



JUST TRANSITION FRAMEWORK FOR A SUSTAINABLE FUTURE IN INDIA'S COAL MINING REGIONS



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JUST TRANSITION FRAMEWORK FOR A SUSTAINABLE FUTURE IN INDIA'S COAL MINING REGIONS

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ASHA	Accredited Social Health Activist
BCCL	Bharat Coking Coal Limited
CCL	Central Coalfields Limited
CIL	Coal India Limited
CNG	Compressed Natural Gass
COP26	2021 Conference of the Parties to the United Nations Framework Convention on Climate Change
CSO	Civil Society Organisation
CSR	Corporate social responsibility
DMF	District mineral funds
IMCSC	Inter-Ministerial Coal Steering Committee
MCL	Mahanadi Coalfields Limited
MCP	Mine Closure Plan
OCP	Open Cast Project
PMKKKY	Pradhan Mantri Khanij Kshetra Kalyan Yojana
PRI	Panchayati Raj Institution
RE	Renewable Energy
SAPCC	State Action Plan on Climate Change
SCP	Special Corporate Plan
SECL	South Eastern Coalfields Limited
Solar PV	Solar Photovoltaics
TJTPs	Territorial Just Transition Plans
TSP	Tribal Sub Plan
UG	Under Ground



ORIENT COLLIERY UNDERGROUND MINE NO. 1 & 2 OF MAHANADI COALFIELDS LIMITED (MCL), ODISHA

1. Executive Summary

As the world grapples with the pressing challenges of climate change, there's an increasing emphasis on transitioning from fossil fuels to sustainable energy sources. India being one of the largest producers of coal – a significant contributor to global carbon emissions – stands at the forefront of this transition.

India's Unique Position: India, with its vast coal reserves and a significant portion of its energy derived from coal, faces a unique set of challenges and opportunities. The transition is not just about reducing emissions but also about ensuring the socio-economic well-being of communities dependent on coal.

The Imperative of a Just Transition: A mere shift from coal to cleaner energy sources isn't sufficient. The transition must be 'just,' ensuring that it is equitable, inclusive, and considers the multifaceted impacts on workers, communities, and the environment.

Purpose of the Report: This report delves into the principles, and strategies to ensure a Just Transition in India's coal sector and suggests a Just Transition Framework for India's Coal Mining Sector. Drawing from historical contexts, global best practices, and India's unique challenges, it provides a comprehensive roadmap for stakeholders at all levels of governance in India.

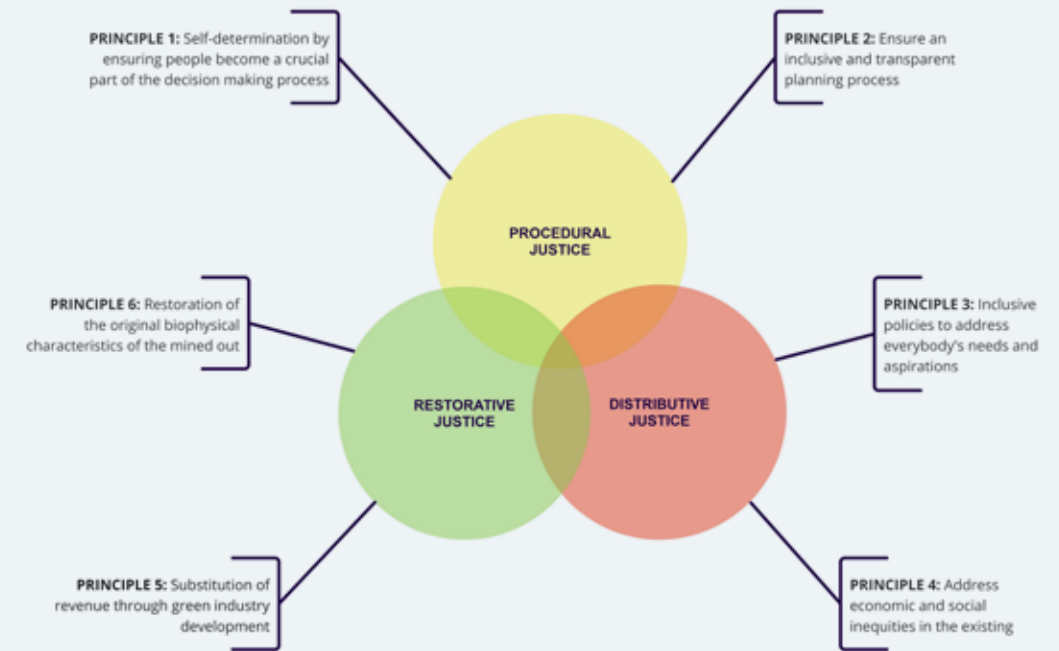
Just Transition Theory and Principles

Procedural Justice: This principle underscores the importance of a fair and inclusive decision-making process. It ensures that all stakeholders, especially those directly affected by the transition, are actively involved and have a voice in the decision-making process.

Distributive Justice: It recognizes the challenges posed by the transition, particularly for communities and workers directly dependent on coal, and aims to ensure that outcomes are balanced and fair for all involved parties.

Restorative Justice: Focuses on ensuring that local communities benefit from the global clean energy transition. This principle seeks to heal and provide redress to communities that have been adversely affected in the past.

Using these three forms of justice, this report finds its grounding in the following principles for a just transition in India's coal mining regions.



Existing Levers for Just Transition in Government Policy

Coal Mine Closure Plan Guidelines: The latest Mine Closure Plan (MCP) guidelines, issued by the Ministry of Coal, emphasise a just transition in coal mining areas, aiming to benefit communities, prevent illegal mining, and restore mined-out land. The guidelines mandate progressive and final closure plans, addressing social aspects, retrenchment, vocational training, and financial grants, with closure costs specified and a mechanism for phased withdrawal of funds from the ESCROW account during mine closure.

District Mineral Fund (DMF) Foundation: Local-level funding, generated through the District Mineral Foundation (DMF) from mining lease holders, is aimed to support developmental and welfare projects in mining-affected areas. Mandated by the Mines and Minerals Amendment Ordinance 2015, the Pradhan Mantri Khanij Kshetra Kalyan Yojana (PMKKKY) guides fund utilisation, focusing on priority areas such as healthcare, education, and environment conservation, providing a framework for leveraging DMF funds for a just energy transition in coal mining regions. Analysis of DMF collection shows that the top five DMF collecting states are also major coal producers, and out of them, four get a major chunk (around 50% or more) of the DMF revenue from coal.

Corporate Social Responsibility Policies of Coal Mining PSUs: Coal India Limited (CIL) and its subsidiaries prioritise community welfare in coal mining areas through a detailed Corporate Social Responsibility (CSR) policy, mandating 80% of CSR funds within 25km of project sites and 20% within the state of operation. The policy emphasises special plans for vulnerable populations, engagement with local bodies, and calls for a shift toward softer aspects to address local needs and aspirations for human development and economic diversification.

State Action Plans on Climate Change: The State Action Plans on Climate Change (SAPCCs) for top coal-producing states like Jharkhand, Odisha, and Chhattisgarh recognize climate change risks and vulnerabilities from mineral extraction. While Odisha emphasises a just transition due to climate impacts on its significant coal reserves, Jharkhand addresses climate challenges in its coal mining sector, and Chhattisgarh, though rich in coal, focuses on mitigating climate impact from thermal power plants.

Just Transition Framework Approach

The Just Transition Framework revolves around the structural transformation of the coal sector, advocating a fundamental change in the way policy makers and public authorities must approach a transition in the coal sector, considering both institutional (Part A) and functional (Part B) aspects.

Part A: The institutional aspect of the framework calling for structural changes in governance institutions for just energy transition

A.1. National Level: A proposal to set up a National Just Transition body on coal mining is suggested, which would independently monitor coal closure and repurposing. This body will also be responsible for the mobilisation of finance at the international and national levels and allocate this finance to states concerned with a just energy transition in coal.

A.2. State Level: The focus of state just transition task forces is on creating a regional development framework for just transition, which would cover mine closures, financial issues such as loss of revenue, and the provision of skill development and entrepreneurship programs (which are state subjects). The state just transition task forces will also be responsible for overseeing and ensuring the active participation of local level accountability bodies.

A.3. Local Level: At the local level the formation of local level accountability bodies at the district level (including PRI/municipality representatives, CSOs, and local union leaders in addition to district level public authorities and project level coal company officials) that will

be responsible for the formation and implementation of just transition plans for coal mine closure for projects within the district. This would be done with the cooperation of local coal mining authorities as well.

