



HUMAN SETTLEMENTS IN JUST TRANSITION (DRAFT)¹

*-A case study of thermal power station in
Rajasthan*

ABSTRACT

This paper aims to highlight key questions that aim at informing the human settlement framework in the event of decommissioning of thermal power plants. The primary objective is to propose a pathway towards a just transition framework, that entails justice in its distributive, procedural and environmental sense.

¹ Section A is prepared by Indicc Associates, Section B by CEEP and Section C by IIHS as a part of collaborative work of Indicc Associates

SECTION A

1 Introduction

The United Nations Intergovernmental Panel on Climate Change released a comprehensive synthesis of its past reports, urging immediate and urgent actions to combat global warming and jointly create a sustainable future for the planet. Even as nations move towards a more sustainable low carbon economy, around 75 percent of greenhouse emissions worldwide are attributed to the burning of fossil fuels such as coal, natural gas, and oil. India updated its Nationally Determined Contribution (NDC), committing to reduce its GDP's emissions intensity by 45 percent by 2030 from the 2005 level. Additionally, India aims to achieve around 50 percent of cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030, as per the government's announcement in 2022. These targets signal India's commitment to combat climate change and transit towards cleaner and more sustainable energy sources.

With such ambitious targets set by India in its updated NDCs, subnational action becomes a crucial element in achieving these goals. State level strategy on Just Energy Transition could be seen in a broader context of distribution of resources. For instance, eastern part of India has plenty of coal reserves while west and south have abundant solar. Similarly, Himalayan region has enormous potential for Hydro while coastal region is blessed with Wind. The difference in resource availability therefore will increase costs and need for interstate and centre-state coordination.

The question of energy transition is also not just limited to the power sector transition strategies alone. Associated industries like cement, steel, brick consume coal for manufacturing while sectors like Railways are significantly dependent upon coal. Therefore, both direct and indirect impact on jobs, livelihood, investments and demand would need to be assessed. Similarly, other policy steps to generate employment and equity need to be aligned with Just Transition framework.

So far India's approach has been that of coal phase down rather than coal phase out. While this allows India to position its need for industrialization emphatically - market maturity in renewables, limited fiscal space and financing through capital markets in green economy are compelling forces that underline the need to take timely steps towards Just Transition.

In May 2022, Union Minister of Power and New & Renewable Energy, Mr R.K. Singh, asked the Chief Ministers of all States and Lieutenant Governors of Union Territories to set up State Level Steering Committees for Energy Transition. The Steering Committees will work under the chairmanship of the Chief Secretaries of the respective States/Union Territories, along with relevant departments. The Minister reiterated that States/UTs have a vital role in meeting state-specific goals on sustainable development in the most energy-efficient way.

Further, LTLEDS which spells out a pathway to India's updated NDCs also stress upon the need for state action towards low emission strategies. With states assuming prominence in meeting climate action, it is but natural that just transition initiatives are led by them in collaboration with the Union government and non-state agencies as well. In this regard, there are initiatives on Just Transition by the Coal Ministry and Ministry of Planning.

Additionally, a report of the Inter-ministerial Committee on Just Transition from Coal, published by NITI Aayog, highlights the need for a just transition policy addressing 5 key issues of livelihoods, community health, physical and social infrastructure, re purposing of resources and public finance. The Committee advocates for a three-tier task force (described below) to enable a just transition.

- Tier-1:
 - Members: Chaired by Minister of Coal, representatives from relevant Central ministries, non-govt experts from relevant sectors
 - Role: Task force to ensure establishment of standards and best practices by ensuring convergence and alignment with current national policies and programs

- Tier-2:
 - Members: Representatives from state govt, coal companies, and civil society. (Constituted for each coal bearing state)
 - Role: Task force is to oversee the plans for each asset closure in the state and building the regional development framework to facilitate the closure of coal mines using just transition principles
- Tier-3:
 - Members: Representatives from the impacted local communities, project workers, and the appropriate district administration and agencies.
 - Role: Based on public input, it shall prepare and implement a redevelopment and re-purposing plan for each asset that is being closed

While the above stated structure has been developed predominantly for coal mines, general attributes of a response mechanism to ensure just transition are likely to be more or less the same for all industries, be it at the central or state level. Here, it may be pertinent to expand on the concept of just transition in detail.

2 Deconstructing 'Just Transition'

Broadly, 'Just Transition' is a transition that challenges systems of exclusion and discrimination and seeks to improve prosperity and well-being for all. It can apply to any field but has mainly evolved in the environmental domain. Essentially, it challenges the idea that valuing job security and caring for the environment are two mutually exclusive goals. In other words, at its very core, it challenges the 'Jobs Vs Environment' binary which has typically inhibited any debate towards a more profound transition.

Up until recently 'Just Transition' was considered mainly a Western construct despite it having gathered much mass and diversity in its evolution from a local campaign in the US in 1970s to a much wider construct that has come to influence policies in several countries and institutions. For instance, 'Just Transition' has been explicitly referred to in the Green Jobs Initiative² ;

² A joint initiative of UNEP, the ILO, the ITUC and the International Organization of Employers

International Confederation of Free Trade Unions³ (ICFTU) ; Trade Union Advisory Council (TUAC) to the Organization for Economic Co-operation and Development (OECD); Green European think tanks and from there on to the United Nations Environment Programme (UNEP), International Labour Organization (ILO), United Nations Commission on Sustainable Development and United Nations Framework Convention on Climate Change (UNFCCC).

Needless to say, this diffusion of the concept of ‘Just Transition’ at a global scale has been accompanied by a diversification of the meanings associated with it. In fact, it may be appropriate to say that diversification of meanings and multiple interpretations perhaps enabled greater diffusion.

