, 2025, from https://www.researchgate.net/figure/Location-of-Bokaro-thermal-power-stations-along-the-River-Damodar_fig1_322146409

The history of Chandrapura, particularly in relation to coal and the thermal power plant, is deeply linked to the broader industrialization narrative of the Bokaro district in Jharkhand. The region's industrial roots date back to the British colonial era when the search for coal resources sparked the initial development of coal mines and related industries. This pursuit laid the foundation for subsequent growth, as the area is located within the rich coalfields of the Damodar Valley, which have been a key driver of industrial activity and economic development in the region. The region's industrial growth accelerated significantly after 1965 with the establishment of the Bokaro Steel Plant, part of a broader national push during the 2nd Five Year Plan to industrialize and generate employment by utilizing natural resources.[51]

The economy of the villages around Chandrapura is largely influenced by coal mining and thermal power generation.[52] Chandrapura Thermal Power Station, commissioned initially in October 1964, is a significant coal-based thermal power project operated by the Damodar Valley Corporation (DVC). The power station originally consisted of several units, with the earlier ones constructed by General Electric and newer units installed by Bharat Heavy Electricals Limited (BHEL). Presently, the station operates two 250 MW units, supporting a total installed capacity of 500 MW. This plant was historically one of the largest pulverized fuel-fired power stations in Asia and included pioneering features such as the first reheat unit in India. The powerhouse stands out for its electrical switchyard, which is among the biggest networks managed by the DVC, and its chimney ranks among the tallest in India and Asia.

The villages surrounding the Chandrapura Thermal Power Plant have experienced significant social and economic transformations due to coal mining and power generation. The plant and nearby coal mines operated by Central Coalfields Limited (CCL) provide substantial employment opportunities for local residents, making industrial labour a dominant source of livelihood. Beyond employment, the power plant has stimulated ancillary economic activities, including local services and small businesses catering to the needs of plant workers and their families. However,[53] the local communities have faced challenges such as pollution and unmet promises regarding infrastructure and social amenities, as seen in protests around similar power plants in Bokaro district.[54]

However, this growth has come with challenges. The local communities have faced environmental pollution linked to coal-based energy generation, impacting health and the natural environment. Despite the economic advantages, there has been disillusionment arising from environmental degradation, unfulfilled promises concerning infrastructure and social amenities, and issues related to displacement caused by mining and industrial projects. These concerns have occasionally led to protests and demands for better environmental management and community development.[55]

[51] Jayswal, P. K. (2014) History of Industrialisation. International Journal for Exchange of Knowledge. https://iaek.org/Articles/HistoryOfIndustrisation.pdf
[52] Chandrapura. In Wikipedia. https://en.wikipedia.org/wiki/Chandrapura
[53] Bokaro (Thermal). In Wikipedia. https://en.wikipedia.org/wiki/Bokaro_(Thermal)
[54] Bokaro Steel City Thermal Power Station. In GEM.wiki. Retrieved September 22, 2025, from https://www.gem.wiki/Bokaro_Steel_City_Thermal_Power_Station

Chandrapura has 28 villages within its community development (CD) block. Some of the larger villages by population include Bandio, Taranga, Taranari Madhubani, and Kurumba, each with populations above 4,000. The total population of the Chandrapura CD block was 132,162 as per the 2011 Census, with 48,776 living in rural areas (the villages) and 83,386 in urban areas.[55]

The socio-economic conditions of the villages in Chandrapura, reflect a complex interplay between rural livelihoods and the influences of industrialisation, particularly coal mining and thermal power generation. The villages generally have access to basic amenities such as electricity, drinking water from hand pumps and wells, and pucca roads, although piped water and landline telephones are less common, and public transportation options are limited. Agriculture remains an important activity, with crops like rice, maize, bajra, wheat, and pulses primarily cultivated in a monsoon-dependent pattern, but many residents also rely heavily on employment connected to the coal mines and the nearby Chandrapura Thermal Power Plant.[56]

Education levels are moderate to high in urbanised areas like Chandrapura town, with literacy rates around 82%, but literacy in the surrounding rural villages tends to be lower, influenced by gender gaps and limited access to advanced educational facilities. Healthcare infrastructure is present but modest, with a few hospitals and dispensaries servicing the area. Economically, many households depend on wage labour in industrial sectors, supplemented by small-scale agriculture and service-related activities. Despite economic opportunities, the communities face significant challenges such as environmental pollution associated with coal-based industries, health impacts, and dissatisfaction arising from unmet social infrastructure promises and displacement issues. These factors contribute to a mixed socio-economic landscape where industrial development has brought both progress and hardship to the local population.[57]

In summary, while the villages in Chandrapura block benefit from proximity to industrial activities like the thermal power plant and coal mining, their socio-economic conditions reflect a mix of basic rural infrastructure with reliance on industrial employment. Along with persistent challenges in comprehensive development and service delivery.