Part B: The functional aspect of the framework calling for the redressal of key areas of concern:

The key areas of concern identified in coal mining regions would be addressed through the following themes under which are clubbed granular interventions that are described in detail in the report and framework diagram

B.1. Consensus Building: This involves training and capacity building of district and coal officials, leveraging participatory governance mechanisms, and building awareness among affected communities.

B.2. Socio-Economic Transformation: The focus here is on dealing with the consequences of informality, creating alternative livelihoods through re-skilling, ensuring gender-sensitive development, and enhancing social infrastructure.

B.3. Green Development: This encompasses the promotion of clean infrastructure, land reclamation, repurposing, redevelopment, and containing environmental risks.

Phase-wise Representation of Just Transition Interventions

A structured phase-wise representation shows how interventions suggested in the Framework for a just transition in India's coal sector can be prioritised at the national, state, and district (local) levels, divided into short, medium, and long-term phases until India's net decarbonization target year of 2070.

Conclusion

Reaffirming Commitment: As the world marches towards a sustainable future, India's commitment to global Net Zero goals underscores its dedication to being a responsible global player. The transition from coal, a cornerstone of India's energy matrix, is not just an environmental imperative but a socio-economic one.

Holistic Approach: The Just Transition Framework, as presented in this document, goes beyond environmental considerations and weaves in socio-economic dimensions, ensuring that regions and communities dependent on coal are not left behind but are empowered and uplifted.

The Pillars of Justice: Rooted deeply in the principles of social justice, the framework's emphasis on Procedural, Distributive, and Restorative Justice ensures a comprehensive and inclusive transition. These pillars serve as the guiding lights, ensuring fairness, equity, and restoration at every step of the transition.

Future Outlook: As India embarks on this transformative journey, the strategies and guidelines laid out in this document will be pivotal. Collaborative efforts, encompassing policymakers, industry stakeholders, communities, and civil society, will be essential to navigate the challenges and harness the opportunities that lie ahead.

Final Thought: The transition from coal is not just about changing energy sources; it's about forging a new future – one that is greener, more equitable, and inclusive. With the Just Transition Framework as its blueprint, India can lead by example, showcasing a model unique to the global south, how to deal with labour and climate related transitions with justice at its core.



GROUND-WATER COLLECTED AT THE DUGGA DISCONTINUED OPENCAST PROJECT OF SOUTH EASTERN COALFIELDS LIMITED (SECL), CHHATTISGARH

2. INTRODUCTION

India held the G20 Presidency in 2023 cementing its position as a leader on the global stage, and one of the key points made in the G20 New Delhi Leaders' Declaration was point 4 of the document which reads as follows –

"Together we have an opportunity to build a better future. Just energy transitions can improve jobs and livelihoods, and strengthen economic resilience. We affirm that no country should have to choose between fighting poverty and fighting for our planet. We will pursue development models that implement sustainable, inclusive and just transitions globally, while leaving no one behind."

This collective commitment to just energy transitions demands a reflection on where India stands with regards to opportunities and challenges to a just energy transition in the country such that the nation is able to ensure sustainable economic growth. Currently, coal accounts for more than 70% of India's electricity generation, establishing itself as the dominant fuel source in the country. On India's Independence Day in 2021, the honourable Prime Minister set a target of energy independence by 2047 to mark 100 years of India's independence from colonial rule. This would be done through increased use of natural gas, a superior network of CNG and piped natural gas, ethanol blending in petrol and e-mobility; thus, reducing the country's dependence on energy imports.² Later the same year, at COP26 in Glasgow, India announced its intention to achieve net zero emissions by 2070. This is accompanied by government intentions to achieve peak coal demand around 2030–35 and 50% electricity generation from non-fossil fuel installed capacity by 2030³ These goals are pitted against the current global status quo according to which governments are poised to "produce around 110% more fossil fuels in 2030 than would be consistent with limiting warming to 1.5°C, and 69% more than would be consistent with 2°C"⁴ below pre-industrial levels.

India's Commitment to RE

- India's solar energy capacity increased by over 300% in the 4 years preceding 2021.⁵ India now has the fifth-largest installed solar energy capacity in the world.⁶
- India's renewable energy capacity addition is the fastest in the world.⁷
- India is investing heavily in battery storage. India has announced plans to install 27 gigawatt-hours of battery storage capacity by 2030.⁸

Commitments to limit climate change have ignited debates and research on various facets, including opportunities, barriers to cleaner technology adoption, potential for widespread implementation, knowledge and skill gaps, supply and demand dynamics, market and investment prospects, coal closure guidelines, and more. It is widely recognized that a successful transition towards decarbonisation and a cleaner economy requires the adoption of a fair transition paradigm, one that addresses climate change mitigation while safeguarding ecosystems, human rights, and local economies.

In partnership with the MacArthur Foundation, TERI has embarked on a scientific inquiry into the coal sector to gain a deeper understanding of the implications of moving away from coal. This research aims to illuminate the nuances of coal transitions, their potential, challenges, and outcomes. The results will contribute to alternative perspectives on coal transition, emphasising social justice. Furthermore, it will establish a framework for a Just Transition to shape future policies, adapt to changing contexts, and offer practical solutions for risk mitigation and vulnerability reduction.

Why do we need a just transition in India's coal mining regions?

1. High labour dependence on the coal value chain: A large chunk of coal workforce is informally employed on a contractual basis making it imperative for the formulation of a just transition policy for informally and indirectly⁹ employed livelihoods and means of income are bound to be adversely affected by the decommissioning of coal mines and increasing shift to renewable energy choices.

The Indian Railways, among the largest employers in the country,¹⁰ also relies significantly on the transportation of coal, which accounts for nearly 50% of its overall income from freight services.¹¹ The Indian Railways is able to significantly subsidise passenger fares by charging coal mining companies higher freight rates. The subsidisation of passenger ticket prices for railway travel holds significant importance due to the enormous volume of over 8 billion passenger trips taken within the system.¹² Thus, reduced volumes of coal freight would take a toll on the revenue brought in by the PSU and also leave prices of passenger tickets in the lurch – affecting primarily, the common man. The power generation workforce in India which is also currently heavily reliant on the production and use of coal also faces an uncertain future in a world which is increasingly shifting its focus to cleaner energy forms.

2. Prevalence of informal and contract labour without social security, and jobs induced by the coal producing economy: The prevalence of informal jobs is a predicament that pervades the labour market in India and has escaped repeated attempts by policymakers in the past to address the problem. In the case of the coal mining sector, prior to the 1980s, coal mines heavily depended on manual labour, but subsequent to that period, greater mechanisation and the growth of open-pit mining techniques have considerably diminished the need for manual workforce.¹³ This situation was exacerbated after economic liberalisation in the early 1990s, by the reduction in the size of the permanent workforce and the increasing use of temporary employment as a means to enhance economic efficiency. This trend has been particularly noticeable in public-sector enterprises, which are responsible for most of India's coal production.¹⁴ A NITI Aayog (2022) report aptly sums up the situation of India's the labour economy in the coal mining belt when it stated that –

"Coal bearing regions have been subsumed into mainly monoculture societies centred around coal mining and its use. This has led to heavy economic and social dependence on the coal sector, with it affecting livelihoods, infrastructure, environmental conditions, state revenues, and quality of life in those regions. Coal in India occurs in states which are economically disadvantaged. People derive some sort of earning directly from mining activities in such areas and indirectly from allied activities."

The significant informal sector in the coal sector has not been accurately or reliably measured.¹⁵ In many of India's coal-rich states, local residents engage in the unregulated extraction or collection of coal, either for their own household energy needs or to sell it in local markets for domestic or industrial purposes. These individuals are often categorised sometimes labelled as "illegal" workers and are commonly found in regions with coal deposits.¹⁶ They engage in the transport of illegally pilfered coal by peddling coal for a living on their bicycles and are colloquially called "cyclewallahs".¹⁷ This is a growing business as seen in the increase in volume of peddled coal from 2.5 million tonnes in the 2000s to 3.7 million tonnes in 2012.¹⁸ For one full bicycle load, the peddler gets INR 225 (coal peddlers make multiple trips in a day) as against INR 160 earned by truck loaders per hour,¹⁹ indicating the better income generating capacity of coal peddlers. Even though informal labourers are said to contribute to only a portion of India's annual coal production (approximately 15 million tons), it is estimated that the informal sector generates more jobs than the entire formal coal mining industry's workforce.²⁰ For instance, in Jharkhand's Jharia and Karanpura coalfields, over 500,000 locals are said to engage in illegal coal mining.²¹ Coal transportation also accounts for 0.5 million jobs in mining areas,²² often as truck drivers and loaders.