Perhaps this compelling expansion necessitated ‘Just Transition Research Collaborative’⁴ to publish comprehensive research titled *Mapping Just Transition(s) to a Low-Carbon World*⁵. Authored in 2018, the report looks at regional approaches and case studies from three developing countries and as many developed countries⁶. Insights gleaned from the report and case studies reveal interesting aspects that can be considered by policy makers in India⁷.

While ‘Just Transition’ remains largely a recent and esoteric concept for most grassroots CSOs/NGOs in India, the Indian state has made policy announcements incorporating the popular phraseology of the concept. For instance, the Union Ministry of Coal has recently announced that it will have a ‘Just Transition’ division, which will draft sustainable coal mine closure plans for areas economically dependent on coal. To facilitate this process, the World Bank is set to provide monetary support and prepare a ‘detailed project report’ in consultation with various stakeholders, especially mine workers’ unions.

³ In 2006 merger of the ICFTU and the World Confederation of Labour gave birth to the International Trade Union Confederation (ITUC) which from the outset placed environmental concerns at the heart of its agenda

⁴ A joint effort by the United Nations Research Institute for Social Development (UNRISD) and Edouard Morena of the University of London Institute in Paris (ULIP)

⁵ <https://www.unclearn.org/wp-content/uploads/library/report-jtrc-2018.pdf>

⁶ Brazil, South Africa, Kenya, US, Canada and Germany.

⁷ In drafting this section, the author has borrowed key concepts and critically analyzed them to juxtaposed with Indian context

What has perhaps enabled the Indian state to champion the 'Just Transition' approach without much ground swell and agitation may be the combination of four high level factors. First, fossil fuel divestment is picking up globally with trillions of dollars moving away from fossil to non-fossil industry. Second, as a result there is an increasing fear of stranded assets in the fossil fuel industry. Third, a principle-based approach articulated at international forums towards a greener future is also complemented by favourable economics of producing cheap energy from alternative sources and the fourth, there is increasing evidence of strong correlation between the performance of Environmental, Social and Governance (ESG) funds and positive investment returns.

No surprise therefore that even Ministry of Power too seems to have evinced keen interest towards preparing different approaches for repurposing of power plants as well as the development of alternative economic and employment options⁸. At the state level, Jharkhand has emerged as the first state to have formulated a formal approach to Just Transition.

However, since electricity is a concurrent subject⁹, states will have an equally important role in managing the transition. In fact, centre and state will have to evolve a comprehensive framework across key elements of transition and demarcate their common and differentiated responsibilities.

In this context, it will be in order to list out some of those key elements. Drawn from various interpretations of 'Just Transition' articulated by prominent institutions spread across different geographies¹⁰, these key elements include:

- Need for inclusive approach in greening the Economy
- Need to create decent work opportunities
- Need for effective social dialogue to manage transition

⁸ https://www.cif.org/sites/cif_enc/files/knowledge-documents/supporting_just_transitions_in_india.pdf

⁹ The Concurrent List consists of subjects of common interest to both the Union along with the States. Both, the Union as well as the state governments are eligible to make laws on the Concurrent subjects.

¹⁰ ILO, WRI, Just Transition Centre, EBRD, Just Transition Alliance, UNFCCC, UNEP

- Need to honour fundamental labour principles and rights
- Need to ensure greater job security and social protection
- Need to equitably distribute costs and benefits of Climate Action
- Need to provide adequate training opportunities to ensure job security
- Need to ensure that substantial benefits of a green economy transition are shared widely, while also supporting those who stand to lose economically
- Need to have a vision-led, unifying and place-based set of principles, processes, and practices that build economic and political power to shift from an extractive economy to a regenerative economy.
- Need to have transparent planning
- Need to have coexistence of healthy economy and clean environment
- Need to have losses fairly compensated and need to have affected people have their due voice and leadership in crafting policy solutions
- Need to have redressal of harms and creating new relationships of power through fair processes of transition
- Need to have policies and programmes incorporate strong gender dimension
- Need to have policies and programmes in line with the specific local conditions, including stage of development, economic sectors, and types and sizes of enterprises

Based on the above, a synthesized framework of 'Just Transition' may read as follows:

Just Transition entails a process of robust social dialogue amongst different stakeholders, (keeping affected people at the centre) to effectively plan equitable distribution/redistribution of costs and benefits of greening the economy through an approach which is premised upon respect for labour rights, relevant state policies and local context, with an aim to achieve tangible outcomes like decent Jobs, job security and social protection (including skill training for job security) so that inclusive growth can be shaped with minimum conflict between livelihood and environment.

It is essential to highlight here that definitional framework alone cannot guarantee the desired outcome because 'Just Transition' may vary in terms of how governance structures, institutions and policies are shaped, for whom justice is intended (humans or/and nature, particular groups or all people), the kind of justice (environmental, climate, energy, social, gender etc.), and how it should be sought (through distributional, procedural, restorative and/or recognition justice).

Reflecting on these questions would be essential for policy making to gauge if transition management entails merely a shift from a dirty to a clean economy or can a shift to a low carbon economy serve as a catalyst for much deeper transformation? For instance, questions related to energy may entail how it may be controlled and distributed to alleviate poverty and ensure universal access to affordable and sustainable sources?

To understand it differently, it may help to consider that there may be multiple approaches to 'Just Transition' each with a different outcome. For instance, the puritan laissez faire approach is built on the belief that the free market will drive the transition and bring about positive change. It seeks to assert the cost of inaction and argues that the state should provide an enabling environment through incentives to businesses and consumers. Under this approach, compensation, skill training and replacement of old jobs with new ones are considered as a proxy to justice. This approach is often referred to as 'status-quoist'.

A step ahead to 'status quo' is another approach that is built on an argument that fossil fuel regime generates inherent inequalities in terms of access, affordability, impact on health et al. However, existing legal and regulatory framework is not well equipped to address overall wellbeing and hence a more responsive legal and regulatory structure that is geared towards greater equity is needed. Under this approach the existing paradigm is not challenged and a limited policy improvement is considered as a proxy for justice. It is often referred to as a 'managerial approach'.