Recent and Planned Expansion of Chandrapura Thermal Power Plant

In February 2025, DVC announced plans to expand the Chandrapura power station by adding two new 800 MW[58] ultra-supercritical units, effectively increasing the plant's capacity by 1,600 MW. This expansion has received in-principle approval from the central government, with an estimated investment of Rs 16,500 crore (approximately US$1.9 billion). The new units will incorporate advanced supercritical technology for better efficiency and reduced emissions compared to older units.[59] Coal India Limited (CIL) has partnered with DVC to jointly develop these new units, with a 50-50 equity share in the joint venture. The coal supply for the expansion will be sourced from nearby coalfields operated by CIL subsidiaries Bharat Coking Coal Ltd and Central Coalfields Ltd, ensuring fuel security for the plant.[60]

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[55] Bokaro District Administration. (n.d.). History. Retrieved September 22, 2025, from https://bokaro.nic.in/history/
[56] Retrieved June 16, 2004, from https://web.archive.org/web/20040616075334/http://www.censusindia.net/results/town.php?stad=A&state5=999
[57] Census data
[58] Chandrapura power station. In GEM.wiki. Retrieved September 22, 2025, from https://www.gem.wiki/Chandrapura_power_station
[59] Editorial Desk (2025, February 15). Two new 800 MW ultra-super-critical power plants will be set up in Chandrapura, Bokaro. Business Jharkhand. https://www.businessjharkhand.com/2025/02/15/two-new-800-mw-ultra-super-critical-power-plants-will-be-set-up-in-chandrapura-bokaro/
[60] Coal India teams up with DVC to set up supercritical power plant in Jharkhand. TND India. https://www.tndindia.com/coal-india-teams-up-with-dvc-to-set-up-supercritical-power-plant-in-jharkhand/

Study Methodology

The study employed a qualitative research approach aimed at understanding the socio-economic and environmental impact of the Chandrapura Thermal Power Plant (TPP) on local communities. The methodology combined various data collection techniques to capture both individual and collective experiences. These methods included stakeholder interviews, focus group discussions (FGDs), case studies, and direct observations. Emphasis was placed on engaging multiple stakeholders such as tribal organisations, displaced communities, government officials, educators, and healthcare professionals to obtain a comprehensive understanding of the issues related to employment, land acquisition, development, and environmental concerns.

In addition, the study carefully considered the perceptions and viewpoints of the various stakeholders involved, recognizing that their subjective experiences and opinions provide critical insight into the social dynamics and challenges faced by the affected populations.

Data Collection

Data collection was primarily conducted during a field visit to Jharkhand in November 2023, February 2024 and December 2024, with a focus on the Chandrapura TPP area. The visits involved the following activities:

- Village Visits: Several villages, including Jhinjhirkutu, Bhursabad, New Pipradih, Jharnadih, Buradih, TAC Basti, and Raja Beda were visited. Residents, typically in small groups of men and women, participated in discussions regarding their lived experiences and concerns.
- Stakeholder Interviews: Meetings were held with various groups, such as members of tribal organizations and displaced communities; advisors and experts; government officials including the Block Development Officer (BDO) and Circle Officer (CEO); school principals and teachers from DVC-run and government-aided schools; and healthcare professionals at the DVC Hospital.
- Case Studies: Selected case studies, including one on the land acquisition experience of the one family, were documented to provide detailed insights.
- Focus Group Discussions (FGDs): These discussions were organised to explore community perspectives on development, employment, land rights, and environmental issues.
- Narratives and Observations: Individual stories were recorded alongside collective demands. Observations were made regarding local infrastructure, living conditions, and the environmental impacts of the power plant on the community.

These activities provided a multi-layered and in-depth dataset to inform the study's findings.

Understanding Perception in the Context of Just Energy Transition

Perception, as defined by the Oxford English Dictionary, is both a process, the act of becoming conscious or aware of things, and a capacity, the ability to be influenced or impacted by objects or phenomena. This dual nature means that perception shapes not only how individuals interpret reality, but also how they react emotionally and behaviourally to the world around them. Importantly, perception is not static or uniform; it is deeply influenced by the individual's needs, experiences, and social context. Research from institutions like the Indian Institute of Technology Kanpur (IITK) highlights that people's perceptions often reflect their specific desires and priorities, which are shaped by economic, social, and cultural factors.[61]

When applied to the concept of a Just Energy Transition (JET), a framework aimed at shifting energy systems from fossil fuels to cleaner alternatives in a socially equitable manner, the diversity of perceptions becomes particularly pronounced. The term "Just Transition" itself holds different meanings depending on who is asked. For instance, the perceptions of a power plant worker whose livelihood depends on coal-based energy will likely differ markedly from those of the broader coal-dependent community, which again will differ from views held by the rest of the nation, which may prioritise climate goals or economic development differently.

The Layers of Perception in Just Transition

Individual perceptions of Just Transition are often selective, people pay attention to certain aspects while ignoring others. These selective viewpoints are influenced by a variety of factors, including gender, age, education, income level, and employment sector, as IITK research emphasises. For example, younger individuals or those with higher education might focus on the environmental benefits and long-term sustainability of renewable energy, while older coal workers may prioritize job security and compensation. This selective attention influences what concerns are voiced and which are marginalised in public discourse, making it imperative to consciously include a broad spectrum of voices when discussing JET policies and projects.

Gaps in Existing Research on Community Perceptions

Most academic research on community perceptions of Just Transition tends to focus on attitudes toward renewable energy developments, participation rates in new energy projects, and the acceptance of different types of energy infrastructure. These studies assess how willing communities are to adopt renewables or to allow projects to be developed in their regions. However, critical reflections on how affected communities perceive the transition process itself, the social, economic, and institutional changes involved, remain underexplored.