A recognition of the conditions that coerce participation in the informal and/or illegal coal economy along with an effort to estimate the number of such individuals and addressing the root cause behind this, instead of more punitive measures would go a long way in ensuring a better future for their future generations.

3. Socio-economic backwardness of coal producing areas:

47% of coal producing districts in the states of Chhattisgarh, Odisha, Jharkhand (the top three coal producing states in India) are categorised as aspirational districts by the Government of India.²³ Out of the 12 coal producing districts in Jharkhand (the largest coal producing state in India), 10 figure in the list of aspirational districts. Jharkhand is also the second most multidimensionally poor state in India.²⁴ This indicates the greater need for a just transition in these states given that they are already characterised by high levels of poverty, which increases their vulnerability to economic change.

4. Need for economic diversification and revenue substitution:

Coal rents paid to the government at the central and state levels accounts for 1.28% of India's GDP.²⁵ The table below shows the breakup of the total payments made by all CIL subsidiaries to state governments which amounts to INR 565 billion of which DMF contribution alone is around INR 4.5 billion.

ROYALTY PAID BY CIL TO THE STATE GOVERNMENTS OF THE TOP FIVE COAL PRODUCING STATES AS A SHARE OF THEIR NON TAX REVENUE SHOWS A HIGH RELIANCE ON COAL ROYALTY

Particular	Madhya Pradesh	Chhattisgarh	West Bengal	Jharkhand	Maharashtra	Uttar Pradesh	Odisha	Assam	Delhi	2022-23
Royalty	2587.87	2,921.37	16.3	3,811.26	1,847.39	583.87	3607.86	25.39		15,401.30
Addnl Royalty under MMDR ACT										
DMF	779.97	804.76	4.89	1,120.57	554.22	177.42	1,086.25	7.38		4,535.56
NMET	52.21	53.61	0.32	79.09	36.95	11.62	71.68	0.51		305.99
Goods and Services Tax										
CGST	346.65	348.59	43.63	599.21	238.94	73.93	436.53	4.5	0.36	2,092.35
SGST	346.65	349.37	43.73	600.39	238.94	73.93	436.88	4.5	0.36	2,094.75
IGST	7.42	4.31	422.65	33.09	4.83	3.92	1.94	4.8	0.33	483.29
GST Compensation Cess	4,956.63	5,981.21	1,087.45	4,437.51	2,342.42	911.49	7,675.51	7.25		27,599.47
Cess on coal			1,748.34	8.25		17.51				1,774.10
States Sale Tax/VAT				0.1						0.1
Central Sales Tax										
Others	1,109.19	474.19		581.77		71.55		1		2,237.30
Total	10,186.58	10,937.40	3,367.31	11,471.24	5,263.69	1,924.84	13,316.66	55.33	1.05	56,524.11

Table 1: Coal rents paid to state governments by CIL (Source: CIL Integrated Annual Report 2022-23)²⁶

Royalty paid by CIL to the state governments of the top five coal producing states as a share of their non tax revenue shows a high reliance on coal royalty - which will greatly affect state coffers in the event of a coal production slowdown. This is particularly acute in Jharkhand, where almost 30 percent of the state's non tax revenue comes from coal royalty as shown in Table 2. Economic diversification at the state level is crucial because of the high dependence on coal for revenue and this could be done through the development of new industries.

Particular	Madhya Pradesh	Chhattisgarh	Jharkhand	Maharashtra	Odisha
Royalty (In INR crore)	2587.87	2921.37	3811.26	1847.39	3607.86
States own non tax revenue (In INR crore)	13618.2	15500	13762.84	27128.13	48200
Share (%)	19	18.85	27.69	6.81	7.49

Table 2: Share of Coal royalty to the non tax revenue of the five major coal producing states (Source: CIL Integrated Annual Report 2022-23 & RBI State Finance: A Study of Budgets 2023)²⁷



AMERA OPENCAST PROJECT, SOUTH EASTERN COALFIELDS LIMITED (SECL), CHHATTISGARH

3. Just Transition Theory and Principles

In a seminal work on justice in climate, energy, and environmental transition, McCauley and Heffron²⁸ - (leading academicians on just transition) put forward three frames to think about justice in a “just” transition, which they understand to lie at the intersection of climate, environment and energy justice. The emphasis on justice does not refer to a status quo that is devoid of it, rather, that it is imperative to commit to the ideal as the grip of climate change and global warming grows increasingly inevitable on the futures of the most vulnerable in society. The three frames to approach a just transition are -

Procedural Justice: In the process of transitioning away from fossil fuels in India’s coal belt, procedural justice takes centre stage as it places a strong emphasis on the need for fair and inclusive decision-making processes. This entails actively engaging and involving local communities, workers, and small businesses in shaping the trajectory of this transition. Allowing these stakeholders to contribute to defining their own development paths and livelihoods is vital. Empowering and providing support to these groups becomes a fundamental aspect of ensuring procedural justice throughout this transformative journey.

Distributive Justice: within the coal belt context focuses on inclusive policies to address basic needs and aspirations of the local communities. This approach not only acknowledges the importance of addressing gender, ethnicity, and class disparities in how different segments are variedly impacted but also emphasises that the burden of the transition should not disproportionately fall upon affected workers and communities. Instead, those who have historically contributed to the problem of climate change should share in the costs of adjustment. There is a need to delve into the broader global landscape of inequalities in the distribution of consequences. Identifying the most vulnerable communities and supporting their adaptation efforts becomes a critical component of achieving distributive justice.

Restorative Justice: in the coal belt is centred on ensuring the benefit of individuals, communities, and the environment affected by energy transitions. It places a strong emphasis on the healing and rectification of situations faced by marginalised or adversely affected communities. Moreover, the principles of climate justice expand the scope of restorative justice to a global level, considering historical trajectories and developments in the context of climate change. Energy justice complements these efforts by holding energy providers accountable; drawing from the polluter pays principle inherent in environmental and climate justice frameworks. Together, these concepts strive to redress past wrongs and create a more equitable and sustainable future.

In the Indian coal belt, these justice concepts can be embodied by involving local communities and workers in decision-making processes related to the transition and creating a space and mechanism for stakeholder engagement and sustained communication. Distributive justice can be realised by ensuring that the benefits and burdens of the transition are address the basic needs of affected communities, with a focus on vulnerable groups. Restorative justice can be applied by ensuring communities bearing the brunt of benefit from a global transition to clean energy. Ultimately, these principles can guide a fair and just transition away from fossil fuels in the region.

Using these three forms of justice, this report finds its grounding in the following principles for a just transition in India’s coal mining regions.

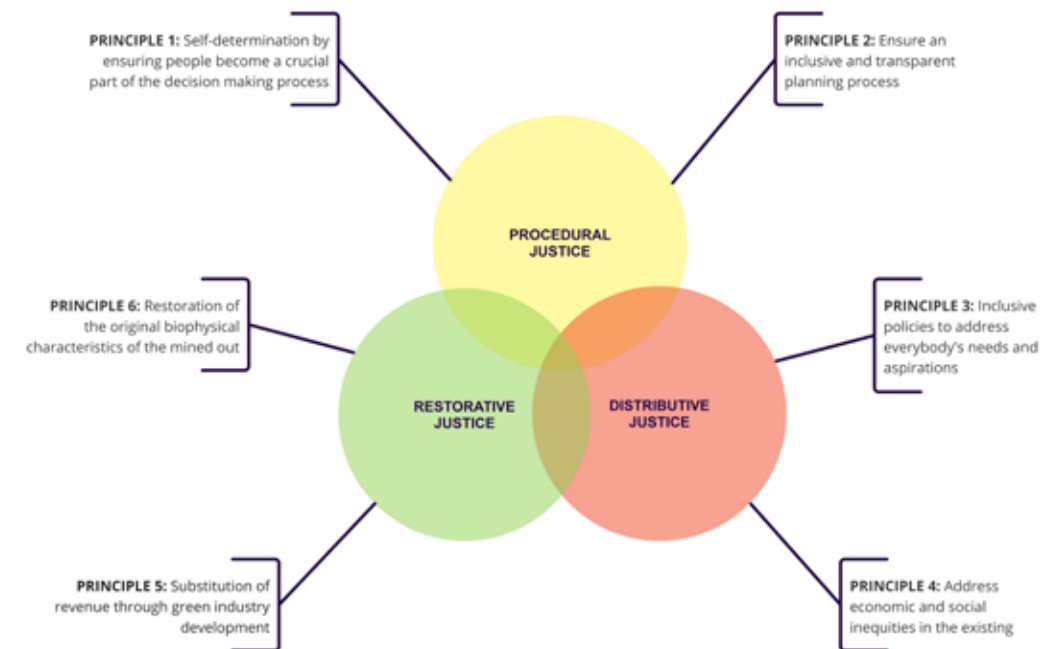


Figure 1: The intersection of the three justices resulting in the just transition principles for India’s coal mining regions

These just transition principles create an opportunity to comprehend transition in a holistic way, layering the worldview with a new perspective, recognising new sets of processes and dynamics and clinging to newer sets of beliefs, values and practices. The key elements articulated in each principle shape an alternative thinking and create a wider canvas for seeding innovations and visualisation of a sustainable future while promoting opportunities to build resilience.