Then there is the 'structural reform' approach which implies institutional change and structural evolution of the system. Essentially it entails modified governance structures with greater representation of people to ensure democratic participation and decision making. In short, the approach focuses not just on compensation elements and regulatory improvements but also

on institutional reform per se. In other words, it entails both distributive justice (compensation) and procedural justice (collective institutional ownership).

The next step in the continuum is ‘transformative approach’ for which no society yet seems ready. Basically, this approach argues for promoting alternative development pathways. For instance, it calls for ending systematic dependence on the hydro-carbon industry and relentless obsession with the idea of economic growth alone. This is however fast emerging as an aspirational approach.

Turning back to the question of ‘Just Transition’, while the Union Ministry of Coal and Union Ministry of Power may well be on their way to incorporate the concept within their evolving mandate, the fact remains that in the absence of a prolonged struggle to mainstream this idea in policy discourse, the state may only have a distant understanding of impact on various stakeholders particularly those who are most adversely affected.

In this light, Rajasthan is presented with a unique opportunity to aid the efforts of the state to devise a well thought out ‘Just Transition’ plan for Rajasthan. Further, it may be noted that so far policy research on Just Transition in India focuses on the impact of transition on key coal regions. However, even coal region transition planning cannot be comprehensively done without assessing the planned changes in forward and backward linkages of the coal sector. Therefore, state action on energy transition is inextricably linked with transition management strategies articulated by the Union.

Similarly, each state also needs to take a comprehensive assessment of activities that are being delinked from the carbon economy to develop a conscious ‘Just Transition’ pathway. For instance, in Rajasthan, it gets bulk of its Coal from Parsa Kanta Coal block in Chhattisgarh and Mahanadi Coal Fields in Odisha. Therefore, how Rajasthan will plan its energy transition will determine the impact it will have on coal blocks outside the state or associated economy with the thermal plants in the state.

Industrial sectors like cement, steel and brick amongst others are also highly dependent on coal. Therefore, transition strategies will have to account for impact on industry, employment and investments in totality.

3 The Case of Rajasthan

Among the states, Rajasthan stands out with its substantial solar energy potential, estimated at 142 GW according to the Rajasthan Solar Energy Policy of 2019. It also has the highest installed capacity of ground-mounted solar (about 12 GW by July 2022) (RRECL 2022) and aims to take it to 30 GW by 2025 (Rajasthan Solar Energy Policy 2019). This vast potential places Rajasthan in a significant position as a contributor towards meeting the national targets and supporting India's transition towards cleaner and renewable energy sources.

Towards this endeavour, Rajasthan has signed up nearly 90 GW of investments in RE which are planned over 2030 horizon. Estimates suggest that the states own demand by 2030 to be about 24 GW. This means that a substantive amount of RE produced in the state will be for export purposes.

Since, the power sector is considered to be strategic in nature, options for diversification of state GENCOs may also well be in order. Currently the following is the power portfolio Rajasthan Vidyut Utpadan Nigam Ltd.

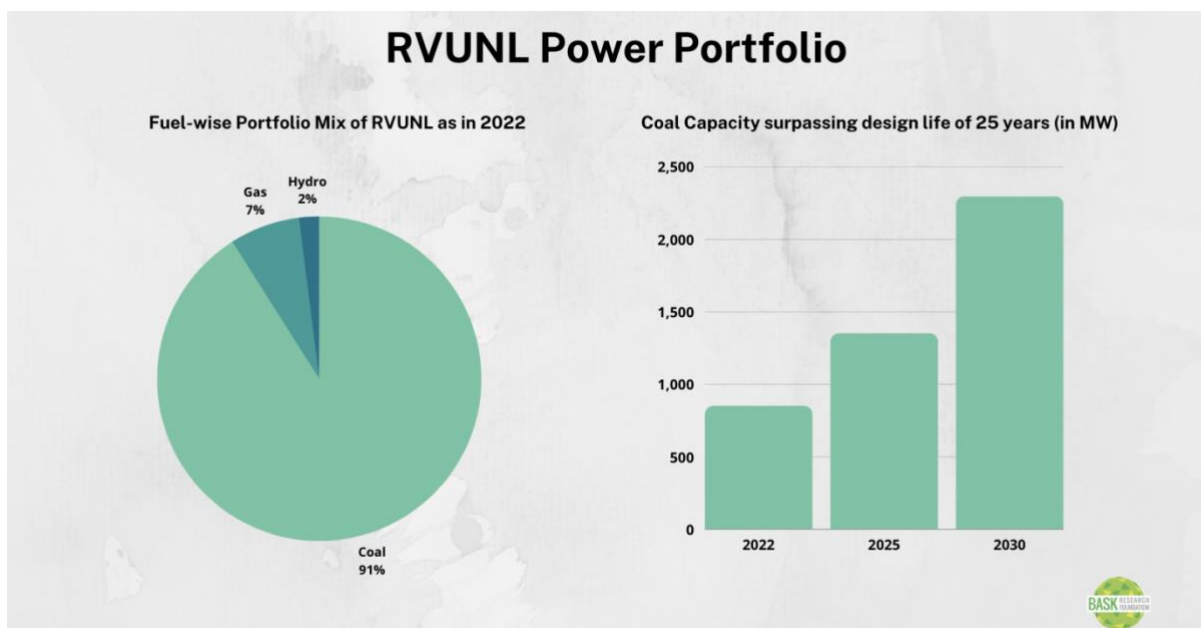


Figure 1: RVUNL fuel wise portfolio mix as in 2022 and coal capacity decommissioning till 2030
Source: RVUNL Website

As is clear from the above graphs, RVUN has a negligible stake towards meeting the updated NDCs. In other words, we see in Fig. 3, out of the state's solar installed capacity of 14.8GW, the state GENCO has no RE footprint (excluding hydropower). This stands in contrast to states like Andhra Pradesh, Gujarat and Tamil Nadu whose state Gencos have been steadily diversifying into clean energy (Fig. 2 and 3).