Studies conducted in countries such as the United States reveal a pattern of scepticism or resistance toward energy transition and Just Transition initiatives among coal-based communities and workers. Similar findings emerge from research in Spanish coal regions, where distrust stems from past experiences of marginalisation and the fear of job losses without adequate social safety nets. These studies point to a crucial barrier: a lack of clear understanding and communication about what Just Transition entails and how it will benefit the communities involved.

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[61] Swarnakar, P., Singh, M.K, & Chatterjee, R. (2022). What is Just Transition? Perception of Grassroots Stakeholders. Kanpur, Uttar Pradesh: Just Transition Research Centre, Indian Institute of Technology Kanpur.

Further, a report examining these challenges argues that the exclusion of coal-based communities from the planning and decision-making processes is a significant obstacle. When affected people are not meaningfully involved, proposed solutions fail to address their concerns adequately, fostering resentment and resistance.

The Indian Context: Historical Injustices and the Need for Inclusive Transition

In India, the stakes are particularly high. The country's extensive network of thermal power plants and mining projects often came at the cost of displacing local communities and appropriating their land, water, forests, and other natural resources—frequently without their consent. These decisions were typically taken in a top-down manner, sidelining people's voices and sometimes met with violent suppression when communities protested. Such historical injustices have resulted in deep mistrust toward both government and industry.

Repeating these mistakes in the transition to renewable energy would not only be unjust but would also jeopardize the success of JET initiatives. The process must therefore be fundamentally different: it cannot be a one-size-fits-all approach nor can it be implemented through non-participatory means. The lived experiences of these communities, their memories of dispossession and marginalization, make meaningful engagement and co-creation of pathways essential to ensure equitable outcomes.

Toward a Nuanced and Locally Relevant Just Energy Transition

What constitutes a Just Energy Transition for one region or community may be wholly irrelevant or impractical for another, given differences in geography, demographics, culture, economic structures, and existing infrastructure. For example, an approach suited for a coal mining district in Jharkhand will differ drastically from the needs of a coastal fishing community facing sea-level rise and shifts in energy demand.

This diversity necessitates a patient, nuanced process that places people at its center. Such a process should include:

- Inclusive dialogue platforms that actively seek out voices that are usually unheard, including women, youth, indigenous peoples, and informal sector workers.
- Transparent sharing of information about transition plans, timelines, and expected social impacts.
- Mechanisms for local communities to participate in decision-making and co-design interventions.
- Tailored solutions that respect cultural and social contexts while promoting economic diversification, reskilling, and environmental sustainability.

Only through such a comprehensive approach can Just Energy Transition efforts be both relevant and acceptable, effectively balancing the urgent need for decarbonization with the imperative to address social inequalities.

Perceptions of communities in Chandrapura on Just Energy Transition

The perspectives of people in the Thermal power plant impacted villages of Chandrapura regarding the transition away from coal are complex and varied, reflecting a mix of concerns, demands, and hopes. The overwhelming theme from the study is the failure of industrial development to provide promised benefits, especially jobs and livelihood, to the local displaced population. Key issues that arose from the study include inadequate compensation and lack of land documentation, environmental degradation (especially fly ash and dust), limited access to basic amenities despite living near power generation sites, perceived corruption and preference for outsiders in employment and contracting. There is also a strong desire for future development to prioritise local employment and be non-polluting. There is a growing recognition among villagers of the need for collective action and strategic engagement with government and industry regarding future development.

In the next few sections, we will analyse the responses from the people who participated in study on various thematic areas.

Land

The perspectives of people in Chandrapura regarding land issues are deeply intertwined with their experiences of displacement, loss of livelihood, and broken promises associated with coal projects.

Displacement Without Adequate Compensation or Documentation:
The acquisition of land for the plant and ash ponds has resulted in the displacement of many individuals without proper compensation or official documentation. A common grievance among affected people is the absence of compensation and land ownership papers, often expressed as "no compensation, no land documents." There are also widespread concerns about land being sold to private entities or efforts to make land transfers permanent. Many perceive the land taken as originally belonging to the Adivasi Scheduled communities.

Lack of Land Registration and Loss of Land Papers:
Numerous individuals report that their land is not officially registered or that they never received land documents. There are troubling accounts of company supporters confiscating land papers from elders, such as grandparents, further complicating ownership claims.

Broken Promises Regarding Land and Employment:
Communities feel that promises made during the land acquisition process have largely been broken. They were assured of receiving replacement land in new locations, including agricultural plots, but these promises were not fulfilled. Additionally, jobs were promised in exchange for their land, yet these employment opportunities failed to materialize.

Loss of Livelihoods Dependent on Land:
The acquisition and subsequent coal operations, including the establishment of ash ponds, have severely impacted agricultural land and common forest areas. This has made farming increasingly difficult or impossible, driving a significant loss of traditional livelihoods and fueling demands for alternative employment options.

Environmental Damage from Ash Ponds:
Ash ponds, often constructed on acquired agricultural and forest lands, are a major source of pollution, including fly ash and dust contamination. This environmental damage has led to health problems and further reduced the usability of the surrounding lands.

Concerns Over Unused Land:
Communities observe that some land acquired for the plant, including vacant quarters and grounds, remains unused. There is a strong desire among displaced people for this unused land and structures to be returned to them.