Coal bearing regions have been subsumed into mainly monoculture societies centred around coal mining and its use.

- Report of the inter-ministerial Committee on just transition from coal



ABANDONED MINING EQUIPMENT AT THE KALYANI UNDERGROUND PROJECT,
SOUTH EASTERN COALFIELDS LIMITED (SECL), CHHATTISGARH

4. Existing levers for Just Transition in Government Policy

4.1. Coal Mine Closure Guidelines

The latest guidelines for Mine Closure Plans (MCP) prove to be a key instrument to drive a just transition in coal mining areas. The *Guidelines for the Management of Mines discontinued/abandoned/closed before the year 2009* issued by the Ministry of Coal in 2022 captured the essence of a just transition when it stated the purpose of the guidelines as follows -

“There is a need to close these [coal] mines scientifically in such a manner that they provide benefit to the community, prevent illegal mining, ensure the safety and repurposing of the mined out land ... The overall goal of the guidelines is to restore the mined out land as far as possible to its pre-mining stage, bring ecological balance and purposefully reutilise the land for the benefit of the country.”

Guidelines for Preparation of Mine Closure Plan - Reg issued by the Ministry of Coal in 2009 was the first time that the government mandated the formulation of coal MCPs. It required mine closure plans to include proposals for the physical and biological restoration of mined land, measures for managing water quality, air quality, waste, and topsoil along with addressing the economic repercussions of mine closure. The latter most specifically demanded information on local residents who were employed in the mine and if locals could go back to their family occupations. The issue of induced employment was also addressed in the guidelines which call for the identification of such businesses and if they can continue beyond the closure of the mines and for the expectation of the mining affected communities on the closure of the mine.

Guidelines issued by the Ministry of Coal in 2009 mandated two components in a MCP - Progressive/Concurrent Mine Closure Plan and the Final Mine Closure Plan, wherein the former is to include land use activities that are to be carried throughout the period of mining to prepare for closure and the latter is concerned with activities that begin in the last five years of the mining project and continue after the exhaustion of reserves/discontinuation of mining for and till the restoration of the mining area, indicating the requirement.

The *Guidelines for Preparation, Formulation, Submission, Processing, Scrutiny, Approval and Revision of Mining Plan for the coal and lignite blocks* issued in 2020 contains the latest update in guidelines for MCP formulation for coal mining and requires mining plans at the outset to contain progressive and final mine closure plans. The chapter on progressive and final mine closure plan in the format for mining plans includes the following social aspects²⁹

- *“Entrepreneurship development (vocational/skill development training for sustainable income of affected people*
- *Golden handshake/retrenchment to 100 employees of OC*
- *Golden handshake/retrenchment to 200 employees of UG*
- *Onetime financial grant to societies/institutions/organisations which is dependent on the project*
- *Provide jobs in other mines of the company*
- *Continuation of services like running of schools etc.”*

MCP guidelines also state that the cost for carrying out the activities required for closure would be the abandonment cost of the mine. The latest update of this estimate as stated by the *2020 Guidelines for Preparation, Formulation, Submission, Processing, Scrutiny, Approval and Revision of Mining Plan for the coal and lignite blocks* allows for the creation of a mine closure fund by stating that the cost for closure of an open cast mine and an underground mine is 9 lakhs per hectare and 1.5 lakhs per hectare respectively. This estimate would form the basis of calculating the annual cost of closure of the mine for every year of the lifetime of the coal mine. The annual cost of closure of the mine would be the amount of money deposited in the ESCROW account with the coal controller organisation. With the closure of the mine and the start of mine closure activities under the final mine closure plan - the mining company can withdraw upto 50% of the total deposited amount in the ESCROW account every five years based on a periodic review of the closure plan. The remaining amount would be given to the coal mining company at the end of the final mine closure plan. These guidelines thus show the planning already underway in the government on the need for a just transition in coal mining areas.

4.2. District Mineral Fund (DMF) Foundations

Local level funding is crucial for current coal mining areas as the country shifts increasingly in the direction of renewables. Mandated by the Mines and Minerals (Development and Regulation) Amendment Ordinance 2015 in a clause called “Safeguarding the interest of affected persons”, the fund is financed by contributions from mining lease holders at the rate of 30% of the royalty rate of the respective mineral for leases granted before 2015³⁰ and 10% for those granted after 2015. The framework for the utilisation of this fund is laid out by the Pradhan Mantri Khanij Kshetra Kalyan Yojana (PMKKKY) the objectives for which are as follows

FOUR OF THE TOP FIVE STATES WITH THE MOST CONTRIBUTION FROM COAL TO THE DMF, COAL CONTRIBUTIONS ACCOUNT FOR A SIGNIFICANT (>40%) SHARE OF THE TOTAL DMF COLLECTION

“(a) to implement various **developmental and welfare projects/programs in mining affected areas** that complement the existing ongoing schemes/projects of State and Central Government;

(b) to **minimize/mitigate the adverse impacts**, during and after mining, on the environment, health and socio-economics of people in mining districts; and

(c) to **ensure long-term sustainable livelihoods for the affected people in mining areas**. Care has been taken to include all aspects of living, to **ensure substantial improvement in the quality of life**.

“**High priority areas** like drinking water supply, health care, sanitation, education, skill development, women and childcare, welfare of aged and disabled people, skill development and environment conservation **will get at least 60% share of the funds**.

“For creating a supportive and conducive living environment, **balance funds will be spent on making roads, bridges, railways, waterways projects, irrigation and alternative energy sources**. This way, government is facilitating mainstreaming of the people from lower strata of society, tribals and forest-dwellers who have no wherewithal and are affected the most from mining activities.”³¹

S.No	State	Amount collected in respect of coal and lignite (in INR Crore)	Total amount collected under DMF (in INR Crore)	Share of coal contribution to total DMF collection (%)
1	Jharkhand	8032.56	11375.84	70.61
2	Chhattisgarh	5489.4	11586.65	47.38
3	Odisha	5321.55	23495.51	22.65
4	Madhya Pradesh	5005.39	6358.27	78.72
5	Maharashtra	2722.86	4547.52	59.88

Table 3: States with the highest contribution to DMF from coal and lignite and share of coal and lignite in overall DMF collection³²

Table 3 shows that in four of the top five states with the most contribution from coal to the DMF, coal contributions account for a significant (>40%) share of the total DMF collection. This means that DMF funds can be effectively utilised for addressing the impacts of coal mining in those districts where coal production is predominant. This is particularly pertinent since the PMKKKY provides for a ready framework to leverage DMF funds for a just energy transition as given in the objectives of the PMKKKY.

4.3. CIL Corporate Social Responsibility Policy

Coal mining subsidiaries have recognised the need to put foremost the welfare needs of the communities directly affected by their operations. Coal India Limited’s (CIL) Corporate Social Responsibility (CSR) policy states that subsidiary companies must use 80 percent of their CSR funds within 25 km of their project site/mines/area HQ/ company HQ and the remaining 20 percent within the state of operation. As under the Companies Act 2013, a minimum of 2 percent of the net average profit of the preceding 3 years of a company must be used for CSR activities, and the CIL CSR policy also mandates the same.