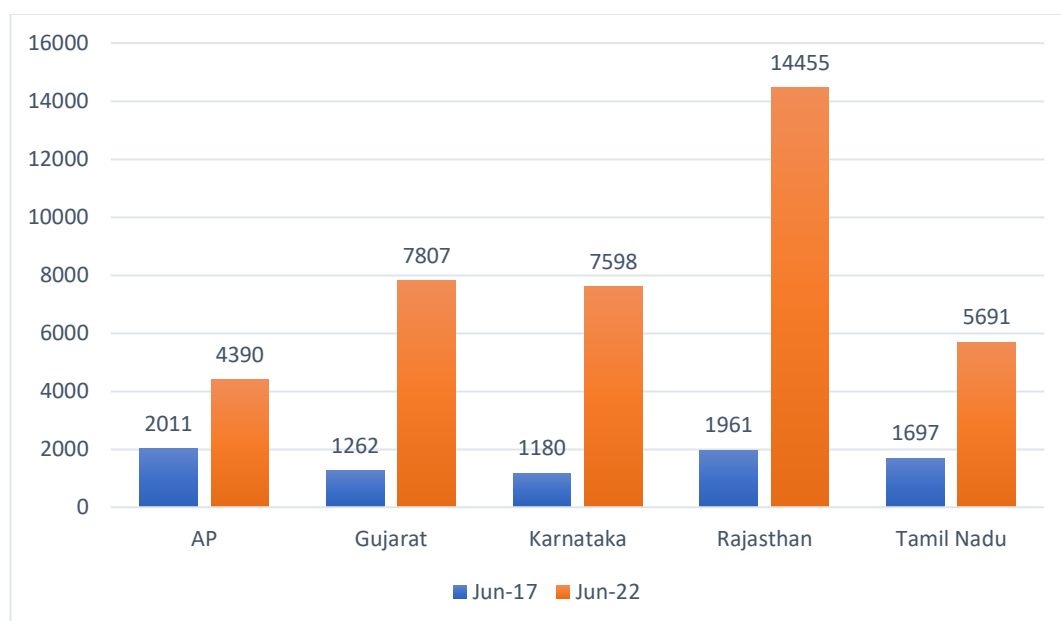


Figure 2: Growth in Solar Installation (in MW) from June 2017 to June 2022
Source: Data extracted from Renew Watch

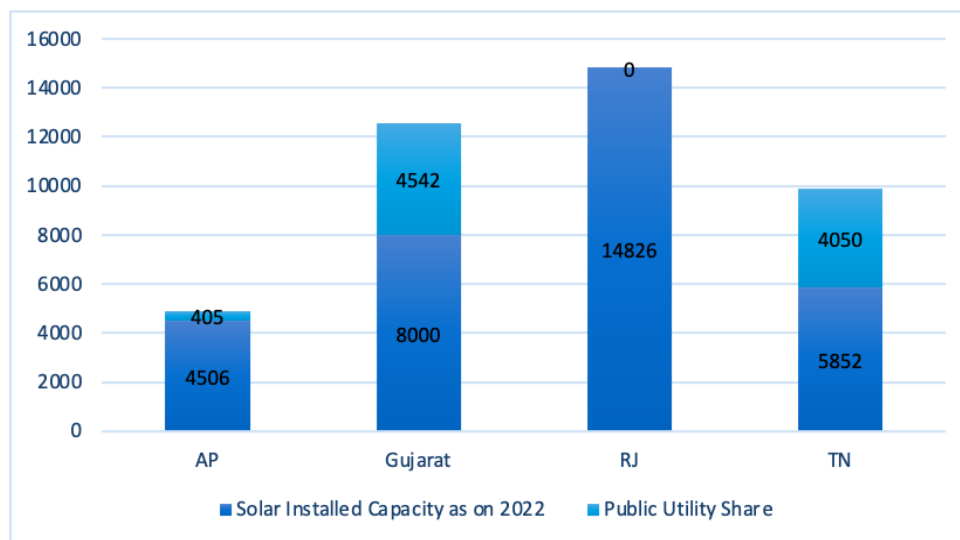


Figure 3: Share of State Gencos in Total Solar Power Generation (as of September 2022)
Source: Data extracted from the official websites of State specific Public Utility

Given that the state Genco holds the majority share in power supply, accounting for 50.4% of the state's peak load, its role in ensuring equity and energy security within the state is currently pivotal. RVUNL directly impacts the availability and affordability of electricity, making it essential to prioritize equitable distribution and pricing. In light of this, it is worth exploring the potential implications of greening the state's generation portfolio in terms of economic and developmental aspects.

There can be two entry points for RVUNL

- Decommissioning those thermal plants which have completed their utility life.
- Diversifying into renewable energy

Note: *This paper mainly limits itself to the consequence of decommissioning and structural changes in the region.*

4 Problematique

With regards to the above, Centre for Energy Environment and People (CEEP) in collaboration with Indicc Associates has prepared a case-study of a thermal plant in Rajasthan which has completed its useful life and is due for decommissioning. However, despite a few attempts in the past, decommissioning has not been successful due to protests by workers et al. ¹¹

Therefore, the context of this study is with respect to the decommissioning of the Kota Thermal Power Plant and its impact on livelihoods and human settlements in the region. Towards this endeavour the following approach may be adopted:

- Immediate Response: This will entail analysing the direct and indirect impact on livelihoods of people associated with the thermal plant and the related economy
- Structural interventions on sustainable urbanization of the region in the long term
- Identifying commonalities between immediate and long-term transformation.
- Formulating short- and long-term strategies on human settlements in the region.
- An overview of the short-term actions that could be undertaken in the short term is given below

SECTION B

5 Stylized facts about Kota Super Thermal Power Station (KSTPS) and Kota region

5.1. About KSTPS and the related economy.

The region around Kota Thermal Power Plant is surrounded by the Abhera Biological Park and the firing range making it the most significant contributor to the kind of land utilisation in the region. This includes residential neighbourhoods, associated industries, fly-ash ponds etc among others. The following map from our study with CEEP provides an overview of the KSTPS and its associated neighbourhoods.