Realistic Acknowledgement of Land Return Challenges:
While many express a wish to regain their original land, there is a general understanding that returning the land is unlikely—especially after infrastructure development or contamination from ash ponds. Consequently, the focus has shifted toward demanding jobs and benefits linked to current and future projects on the acquired land.

Complex Land Ownership and Ongoing Issues:
Land ownership patterns remain complicated. Reports indicate that land belonging to Adivasi communities is leased for national development, with concerns that new legislation aims to make these leases permanent. There are also allegations that land acquired from displaced individuals has been sold to private builders. The process of registering land under the Damodar Valley Corporation (DVC) is ongoing for large areas. Additionally, some houses are built on land not officially registered in the occupant's name but possibly in a relative's, adding to ownership disputes.

Demands for Equivalent Land and Benefits:
A central demand from affected communities is to receive land equivalent to what was taken. Many are willing to provide additional land for new projects, such as solar plants, if it guarantees employment opportunities for them.

Land Reserved for Future Developments:
The DVC reportedly reserves land for future projects, including solar power plants. Communities express concern about land being acquired without clear plans that benefit them.

Overall, the affected communities perceive a history of injustice and ongoing vulnerability related to land rights, acquisition processes, inadequate compensation, and the loss of traditional livelihoods. These issues profoundly impact their present living conditions and future prospects, fuelling demands for fair compensation, secure land rights, and meaningful employment opportunities.

Employment and Livelihood

The perceptions on issues of employment and livelihood are complex and deeply tied to their experiences with historical land acquisition, displacement, and the operations of the coal industry.

Central Grievance: Unfulfilled Job Promises

A core issue for the affected communities is the broken promises of employment made when the Damodar Valley Corporation (DVC) acquired their land. Many people state, "they never got jobs in place of land," and recall how their "elders had said that till the work in DVC continues, we will have to be given jobs. But DVC gave money and people went wherever they found a place." Despite the land acquisition, locals feel that "displaced people do not get employment in DVC" while "people who came from outside have got employment in the power plant, but displaced people do not get employment in DVC." This grievance recurs across multiple villages. Even when family members died on the job, their children often did not receive employment, reinforcing the perception that DVC prioritizes outsiders for jobs.

Resentment Towards Outsiders and Social Tensions

The dominance of "outsiders" — particularly people from Bihar and Bengal — in jobs and contracts within DVC fuels social tensions and a strong sense of injustice. This situation highlights DVC's failure to integrate local communities and ensure they benefit from the projects on their land.

Economic Vulnerability Amid Plant Closures

The closure of plant units and the lack of alternative livelihood opportunities have increased economic vulnerability. The community feels more dependent on DVC while simultaneously feeling betrayed by it. Their expressed desire for a "non-polluting industry that has a lot of jobs" reflects a yearning for sustainable and just economic alternatives.

Historical Broken Promises

There is a strong perception that promises of jobs made during land acquisition for power plants and related infrastructure were not honoured. People feel betrayed, emphasizing that "they never got jobs in place of land."

Loss of Traditional Livelihoods

The acquisition of agricultural and forest land, combined with environmental problems like fly ash contamination, has made traditional livelihoods such as farming difficult or impossible. This loss drives the urgent demand for alternative employment.

Job Losses and Uncertainty Due to Plant Closures

The shutdown of older units (like Units 1-6) has led to significant job losses and income reductions. Many permanent and casual workers face an uncertain future. People note, "after Unit 1-6 ended, employment reduced, and income decreased."

Prevalence of Informal and Contract Work

Much of the available work is contract-based or informal, often managed by outside contractors. Locals perceive that "outsiders (from Bihar and Bengal) come and become contractors," and report that contractors sometimes sell permanent job openings for bribes. This work is seen as unstable and lacking benefits. Even during plant closures, casual labour continues through contractors.

Demand for Secure and Permanent Jobs

The primary demand is for secure, permanent employment—ideally within DVC or any new industry replacing coal operations. They want "jobs, not just land back," recognizing that the land may no longer be usable or returnable.

Support for Jobs in New Industries

Communities express willingness to support new projects, including non-polluting industries or solar plants, provided these offer sufficient employment. However, some are sceptical, feeling that "solar may not provide as many livelihoods as thermal power plants." They want "a non-polluting industry that has a lot of jobs" and are willing to provide more land if employment is guaranteed.

Linking Development to Job Creation

There is scepticism that new plants or industries will bring real development without providing jobs to locals. Historically, the plant "didn't bring development or benefits" to the community.

Impact on Local Economy

While some acknowledge that the wider economy improved and shops opened when the plant was active, locals feel they lack the capital to start businesses, which are often run by outsiders.

Inequality and Discrepancies in Job Access

There is a perception that outsiders or people from other regions were favoured for jobs. Some displaced people did get jobs, but often only in lower-level (D group) positions. Concerns remain about fair access to employment based on merit versus other factors.

Vulnerability of Women

Women, especially those involved in informal livelihoods like making and selling daaru, face vulnerability and abuse. They report being excluded from job-related information, as "husbands and brothers don't give them information." There is a perceived lack of women in formal employment lists, highlighting the need for safer, more inclusive economic opportunities.

Need for Training and Skill Development

People recognize the need for skills and training to improve employability—not only in DVC but across sectors. Unemployment is the greatest challenge, and even those with technical qualifications struggle to find jobs.