The CIL’s CSR policy reflects the reality of the needs of people affected by coal mining projects run by its subsidiaries. It requires a CSR programme run by subsidiaries to include a Special Corporate Plan (SCP) and Tribal Sub Plan (TSP) for the welfare of the SC and ST populations in addition to its activities for the general population. This reflects a sensitivity to the more vulnerable groups among those affected by the adverse impacts of mining activities. The policy contains a fairly detailed scope, implementation, baseline survey and documentation, and monitoring of CSR activities. The scope of CSR activities by CIL and its subsidiaries builds on Schedule VII of the Companies Act, 2013 which suggests programmes for the eradication of hunger, poverty, and malnutrition, the promotion of education and gender equality, ensuring environmental sustainability, protecting national heritage, supporting army veterans, promoting sports, contributing to socio-economic development, and funding technology incubators in academic institutions and the creation of rural development projects.³³ Figure 2 illustrates the trends in CSR expenditure by CIL and its subsidiaries till 2022.

COAL INDIA LIMITED’S (CIL) CORPORATE SOCIAL RESPONSIBILITY (CSR) POLICY STATES THAT SUBSIDIARY COMPANIES MUST USE 80 PERCENT OF THEIR CSR FUNDS WITHIN 25KM OF THEIR PROJECT SITE/MINES/ AREA HQ/ COMPANY HQ AND THE REMAINING 20 PERCENT WITHIN THE STATE OF OPERATION.

CIL & Subsidiaries' CSR Expenditure Trends from 2017-22 (in INR crores)

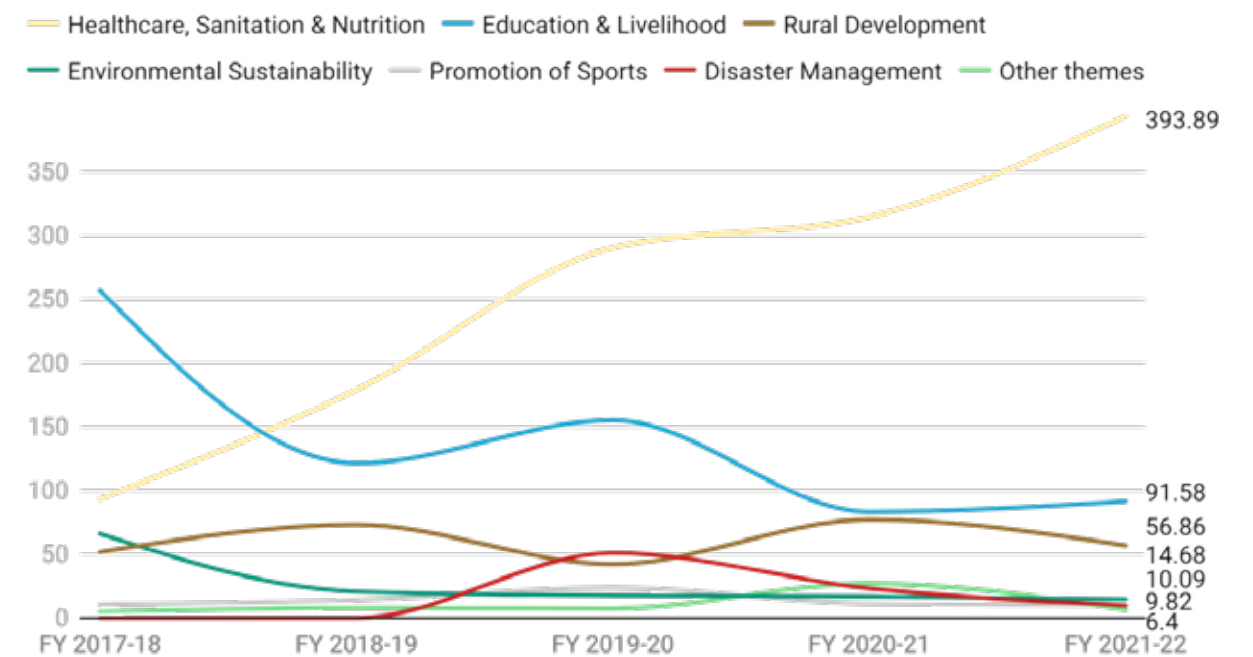


Figure 2: Utilisation of CIL and its subsidiaries’ CSR funds (Source: Written response of the Minister of Coal in the Lok Sabha³⁴)

Implementation of CSR projects requires CIL and its subsidiaries to engage with “specialised agencies” which include panchayats and other elected local bodies, self-help groups, mahila mandals/samitis among others. Inclusion of such groups for the implementation of CSR projects in coal mining affected areas would encourage participation of mining affected people in welfare-oriented projects for their benefit. The CSR Policy of CIL and its subsidiaries also requires baseline surveys to be conducted for high value projects (those with a budget of more than 1 crore rupees), which should enable a cost benefit analysis.

Often it is noticed that a bulk of CSR funds are used primarily for civil infrastructure projects. However, moving forward it is imperative to have a deeper analysis of local needs and aspirations and greater investment in softer aspects and hence, leveraging this fund would be crucial for human development, market linkages and diversification of the local economy.

4.4. State Action Plans on Climate Change

State Action Plans on Climate Change (SAPCCs) of India’s top 3 coal-producing states like Jharkhand, Odisha and Chhattisgarh which get a significant amount of revenue from extractive industries do take into cognizance the risk posed by the combination of climate change impacts and the vulnerabilities created by mineral extraction processes. A study by the Department of Science and Technology of the Government of India shows that the coal producing states of Jharkhand, Chhattisgarh, and Odisha in Eastern India are also the most vulnerable to climate change.³⁵

THE COAL PRODUCING STATES OF JHARKHAND, CHHATTISGARH, AND ODISHA IN EASTERN INDIA ARE ALSO THE MOST VULNERABLE TO CLIMATE CHANGE

Odisha,³⁶ known for its rich mineral deposits, plays a pivotal role in India's mining industry – coal reserves in Odisha account for 24 percent of the country's total. However, the state's coal mining sector faces substantial climate change-related challenges that necessitate a comprehensive response – which include plans for a just transition in the coal sector as climate change necessitates a shift away from the carbon intensive fuel and increases the vulnerability of local communities affected by coal mining activities.

Jharkhand,³⁷ a state abundant in coal, is confronted with the urgent need to address the profound climate change-related challenges within its mining sector. The SAPCC for the state, identified risks associated with climate change in Jharkhand's coal mining and the innovative mitigation strategies suggested in the plan by the state government to combat these adverse impacts.

Unlike the previous two states of concern, however, Chhattisgarh's SAPCC³⁸ does not contain a sectoral analysis specific to the mining sector even though it is among the most coal rich states in India. With regard to coal, the SAPCC pointed out the risk posed by coal based thermal power plants in contributing to climate change and suggested mitigation strategies which included:

These efforts would not only enhance efficiency but also minimise emissions, ensuring that Chhattisgarh's mining activities align with its climate goals and contribute to a greener and more sustainable future.

STATE	CLIMATE CHANGE RISKS IN MINING	MITIGATION AND POSSIBLE JUST TRANSITION MEASURES
Odisha	1. Heat waves affecting miners 2. Environmental degradation 3. Abandoned mines	1. Regional sustainable mining plans 2. Reclamation and Rehabilitation of old abandoned mines 3. Heat Wave Shelters in mining areas 4. Accessible Drinking Water 5. Cleaner Technologies for coal mining 6. Coal Bed Methane Exploration 7. Ultra clean coal production
Jharkhand	1. Heavy Rainfall Impact causing silting downstream 2. Land transformation (from forest to mining) 3. GHG emissions due to coal mining activities	1. Coal bed methane exploration 2. Private sector initiatives 3. Localised climate modelling 4. Resource auditing 5. Water conservation 6. Public Private Partnerships 7. Social and environmental compliance
Chhattisgarh	N.A.	1. Renovation of thermal power plants 2. Adoption of super critical technology 3. Fly ash utilisation 4. Exploration of alternative energy sources

Table 4: Risks identified in the mining sector (particularly coal) in SAPCCs of major coal producing states in India, alongwith mitigation measures that have the potential to double as just transition measures.

4.5. Why a Just Transition Framework?

Government policies like the provision of DMFs, CSR mandates to the industry, and planning for climate action with specific reference to shifting to cleaner forms of energy, if put into action with the spirit in which they were formulated have great scope in ensuring the reduction of multifaceted vulnerabilities among those communities affected by coal mining activities, be it in terms of displacement due to the project or the fallout from mining operations.

It is also worth examining the capability of these policies to address the needs of local communities when faced with an impending energy transition that would be unfavourable to them in the absence of a comprehensive just transition plan. While the mine closure guidelines for coal mines started after 2009 does address job loss and the maintenance of social infrastructure, there is scope for bringing in the issues of informal/contractual/induced labour, the coal mono-economy, and livelihood security.