¹¹ <https://www.hindustantimes.com/jaipur/kstps-workers-up-in-arms-over-disinvestment-plan/story-3BijAh1DLFjubmn1K5BwHJ.html>

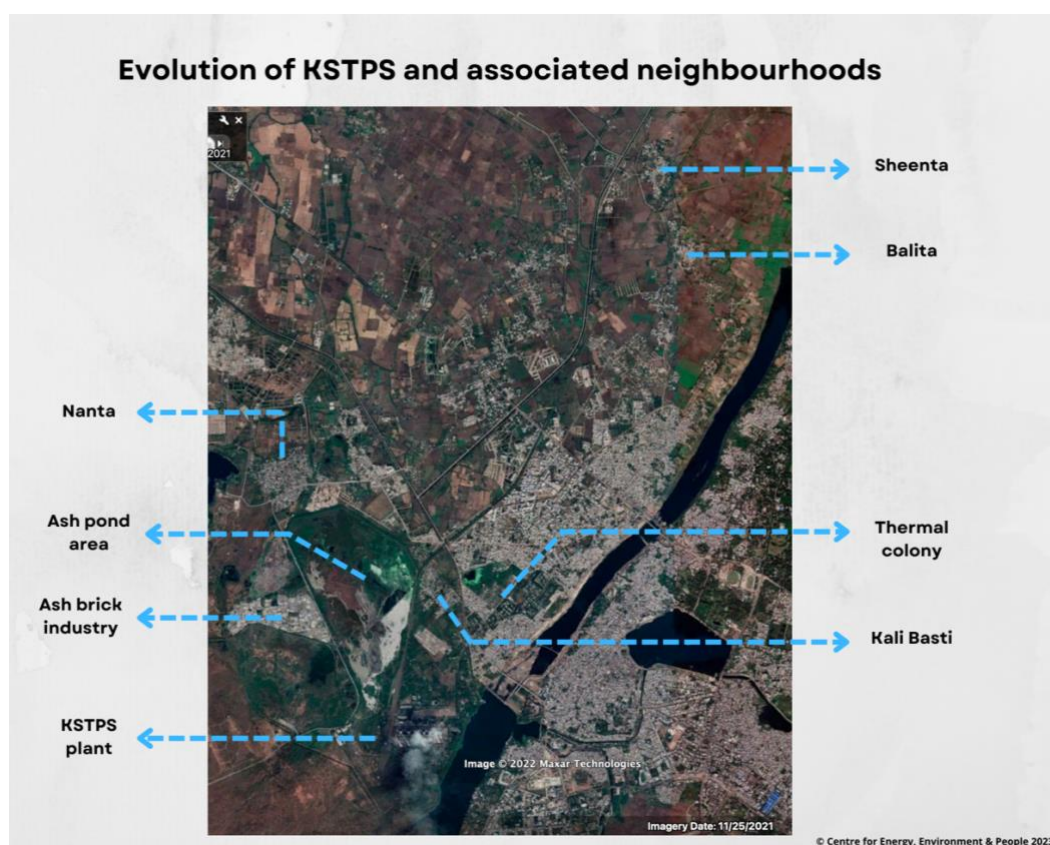
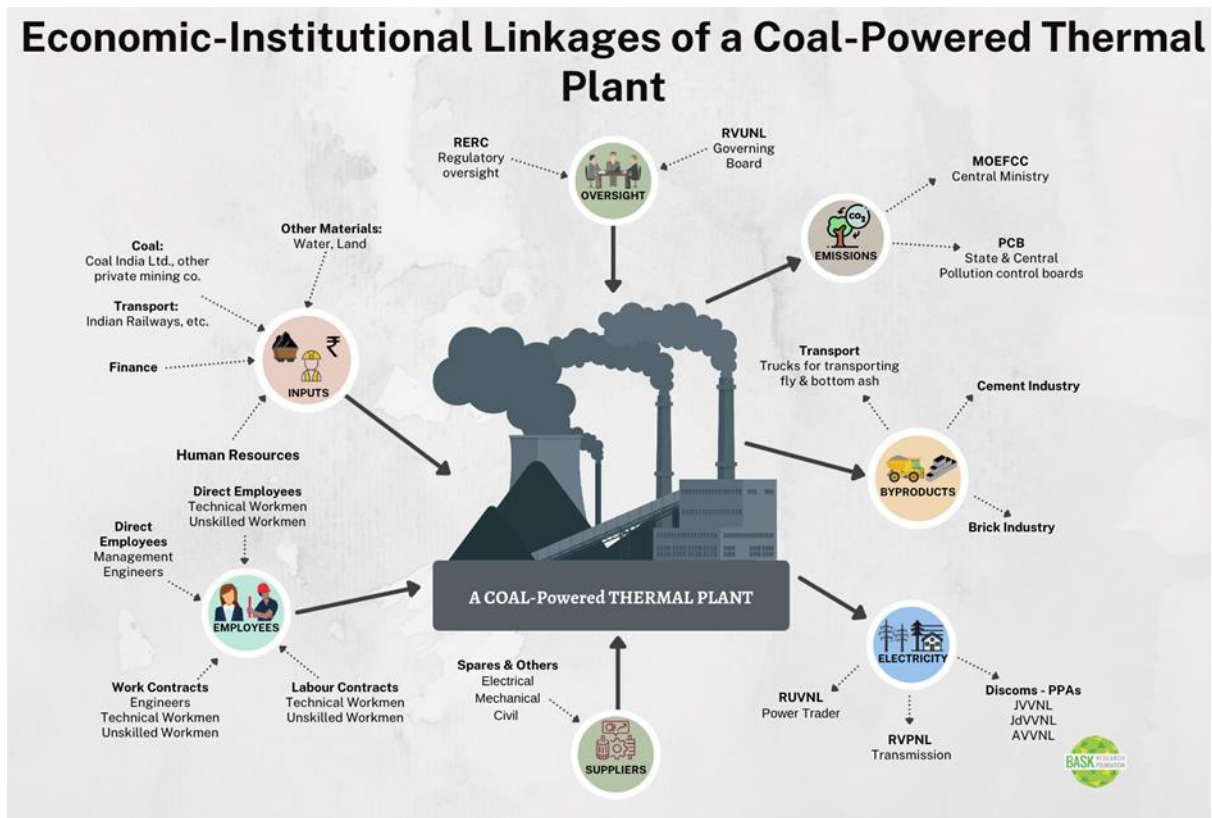