Government and Company Responsibility

There is an expectation that both the government and companies like DVC ensure job security and provide benefits to affected communities. However, the Block Development Officer (BDO) reportedly does not engage with DVC on employment or livelihood issues. DVC is also perceived to have withdrawn from providing benefits it once offered, such as medical care.

The prevailing perception is one of deep economic insecurity and historical exploitation related to land and jobs. A strong demand exists for dignified, sustainable employment opportunities as the coal industry declines. This demand is central to the community's vision of a "just transition" toward a fairer economic future.

Environmental Impacts and Perceptions

This section explores local community perceptions regarding pollution, environmental degradation, forest loss, and the broader implications for health, livelihoods, and cultural identity.

Pollution from Dust and Fly Ash

Dust pollution is recognized by residents as a persistent environmental problem. Although many acknowledge some improvements over the past decade, dust continues to affect daily life, contributing to respiratory issues and discomfort. The visible presence of dust in the air and on surfaces is a constant reminder of industrial activity's impact. Fly ash, locally known as "raakh" or "chaay," is singled out as a particularly harmful pollutant. Communities report that fly ash has been dumped on agricultural fields without their consent or any formal land-use process. This practice has severely compromised soil quality, making farming difficult or impossible and threatening food security.

Health concerns linked to fly ash exposure are widespread. Residents associate it with respiratory illnesses, skin conditions, and other ailments. There is a strong perception that DVC was responsible for managing fly ash properly—by keeping it wet to prevent it from becoming airborne and by protecting land from leaching and contamination—but these responsibilities have not been adequately met. The failure to control fly ash pollution has eroded trust in the corporation's environmental stewardship.

Impacts on Air, Water, and Land Quality

Local communities express a clear and urgent demand that any new industrial development must avoid polluting the air, water, and land. This demand reflects a growing environmental consciousness and the lived experience of pollution's negative effects. Water availability is a pressing concern. Residents report limited access to tap water, with many water pipes failing to deliver consistent supply. Although not always directly attributed to industrial activity, declining groundwater levels are widely observed and linked to broader environmental changes, including climate change. The scarcity of clean water exacerbates health risks and undermines agricultural productivity.

Loss of Forests and Associated Livelihoods

The expansion of ash ponds and plant infrastructure has led to the direct loss of forest land, which communities view as more than just lost territory. Forests have historically provided food, fuel, medicinal plants, and cultural resources. Their loss translates into a profound disruption of traditional livelihoods. The concept of "Samudayik Jungle" or community forests remains central to local identity and resource management. Protecting "jungle, land, rituals, and language" was a key objective of the Jharkhand Movement, symbolizing the intertwined nature of environment and culture. Specific forest areas, such as the "Jangal Singh plot," were appropriated for ash pond construction, intensifying community grievances.

Lack of Agency and Failures in Environmental Management

Communities feel excluded from meaningful participation in decisions about development projects and their environmental impacts. This lack of agency fuels frustration and mistrust toward both government authorities and corporations. DVC is widely perceived to have failed in its environmental responsibilities, including proper fly ash management and provision of mitigating services such as free medical care. Political responses, such as suggestions by local representatives to use sprays for fly ash control, are seen as superficial and inadequate.

Adivasi Identity

The degradation of forests and land is viewed as a direct threat to Adivasi identity, which is deeply connected to the natural environment. The loss of community forests undermines cultural practices, rituals, and language preservation.There is an emerging awareness among residents of climate change phenomena, including rising temperatures and their role in lowering water tables. While global discussions focus on coal's contribution to greenhouse gas emissions, local concerns are more immediate—centered on job security, health, and the future of their children. Climate change is sometimes framed as a "weapon" within local movements advocating for environmental justice and sustainable development. However, the urgency of economic survival often takes precedence over abstract environmental debates.

Perspectives on the Coal Transition and Just Energy Transition (JET)

In one of the villages, a clear expectation was voiced: "When the plant was there we didn't get anything, but JET should at last help the adivasis and local people here." This quote encapsulates the hope is felt among those who were interviewed regarding JET and Coal transition. This hope of JET bringing benefits that the existing thermal power plant failed to deliver is tempered by a deep-rooted scepticism within the community, which has long felt overlooked and neglected. For many years, these communities have experienced a lack of meaningful engagement and tangible support, leading to a growing sense of disenfranchisement. As a result, while there is cautious optimism about JET's potential to bring positive change, this is accompanied by a persistent wariness born from past disappointments and unfulfilled commitments.

Jobs and Livelihoods Are Paramount

A dominant theme is the urgent need for secure employment. Many express frustrations that despite land acquisition, "we never got jobs in place of land." The community stresses that giving back land is "of no use" if it does not provide income. They are willing to "give more land if they get employment," highlighting the priority of jobs for their children's future to prevent forced migration. They want "leisure jobs" and permanent, secure employment—specifically mentioning jobs within DVC. As one community member puts it, "We want livelihood, so our sons shouldn't have to migrate." The hope is that JET will fulfil promises and "help the Adivasis and local people" with meaningful work.