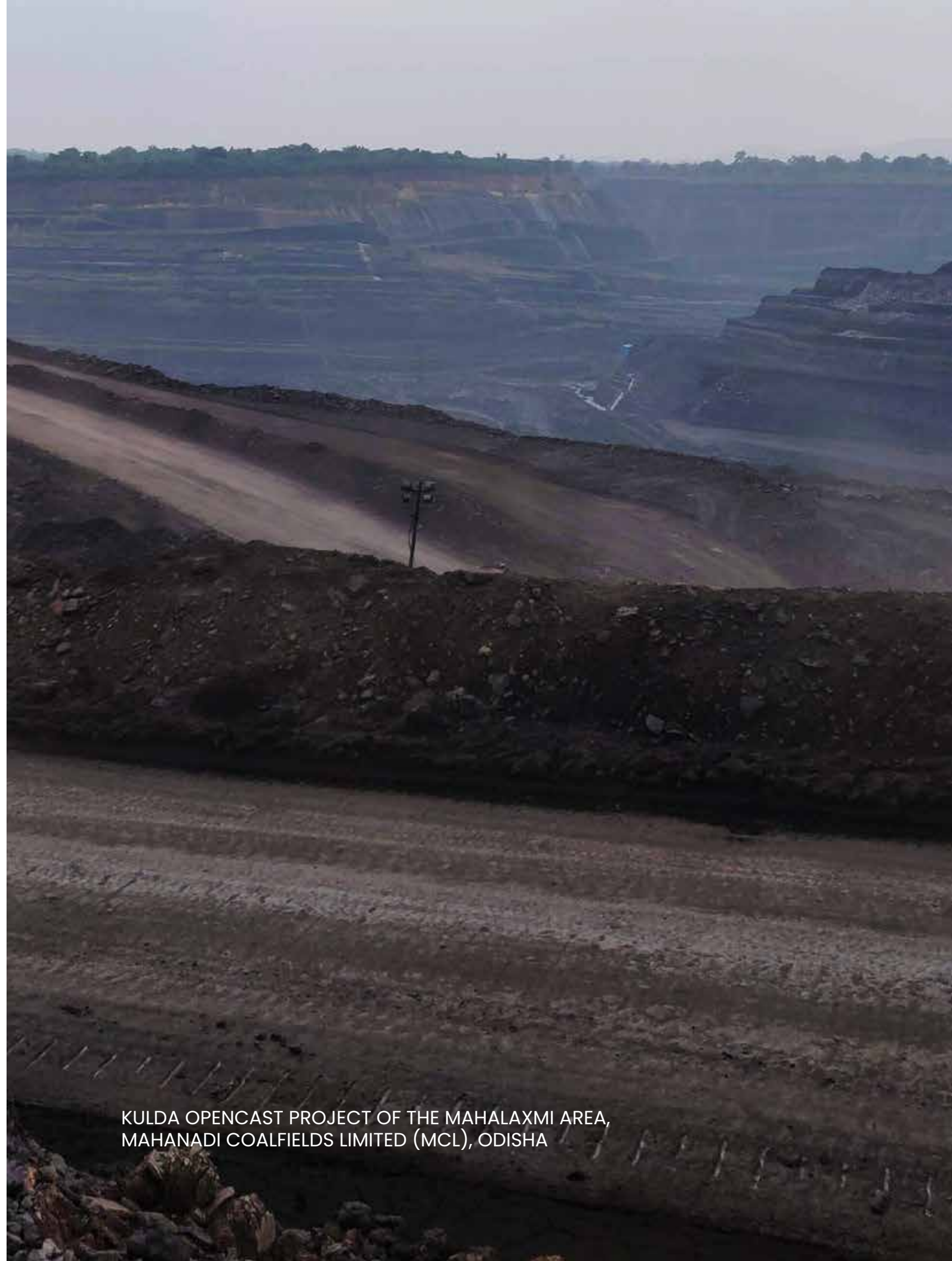
A study on the utilisation of DMF funds by CSEP³⁹ revealed that only Chhattisgarh, Tamil Nadu, and Telangana spent more than 60 percent of their DMF collection – of which only Chhattisgarh is a major coal producing state. Table 5 also shows that a majority of DMF funds across the board goes into the development of physical infrastructure which is a low priority area. This indicates room for better utilisation of DMF funds especially in coal producing states particularly in areas of education, healthcare, women and child welfare, skill development, etc.

Expenditure Categories	Andhra Pradesh	Chhattisgarh	Gujrat	Jharkhand	Karnataka	Maharashtra	Odisha	Rajasthan	Tamil Nadu	Telangana
High Priority Areas										
Drinking water Supply	22.2	7.3	8.8	76.7	15.5	16	23.8	18.1	37.9	7.6
Environment	0	2.8	0.4	0	2.4	2.8	1.8	3.5	0.7	3.4
Healthcare	2.1	10.1	12.1	0.5	18.1	21.5	10.1	5	7.7	4.2
Education	6.2	22.4	37.5	0	16.3	6.2	8.2	26.3	4.3	12
Women and Child Welfare	5.4	4.3	8	0	4.2	1	1.7	1.6	0.7	1.6
Welfare of the aged and disabled	0	0.5	0	0	0.9	1	0	0.8	0.2	0.6
Skill Development	2.2	2.4	13.4	0	1.5	4.2	1.2	0	0.4	7.6
Other high priority areas	2.8	11.9	2.2	11.4	4.8	1.7	10.9	0	1.6	5.9
Other Priority Areas										
Physical Infrastructure	57.3	28.7	13	0	28.4	34.8	30.6	40.3	22.6	55
Irrigation	0.7	3.4	1.3	0	3.5	6.7	10.4	3.6	21.8	0
Energy Development	0.1	4.2	2.9	0	2.3	3	1.2	0	1.7	0.7
Other Priority Areas	0.7	2	0.5	11.4	1.9	1.5	0	0.7	0.4	1

Table 5: Utilisation of DMF by priority area as stated in the MMDR 2015 ordinance⁸⁹

CSR expenditure of CIL and its subsidiaries also shows that a lot more can be done in rural development, environmental sustainability and education, the lattermost of which has seen a decline (see Figure 2).

The Just Transition Framework for a Sustainable and Resilient Future in India's Coal Mining Regions seeks to complement these policies on an institutional and functional basis in a people centric manner, leaving no one behind in a transition to cleaner fuels.



KULDA OPENCAST PROJECT OF THE MAHALAXMI AREA,
MAHANADI COALFIELDS LIMITED (MCL), ODISHA

5. Just Transition Framework Approach

In the light of the climate and environmental goals of India as well as keeping into consideration the existing policy levers related to Just Transition such as DMF, MCPs, and SAPCCs etc., **the Just Transition Framework approach looks at a transformation that revolves around two facets – a structural transformation from the national to the local level in policy and governance (the *institutional aspect* of the framework) and the redressal of key areas of concerns (the *functional aspect* of the framework)** identified through primary research in Odisha, Chhattisgarh, and Jharkhand. This was further supplemented with extensive secondary research wherein just transition frameworks from around the world were reviewed for a more holistic approach to this exercise.⁴⁰

Figure 3 is diagrammatic representation of the Just Transition Framework which is a broad guide that applies itself to transitions beyond those involving coal mine closure. Figure 4 further represents what an application of the Just Transition Framework to coal mine closure should ideally look like.

The purpose of the framework is to guide policymakers and the discourse around the topic to ensure a holistic and well-rounded transition to clean energy, such that no one is left behind in India's coal mining regions. There are stakeholders, change indicators, and challenges and risks identified under each focus area – allowing the framework to also function as a monitoring and evaluation mechanism for the progress of just transition in coal mining regions.

A. Structural Transformation in Policy and Governance

The structural transformation in institutions is necessary to assign responsibility among actors at the national, state, and district levels while also establishing a hierarchy of accountability to ensure that the intention for a just energy transition in coal mining does not remain only on paper as emphasised in the NITI Aayog *Report of the Inter-Ministerial Committee on Just Transition from Coal*.⁴¹

A.1. At the national level, it would be essential to set up a **just transition body or commission on coal mining** that could independently monitor coal closure and repurposing. Given that

GIVEN THAT DIFFERENT MINISTRIES AND DEPARTMENTS AT THE CENTRAL AND STATE LEVEL RESPECTIVELY WOULD BE RESPONSIBLE FOR DIFFERENT ASPECTS OF A JUST ... IT WOULD BE THE RESPONSIBILITY OF ... A NATIONAL LEVEL JUST TRANSITION BODY TO COORDINATE EFFORTS ACROSS DIFFERENT JURISDICTIONS AND ENSURE THE EFFICIENT IMPLEMENTATION OF A JUST TRANSITION PLAN FOR COAL MINING REGIONS.