Figure 4: Evolution of KSTPS and associated neighbourhoods
Source: CEEP and Indic Study

As we observe, the area to the north of the plant is residential and hosts the plant's direct and on-roll technical workforce while neighbourhoods of Kali Basti and Chambal Colony to the northwest of the plant accommodates contractual workers. We were able to identify that both these settlements are informal and there was continued encroachment of the government's land over the decades. As per the UN HABITAT 2015 definition, *'Informal settlements' are residential areas where*

- *inhabitants have no security of tenure vis-à-vis the land or dwellings they inhabit, with modalities ranging from squatting to informal rental housing,*
- *the neighbourhoods are usually cut lack, or are cut off from, basic services and city infrastructure and*
- *the housing may not comply with current planning and building regulations, and is often situated in geographically and environmentally hazardous areas".*

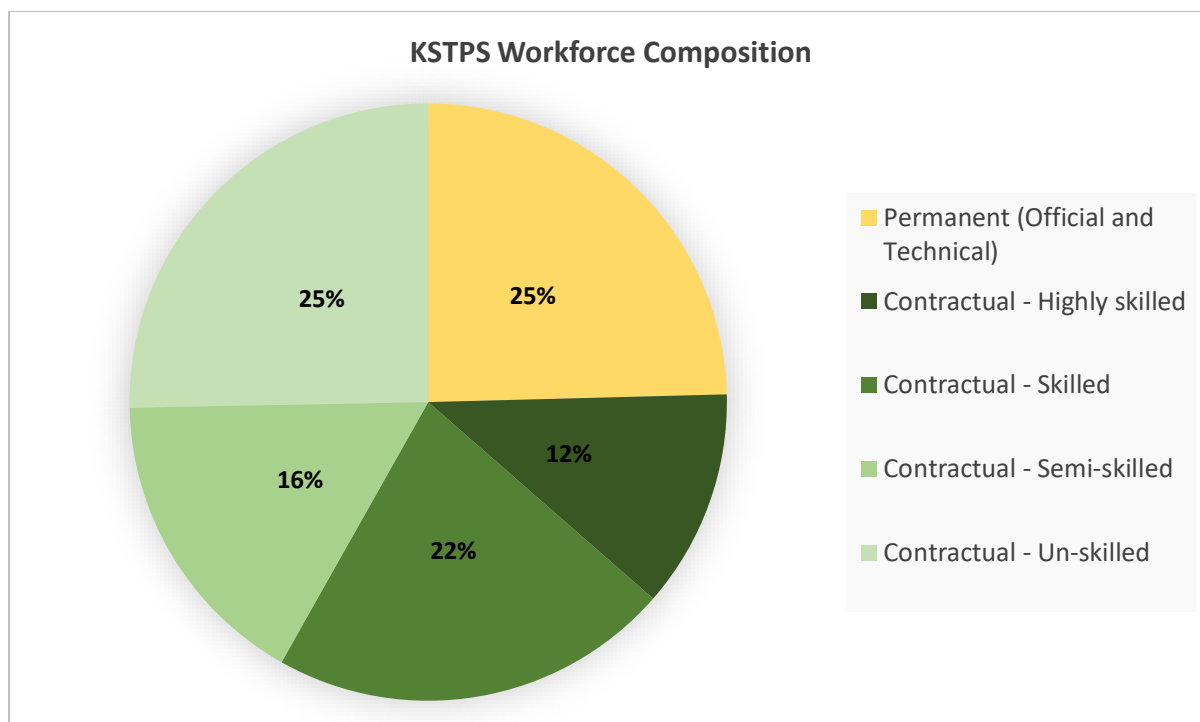
5.2 Economic and Institutional Linkages of a Coal Powered Thermal Plant



The systems diagram provides a comprehensive understanding of the economic and institutional linkages of a coal powered thermal plant. It also provides an extensive mapping of the supply and value chain, external ecosystems, and human resources involved in the sector.

5.3 Livelihoods related to Thermal Plant

Thermal plants employ workers in different categories across technical workers, semi-skilled and skilled workers.



The Kota Super Thermal Power Station employs approximately 656 people as regular employees, and an additional 2012 workers are engaged on contract basis. Figure 5 shows that only 25% of the total workforce is permanent (Official and Technical). Out of the rest of the proportion consisting of contractual workers, we observe that 12% is highly skilled, 22% skilled and 16% semi-skilled. It is significant to note here that almost 25% of the workforce is contractual and unskilled.

In addition to the direct employment opportunities, the establishment of the power plant has also led to the growth of the cement and fly ash brick industry in the vicinity, providing employment to thousands more. Based on the immediacy of impact, we categorise livelihoods as Direct, Associated and Allied.