Demand for Non-Polluting Industries

The community's experience with the thermal power plant's negative impacts, especially dust and fly ash pollution ("raakh or chaay"), shapes their demand for clean industries. They want "something non-polluting but livelihoods" and "something that doesn't pollute air & water." They are clear: "We don't want a smoke-filled plant any more." This desire for a healthy environment is inseparable from their vision of a just transition.

Scepticism Rooted in Past Experiences

A deep scepticism colours their outlook on new projects. They ask, "If the plant does not give you any development, why will the new plant give you?" This reflects a history of displacement, unfulfilled promises, and the perception that outsiders have benefited more than locals. They note that "people who came from outside have got employment in the power plant, but displaced people do not get employment in DVC." This lack of trust influences how they view future energy transitions.

Desire for Community Agency and Unity

Communities feel marginalized in decision-making, stating, "No one asks us what we want." They emphasize the need to "build a strong movement" where their voices are heard, especially regarding future projects. They believe that critical documents like the Detailed Project Report (DPR) and Environmental Impact Assessment (EIA) "should be in the local language" to ensure transparency and participation. Unity among the "7 displaced villages" and broader Adivasi communities is seen as essential for protecting rights and shaping their future.

Land Rights and Historical Injustices

Land remains a critical issue. The communities assert, "Where the plant is, that's our land," expressing ongoing concerns about land ownership and inadequate compensation in the past. They stress that a just transition must address these historical injustices and respect their land rights. Beyond land, they demand "houses or using empty quarters/land for displaced people" and access to basic services like water, electricity, education, and healthcare, which they feel are currently insufficient or come at a cost.

Perspectives on Alternative Industries

While open to alternatives such as solar power, many acknowledge, "Solar will not get as many livelihoods" as thermal power plants. Some mention DVC's plans to build solar plants on unused land and express interest in jobs at BSL's new solar plant. However, the overarching demand remains for industries that provide ample employment opportunities.

Challenges and the Need for Skill Development

There is recognition of challenges such as high unemployment and limited education levels. Some suggest that "people need to be technically trained to find jobs anywhere," though doubts remain about job availability even with training. Ideas like forming cooperatives of displaced people to run industries are raised as potential future models.

Climate Change Context

While the global importance of limiting warming to 1.5°C is recognized, local concerns focus more immediately on job security and their children's futures. Climate change is sometimes framed as a "weapon" for the movement, but tangible effects like lowered water levels are more directly felt.

Role of Government and Companies

There is an expectation that the government should take responsibility for decisions and provide basic services. However, frustration exists toward companies like DVC for failing to deliver promised benefits, manage pollution effectively, or ensure local employment.

IMAGE: LAND CONFLICT WATCH

Principles of JET

Based on the data analysis from the study and some literature review, the following emerge as principles to consider while planning and executing a Just Energy Transition

- **Free and Prior Informed Consent (FPIC):** A clear output from this study is that JET must be centred around the affected people and communities. It must be community-based to be equitable. This means community consent is key, and communities must be acknowledged as stakeholders who have a role in the conversation and a right to determine their futures. The process also requires transparency, with trusted information being provided about any transition including timeline, impacts, and feasibility of alternatives. There should be clear avenues for accessible communication to local communities in their local language and enough avenues to provide feedback. The approval process for any new project should be inclusive, recognising and treating community members' needs with fair consideration. It is vital to integrate the voices of those affected into the planning process.[62]
- **Community-Based and Decentralised Decision-Making:** A core principle strongly emphasised is that the decision-making process must be community-based to be equitable. Community input should be a key consideration, and there is no one-size-fits-all development plan; each community's needs can be unique. Communities must be acknowledged as stakeholders who have a role in the conversation and a right to determine their futures.[63] An equitable transition requires an inclusive approach where community members' needs are voiced, recognised, and treated with fair consideration. This calls for policies to ideally be derived from practice. Local people feel they should decide what development looks like in their area and have a say in what replaces old industries. The idea of empowering local communities should go beyond just consultation to potential forms of decentralised ownership and control.
- **Securing Jobs and Livelihoods:** A primary principle to be followed is the replacement of lost jobs, revenue, and economic activity. This requires identifying how jobs will be replaced and planning early for alternative employment opportunities. The transition must lead to secure employment alternatives, provide livable wages, and offer opportunities for new sectors. This includes addressing the challenges faced by informal and contract workers. Economic diversification is a crucial aspect of this. Affected communities explicitly demand that any new industry replacing coal must provide a lot of jobs and income.
- **Protecting and Restoring the Environment:** The transition should involve moving away from industries that pollute air, water, and land. It requires ecological restoration initiatives and cleaning up contamination. This is linked to achieving ecological and environmental justice, which demands restoring past damages. Communities express a strong desire for non-polluting industries to replace the thermal power plants.