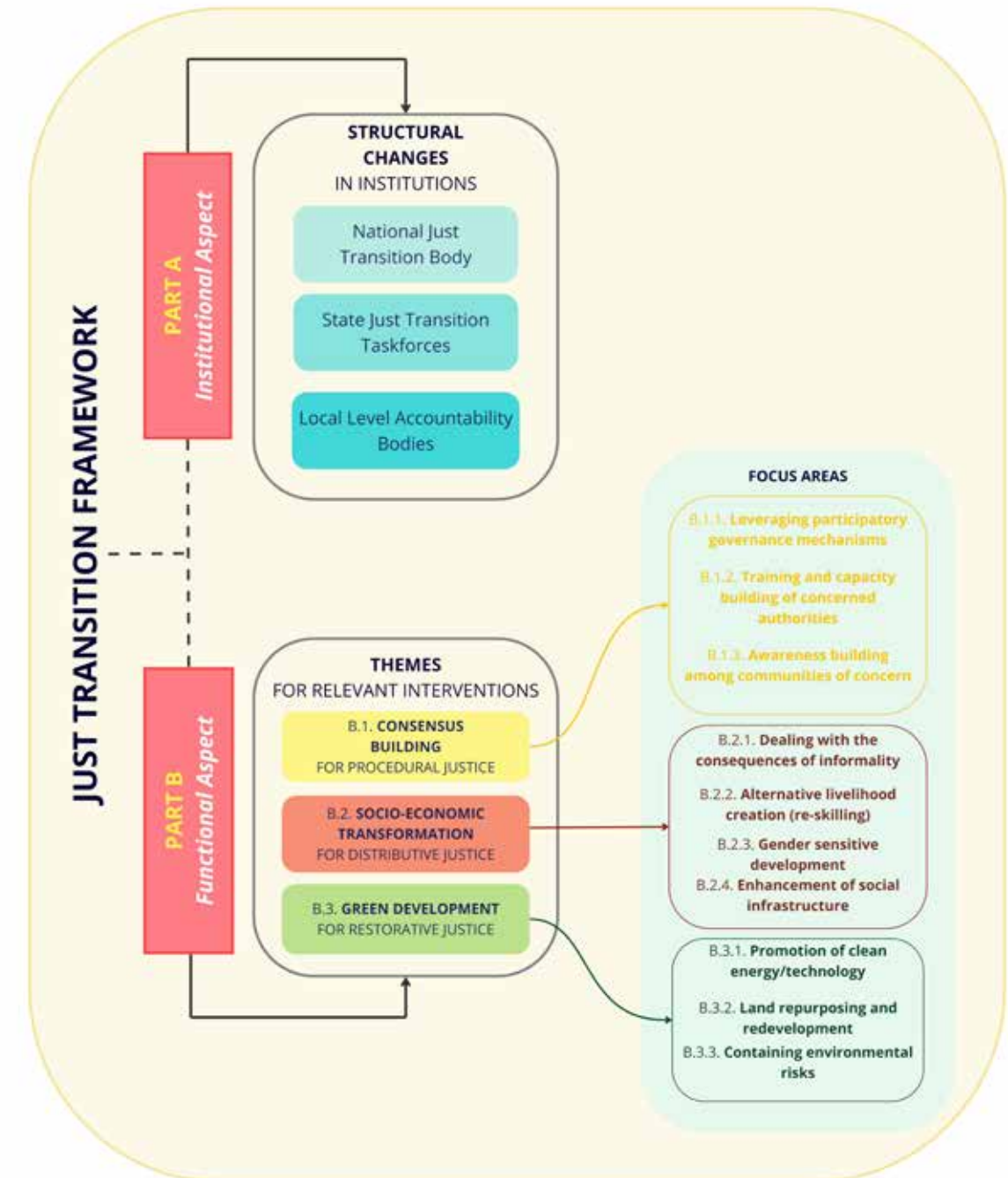
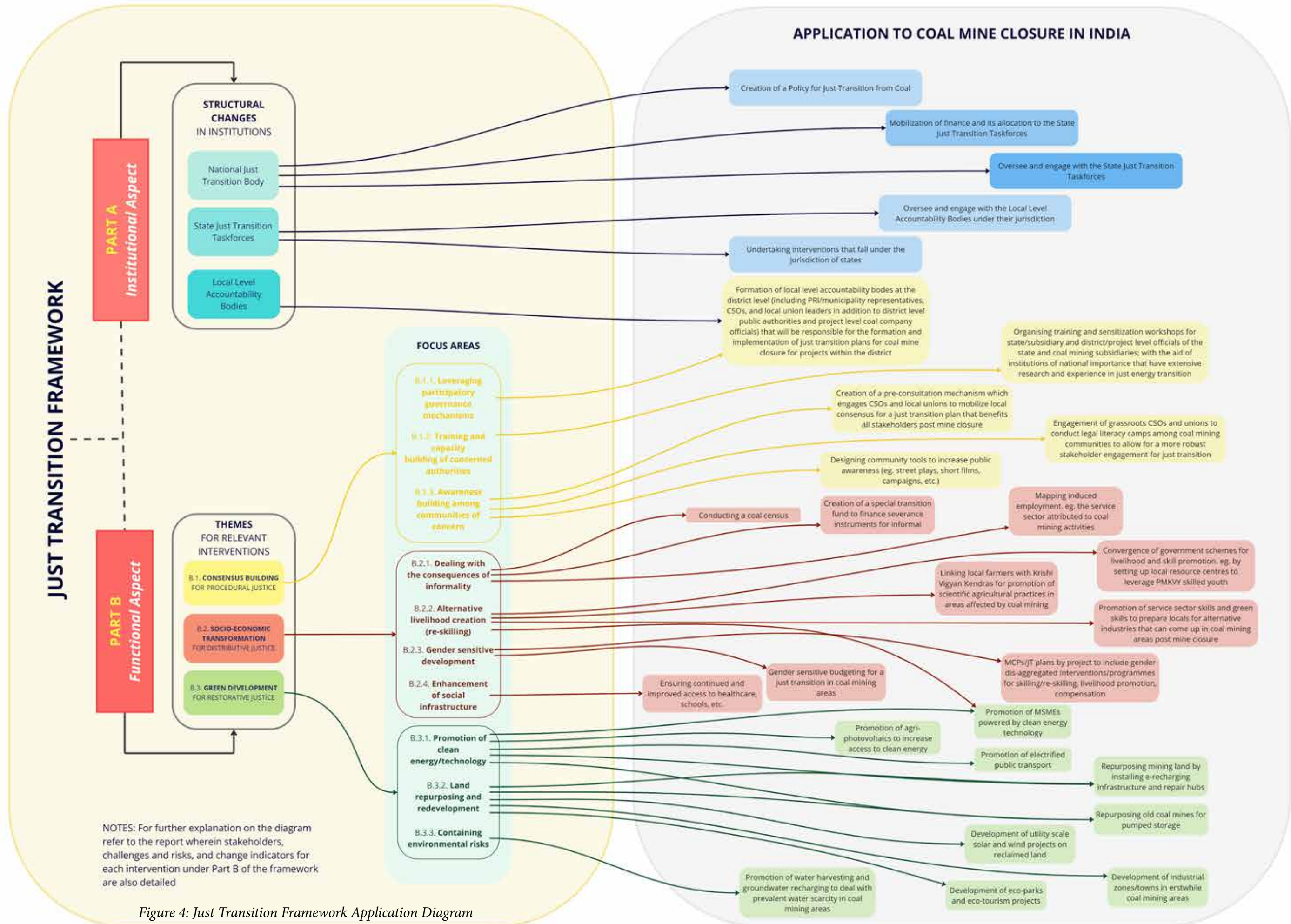


Figure 3: A generally applicable Just Transition Framework



different ministries and departments at the central and state level respectively would be responsible for different aspects of a just transition such as labour, women and child welfare, environment, etc., it would be the responsibility of such a national level just transition body to coordinate efforts across different jurisdictions and ensure the efficient implementation of a just transition plan for coal mining regions. It would also include within its purview the creation of a national just transition policy on coal mining in conjunction with regional level bodies, the mobilisation of finance through bilateral/multilateral engagement at the international level, and to oversee the working of the state level transition task forces.