✓ **Direct Livelihoods**

This consists of the permanent and contractual workers of the different plants of RVUNL. While permanent employees consist of technical workers, officers and officials, contractual workforce mostly include technical workers, even semi-skilled and unskilled labour hired through contracts. They are directly bound by the decisions and rules of RVUNL.

✓ **Associated Livelihoods**

This includes the industries that act as material and operational inputs for the plants like equipment manufacturers, vendors, consultants and contractors associated with RVUNL. It is important to note here that RVUNL is not statutorily responsible to any of these parties beyond its contractual liabilities.

✓ **Allied Livelihoods**

Allied livelihoods refer to the local economy around a thermal power plant. This includes ration shops, drivers, cleaners, house helps, security guards among others. It is also important to note here that many of these professions lie in the vulnerability of informality. In the event of a thermal plant closure, they could be extremely vulnerable given the lack of any contractual or statutory ties with the plant or RVUNL. Hence, they become an easy category who will be deprived in the absence of comprehensive planning.

5.4 Analysis of Existing Vulnerabilities

The incidence of vulnerability in the sector is associated with the type of jobs (formal\informal), their identities of caste and gender and their intersection. It is important to acknowledge and work with these complexities. It may be also important to lay special emphasis on women and children in the immediate and long framework.

CEEP-Indicc research also shows how the political capital among others was also determined by the incidence of not just the nature of work but the gender and caste of individuals. The incidence and intersectionality of caste, gender and informality can cause various deterrents in terms of access to human, social and political capital even in a broader economic context. This differentiated access to such capital is different across different categories of workers, namely, Skilled (mechanic fitter, electrician, light and heavy vehicle drivers, operators, supervisors), Semi-skilled (Helper, junior fitter, welders, gardeners), Unskilled (labour, cleaning, and sanitation workers), Fly Ash Brick Industry Workers across the direct, allied and associated industries.

The following table captures vulnerabilities across different categories of workers:

CATEGORY OF WORKERS	ECONOMIC CAPITAL	HUMAN CAPITAL	SOCIAL CAPITAL	POLITICAL CAPITAL
Skilled (mechanic fitter, electrician, light and heavy vehicle drivers, operators, supervisors)	<ul style="list-style-type: none"> - Minimum daily wage of INR 283 as specified by GoR. - Better positioned to access opportunities for additional income through other means of livelihood such as small shops, working in other industries. - Indicate a higher degree of asset ownership, including houses and lightweight vehicles. - Insured under the ESI scheme. - EPF deposit serves as the primary saving. - Both formal sources, such as banks and microfinance institutions, and informal sources, such as relatives or colleagues are utilised to access credit. 	<ul style="list-style-type: none"> - Typically hold at least matriculation, with most recent recruits holding ITI diplomas. - Conditions of work are harsh with high occupational hazard risk. - Relatively less prolonged and direct exposure to hazardous materials. - Better positioned to receive alternative employment at current wages as skills and experience are ratified through experience certificates. - Provided with required safety gear such as helmets, gloves, and shoes. 	<ul style="list-style-type: none"> - Includes a mix of persons from different caste backgrounds, including Brahmins, Rajputs, Scheduled Castes, and Other Backward Castes. - Most are locals or migrants from nearby areas such as Kota, Tonk, and Newai. Hence likely to have mature social networks. 	<ul style="list-style-type: none"> - Members of labour unions, visible and vocal participation in union activities. - As local residents or residents of nearby areas, have some political voice in local decision-making.

<p>Semi-skilled</p> <p>(Helper, junior fitter, welders, gardeners)</p>	<ul style="list-style-type: none"> - Minimum daily wage of INR 271 as specified by GoR. - Access to opportunities for additional income is curtailed due to strenuous work shifts. - Many possess local housing with a high degree of informality in tenure. Some workers possess marginal agricultural land in places of origin. - Insured under the ESI scheme. - EPF deposit serves as the primary saving. - Credit is secured through informal sources such as relatives, neighbours, employers, or colleagues. Express aversion to formal sources of credit. 	<ul style="list-style-type: none"> - Typically middle school graduates. - Under-recognition of skill level gained through on-hands work experience. - Degree of direct and prolonged exposure to hazardous materials is high, impacting physical and mental well-being. - Access to alternative employment at existing wages is curtailed due to a lack of formal recognition of skills and experience. - Provision of safety gear such as helmets, gloves, and shoes is not adequate and timely. 	<ul style="list-style-type: none"> - Primarily includes workers belonging to Other Backward Castes and Scheduled Castes. - The majority are locals or migrants from nearby areas such as Tonk, Newai, and Jhalawar and hence, likely have mature social networks. 	<ul style="list-style-type: none"> - Members of labour unions. However, active and vocal participation is not uniform across the category. - As local residents, may exercise some say in local decision-making. However, capacity for active participation is curtailed due to the informal nature of their settlements.
<p>Unskilled</p> <p>(labour, cleaning, and sanitation workers)</p>	<ul style="list-style-type: none"> - Minimum daily wage of INR 259 as specified by GoR. - Access to opportunities for additional income is significantly reduced due to the physically strenuous work. - Many possess local housing with a high degree of 	<ul style="list-style-type: none"> - Generally comprise primary school graduates. - Perform physically arduous manual labour, including civil construction and maintenance work, as 	<ul style="list-style-type: none"> - The majority belong to Scheduled Castes and Scheduled Tribes, with sanitation and cleaning workers being predominantly Dalits. - Accounts for significant participation of female 	<ul style="list-style-type: none"> - Members of labour unions. Leadership in union activities is minimal. - The participation of women is virtually absent.