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[62] The Energy and Resources Institute. (2023, March). Vichaar-Vimarsh: Just Transition Newsletter. https://justtransition.in/wp-content/uploads/2023/03/Just-Transition-March-2023.pdf
[63] India Power Sector Overview FY 2024-25. Centre for Research on Energy and Clean Air. https://energyandcleanair.org/publication/india-power-sector-overview-fy-2024-25/

- **Addressing Historical Injustices and Equities:** A just transition aims to redress past harms and create new relationships of power. This includes applying notions of recognition, distributive, procedural, and restorative justice in the decision-making process. It means the burdens and benefits are not disproportionately shouldered by any one community group. Marginalized communities, including rural areas, low-income populations, communities of color, indigenous populations, Scheduled Castes, Scheduled Tribes, and Other Backward Classes, who have been historically ignored or suffered from coal operations, must have their voices uplifted. This also involves addressing issues like unequal land ownership and caste practices that perpetuate miseries

Conclusion

A transition to a low-carbon energy system does not automatically guarantee a "just" society, despite its environmental and economic benefits.[64] Sovacool et al. (2021) argue that current low-carbon transitions risk "creating new injustices and vulnerabilities, while also failing to address pre-existing structural drivers of injustice in energy markets and the wider socio-economy."[65] This highlights the critical need to move beyond a purely technology-focused understanding of low-carbon transitions and to incorporate a robust engagement with social justice concerns.[66] A just energy transition, therefore, must not only aim to reduce carbon emissions but also ensure that the interests of fossil fuel-dependent communities are safeguarded. This includes securing employment opportunities, protecting health and environmental quality, respecting land rights, and preserving socio-cultural dimensions.[67] Only by integrating these social justice dimensions can the transition be truly equitable and sustainable.

This report aims to present the perspectives of communities on the eventual downsizing or closure of thermal power plant (TPP) units in their local area in Chandrapura. These plants were established through the acquisition of local and forest land, often without proper compensation or documentation, and sometimes through intimidation. The displaced people, primarily Adivasi communities, feel they have borne the brunt of this industrial activity without reaping its benefits Based on our observations and interviews, the community's primary demands are:

- Jobs: Secure, permanent employment in any new industry, prioritizing locals and displaced persons. They hope a new plant (like the proposed 800MW unit or solar) will provide jobs.
- Non-Polluting Industry: Desire for new industries that do not cause the environmental and health damage associated with coal power.
- Basic Facilities: Provision of essential services (water, electricity, health, education, roads, drainage) as a right from the government.
- Return of Unused Land/Quarters: Demands for unused acquired land or empty company quarters to be returned to displaced people.
- Recognition and Fair Treatment: To be acknowledged as stakeholders, included in decision-making, and treated with fairness and respect, addressing historical grievances.
- Need for Unity and Planned Transition: The communities also recognised the need to overcome internal divisions and act together to effectively voice their demands and influence the transition process.

In conclusion, a just transition requires a carefully planned and participatory approach that centres the needs and voices of affected communities. However, at present, there are no specific government guidelines or clear strategies addressing the phase-out of coal units or the critical issues of employment and livelihoods in Jharkhand. Communities burdened by the long-standing negative impacts of coal infrastructure feel historically wronged and presently neglected.

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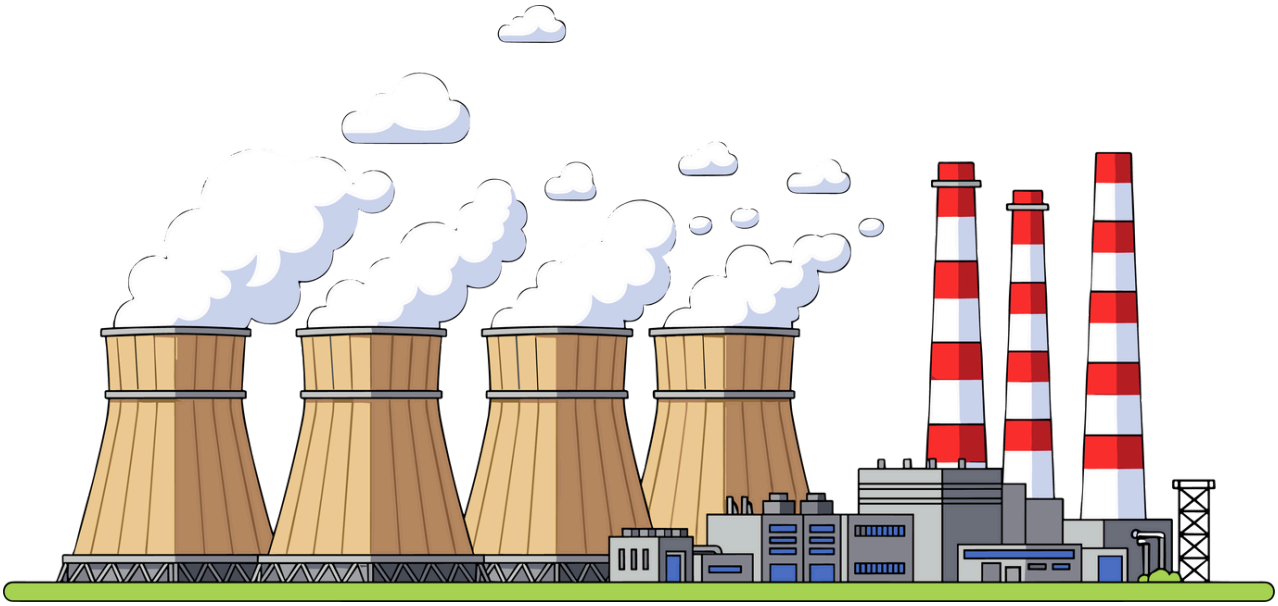
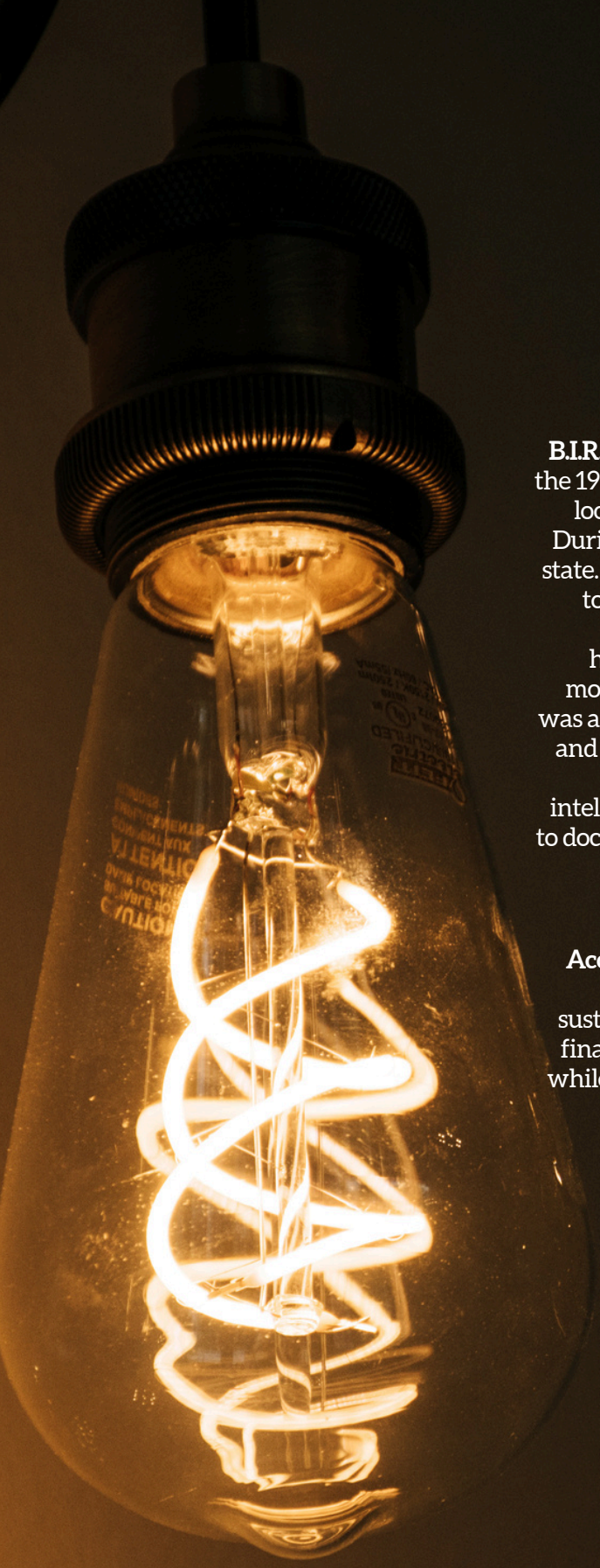
[64] Newell, P., & Mulvaney, D. (2013). The political economy of the 'just transition'. The Geographical Journal, 179(2), 132-140. https://doi.org/10.1111/geoj.12008
[65] Sovacool, B. K., et al. (2021). The socio-political economy of low-carbon transitions. Energy Research & Social Science, 82, 102283. https://doi.org/10.1016/j.erss.2021.102283
[66] Heffron, R. J., McCauley, D., & Sovacool, B. K. (2015). Resolving society's energy trilemma through the Energy Justice Metric. Energy Policy, 87, 168-176. https://doi.org/10.1016/j.enpol.2015.08.033
[67] Newell, P., et al. (2022). Just Transitions: Histories and Futures in a Rapidly Changing World. Energy Research & Social Science, 87, 102471. https://doi.org/10.1016/j.erss.2022.102471

Facing the reality of further job losses due to plant closures, these communities view the energy transition not only as a challenge, but also as a potential opportunity to correct past injustices and build a more equitable future. For this to happen, the transition must prioritise secure local employment—preferably in non-polluting industries—ensure the provision of basic services by the government, facilitate the return of unused land and resources, and foster genuine community participation and empowerment in decision-making processes. Without clear government direction and meaningful inclusion of local voices, the path to a truly just transition remains obstructed, leaving affected populations marginalized and uncertain about their future.





B.I.R.S.A. started working among the Adivasi people in Jharkhand in the 1970s on the twin issues of human rights as well as the continuing loot and alienation of Adivasi lands and forests by different actors. During this time, there was the Jharkhand movement for a separate state. One of the lacunae in the movement was that there was no one to write the history of Adivasis. Similarly, there was no space, nor were there people available to document the events that were happening. This was necessary for taking the work forward. The movement saw many young people coming into it. However, there was a need to provide training to develop their political consciousness and leadership potential. B.I.R.S.A. was formed in 1989 with all these objectives in mind by a group of village-level activists, Adivasi intellectuals, and University Students to provide a space for Adivasis to document their history, train themselves to produce well-informed leaders, and provide resources for community organisation.

Established in January 2017, the **Centre for Financial Accountability's (CFA)** vision is to transform finance into a positive force for change, advancing social justice, environmental sustainability, and economic inclusivity. CFA's mission is to promote financial accountability, transparency, and responsible investments while empowering marginalised communities, advocating for equity and sustainability in finance, and fostering global collaboration.

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