	<p>informality in tenure. Few indicate none to marginal agricultural land holding in places of origin.</p> <ul style="list-style-type: none"> - Insured under the ESI scheme. - EPF deposit serves as the primary saving. - Credit is secured through informal sources such as relatives, neighbours, employers, or colleagues. Express high aversion to formal sources of credit. 	<p>well as cleaning and sanitation work.</p> <ul style="list-style-type: none"> - Opportunities for professional growth are usually stagnant. - Poorly positioned to gain alternative employment due to highly informal nature of work and limited opportunity to gain skills. - Provision of safety gear such as helmets, gloves, and shoes is not adequate and timely. 	<p>workforce across the overall livelihood spectrum.</p> <ul style="list-style-type: none"> - Mainly locals or migrants from nearby areas such as Tonk, Newai, and Jhalawar. Hence likely to have mature social networks. 	<ul style="list-style-type: none"> - As local residents, may exercise some say in local decision-making. However, capacity for active participation is curtailed due to the informal nature of their settlements.
Fly Ash Brick Industry Workers	<ul style="list-style-type: none"> - Determination of wages for workers is based on productivity (units of bricks produced or loaded/unloaded). (INR 180/190) - The majority of workers are migrants and do not possess any local assets. Some indicated small to marginal 	<ul style="list-style-type: none"> - Majority were primary school graduates. - High and prolonged exposure to hazards at the workplace. - Poorly positioned to gain alternative employment due to highly informal nature of work and limited opportunity to gain skills. 	<ul style="list-style-type: none"> - The majority belong to Scheduled Castes and Dalit communities. - Most are migrant workers from MP, UP, Bihar, and other parts of Rajasthan. As a result, mature local social networks are likely to be absent. 	<ul style="list-style-type: none"> - Participation in local politics is virtually absent. - Organised workers' associations are absent.

	<p>agricultural land holding in their places of origin.</p> <ul style="list-style-type: none"> - Not insured under the ESI scheme, limiting access to healthcare. - Not covered under the EPF Act. Formal savings are absent. - Credit is secured through informal sources such as relatives, neighbours, employers, or colleagues. Express high aversion to formal sources of credit. 	<ul style="list-style-type: none"> - Not provided with required safety gear such as helmets, gloves, shoes or masks. 		
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Source; (Grover and Saini,2022) Livelihoods, Vulnerabilities, And Clean Energy Transition - A case of Kota Super Thermal Power Station-(Ongoing)

With respect to the above, the following aspects may be necessary to further deliberate upon:



SECTION C

6 With regards to the structural transformation, the following aspects may be considered

As a part of an on-going study by Indian Institute for Human Settlements (IIHS) of Urbanisation, multiple frameworks have been developed for urbanisation in the future. A critical analysis of those frameworks in the backdrop of thermal decommissioning may throw interesting ideas to plan short term and long term strategies in the region. This however does not obviate the need to make specific plans to address the immediate.

A snapshot of challenges and recommendations on Urbanisation identified by IIHS is highlighted below:

THEMES	CHALLENGES	RECOMMENDATION
TRANSITIONS AND GOVERNANCE	<ul style="list-style-type: none"> • Misclassification of settlements • Lack of rural to urban transition plans • Classification-based rather than need based access to schemes 	<ul style="list-style-type: none"> • Creating a framework for urban transition • Staggered withdrawal of rural schemes
PLANNING	<ul style="list-style-type: none"> • Lack of consultation and participatory planning practices • Missing comprehensive development framework that considers the environment, economy, and social security at present and in the future • Multiple plans for a single area • Limited purview of master plans 	<ul style="list-style-type: none"> • Encourage decentralized planning processes • Comprehensive planning approach • Priority based project development
DEVELOPMENT AND INFRASTRUCTURE	<ul style="list-style-type: none"> • Limited options for housing, especially for workers and migrant labourers • Lack of basic infrastructure and services • Added pressure on existing communities and natural resources due to inaccurate population projections 	<ul style="list-style-type: none"> • Investing in physical and social infrastructure • Coordinated planning and service delivery • Land management for natural resource protection • Supporting local economies
NATURAL RESOURCES AND ENVIRONMENTAL PLANNING	<ul style="list-style-type: none"> • High dependence on groundwater • Lack of water management • Limited resource management in planning and governance 	<ul style="list-style-type: none"> • Conservation and replenishment of groundwater • Instituting an urban water governance system • Ecologically sensitive planning processes • Encouraging sustainable solutions • Localised environmental monitoring

THEMES	CHALLENGES	RECOMMENDATION
CAPACITY AND INSTITUTIONS	<ul style="list-style-type: none"> • Lack of planning and management during rural to urban transitions • Multitude of agencies which are often uncoordinated • Disempowered local authorities • Lack of financial planning • Lack of personnel 	<ul style="list-style-type: none"> • Institutional changes and formulation of processes that support urban transitions • Capacity building for urban transitions • Expanding ULB access to financial resources

7 Planning for the future: Short Term and Long Term Strategies on Human Settlements for Just Transition

Section 5 and Section 6 of this paper have brought out significant similarities in as far as transition management strategies for energy transition (in particular) and urbanisation (in general) is concerned. It is worthwhile to note that these similarities have come out of two separate studies. Therefore, there is need to build a robust and lasting transition management framework and deliberate upon strategies for its institutionalisation so that transition management (irrespective of sector in question) can be strengthened in the state.

For purpose, following questions are likely to form the basis of engagement with partners and for steering consultation:

- What insights can be gleaned from human settlements data for Kota region which may inform transition management strategies in the short and long term better?
- What attributes must populate transition management frameworks to deal with sector agnostic challenges
- Are there likely to be different approaches for transition management in the energy domain in the region (KSTPS)? If yes, what specific measures need to be put in place to address that?
- What examples can be learnt from national/international experiences?

- What capacities are needed for short term and long term transition management? How can such capacities be quickly deployed?
- What role is envisaged for the Department of Planning and Department of Statistics and Economics?
- How to mobilise Transition Finance for the above?