Case Study 1: Coordination among decision making bodies⁴²

The Inter-Agency Commission for Socio-Economic Issues in Russian Coal-Producing Regions (IAC) and the Inter-Ministerial Coal Steering Committee (IMCSC) in Poland played crucial roles in coordinating policy decisions and facilitating inter-ministerial cooperation necessary for implementing reforms. In addition to planning, this coordination could also involve mobilising government interventions at different levels during the actual implementation phase.

Case Study 2: The Importance of Government Commitment⁴³

The Alberta government has declared its pledge to discontinue coal-fired power generation by 2030. This commitment is backed by an allocation of 45 million Canadian dollars (CDN) to facilitate a "just transition" for coal workers and their communities. It has been reported that organised labour supports the gradual phase-out of coal-fired power generation.

A.2. The state level just transition workforces would be involved in developing a regional development framework for just transition (as suggested in the NITI Aayog report⁶²) which would cover mine closures and related financial issues such as loss of revenue and the provision of skill development, entrepreneurship programmes etc. These regional development frameworks must have in place a mechanism for measurement of change and impact reporting.

Case Study: Territorial Just Transition Plans in the EU emphasise the importance of localised and tailor made plans for just transition⁴⁴

The European Union's Just Transition Mechanism, as part of the European Green Deal, is dedicated to addressing the challenges posed by the transition to a low-carbon economy in regions highly reliant on fossil fuels and energy-intensive industries. At the heart of this mechanism lies the Just Transition Fund, which aims to support socio-economic diversification in areas most affected by this climate transition. However, EU member states can access this fund only if they develop Territorial Just Transition Plans (TJTPs).

These TJTPs are essential as they map out the regional climate transition strategies for the coming decade, up to 2030. They determine which areas in EU member states

require support, highlight the primary climate-related issues they face, and lay out the specific actions and governance mechanisms needed to address the challenges and opportunities arising from this transition. Importantly, the European Commission emphasises that these plans should be crafted through open and inclusive processes, drawing on local and regional knowledge and expertise to ensure that climate transition policies are tailored to the needs of the local population and that no one is left behind in this critical shift towards a sustainable future.

A.3. Local level accountability bodies would be formed at the district level and would include public officials trained to deal with the issues of just transition in coal in addition to local coal authorities, along with local CSOs and representatives from local governance bodies such as the municipality, zilla parishads, and panchayats/gram sabhas. This would ensure participatory governance at the local level such that local needs specific to those communities and geographies are in addition to bringing together on one platform all concerned parties involved in a just coal mine closure. This would generate greater sensitivity around the issue of transition and preparedness, encouraging convergence and resource pooling. Such local level discourse could enable channels for a bottom up dialogue.

B. Redressal of Key Areas of Concern

Identifying the key areas of concern through our fieldwork and research, this functional aspect of the framework maps out the key stakeholders, challenges and risks, change indicators and interventions needed to address them for greater functional clarity on what issues need to be addressed currently and in the future for a just transition in coal mining areas. These are grouped under three main themes –

1. Consensus building for 'Procedural Justice',
2. Socio-economic transformation for 'Distributive Justice', and
3. Green development for 'Restorative Justice'

Each of these themes have focus areas which serve to elaborate the nature of issues in coal mining areas which are addressed under each of the three main themes. This functional aspect of the framework would be systemised through part A of the framework which precedes this section. A diagrammatic representation of the framework is presented in figure 4 for better visualisation.

B.1. Consensus Building

Consensus building aims to achieve Procedural justice in coal mining areas by –

1. **Training and capacity of state/district level public officials** to utilise funds and resources earmarked for the betterment of coal mining affected communities through training conducted by collaboration between academia and institutions/CSOs leading the scientific discourse on a just transition and government bodies that will actually be responsible for implementing welfare and benefit measures at the local level.
2. **Leveraging existing participatory governance mechanisms** such that the local level just transition plans/mine closure plans take into consideration the aspirations and needs

of the local communities. This could be done through the creation of a district level just transition comprising public officials and local representatives.

3. **Increasing awareness of affected communities** about legal rights and requirements such that public consultation and government engagement processes are more productive with a reduced discrepancy in power dynamics between the various actors involved.

B.1.1. Training and capacity building of district and coal officials

- **Stakeholders** – the stakeholders consist of district level officials and coal company officials
- **Challenges and risks** – The challenges and risks of training and capacity building for district and coal officials include a lack of viable alternatives to coal, a strong desire to maintain the status quo and current modes of functioning, bureaucratic inertia, and a lack of political will.
- **Change indicators** – The increase in training and capacity building for district and coal officials serves as a key change indicator, driven by the diligent implementation of mine closure plans for a just transition, a growing emphasis on promoting alternative livelihoods, facilitating skill development and reskilling in coal mining-affected communities, and the resultant enhancement of the quality of life in areas affected by coal mining.
- **Interventions** – Training and capacity building for district and coal officials must involve interventions such as facilitating vertical interactions between state-level and district-level functionaries, in collaboration with academic institutions, to sensitise them on critical aspects of a just transition, social equity, resilience building, green development, and achieving net-zero goals.

Case Study: Pre-layoff assistance in Canada⁴⁵

Canada's Industrial Adjustment Services (IAS) is a program that offers assistance to firms and communities dealing with significant layoffs. In New Brunswick, the program provides services like early retirement information, labour market insights, employment programs, and action planning for those expecting job loss. It also supports human resource management for unaffected workers and sectors undergoing change. The IAS is effective in shortening unemployment periods by focusing resources on vulnerable workers and promoting collaboration among local stakeholders, showing government and community support for those most affected by job loss.

B.1.2. Leveraging participatory governance mechanisms

- **Stakeholders** – Leveraging participatory governance mechanisms involves engaging key stakeholders such as panchayats, municipalities, zila parishads, and coal mining-affected communities in collaborative decision-making processes.
- **Challenges and risks** – Leveraging participatory governance mechanisms poses challenges and risks, including the absence of genuine agency or voice, the ineffective utilisation of existing mechanisms, exclusion from discussions on climate change, a focus on addressing immediate physiological needs, and the presence of social disparities and discriminatory power structures within the community.

- **Change indicators** – Leveraging participatory governance mechanisms serves as a catalyst for change, as evidenced by increased resilience and accountability at the local level, as well as heightened community engagement in the implementation of Mine Closure Plans (MCPs) and local-level Just Transition (JT) plans.
- **Interventions** – Leveraging participatory governance mechanisms involves the intervention of forming a Just Transition (JT) task force at the district level, which includes representatives from the local community, with the purpose of facilitating the utilisation of green and JT funds.

Case Study: Participatory processes for just transition in coal mining areas in Donetsk, Ukraine⁴⁶

In recent years, there have been encouraging developments in the regions affected by coal industry transformations, particularly in eastern Ukraine. In May 2019, a significant initiative took shape when six coal mining towns in the Donetsk Region, along with three non-governmental organisations and a regional Chamber of Commerce and Industry, came together to form the Platform for Sustainable Development of Coal Towns. This collaborative effort aimed at bringing about positive changes in the socio-economic conditions and image of the region.

The primary objectives were to empower mining towns, enabling them to advocate for their vision, and effectively communicate their needs and aspirations to the government. The initiative garnered further momentum in March 2020, as the seventh coal town joined the Platform. With the inclusion of all key towns in the region involved in coal extraction, a pivotal decision was made in July 2020.

The seven mining towns – Dobropillia, Myrnohrad, Novohrodivka, Pokrovsk, Selydove, Toretsk, and Vuhledar – united to initiate the development of a joint transformation strategy. This collaborative effort holds the promise of shaping a brighter future for these communities. As an essential step towards national recognition and support, representatives of the Platform for Sustainable Development of Coal Towns of Donetsk Region officially became members of the Coordination Center for Transformation of Coal Regions (the CC) in the fall.

This development ensures that the voices of these coal towns are heard and considered in central-level decision-making, marking a significant step towards fostering positive change and empowerment in these regions.

B.1.3. Awareness building among affected communities

- **Stakeholders** – Awareness building among affected communities involves engaging various stakeholders, including civil society organisations, local media, labour/trade unions, and political pressure groups.
- **Challenges and risks** – The risks posed by the current scenario includes a deficit of legal and financial literacy, language barriers among locals affected by coal mining leading to alienation from the mainstream discourse on livelihood risks, and information asymmetry among stakeholders.
- **Change indicators** – Change indicators would include productive public consultations, which arise from increased confidence and knowledge of entitlements, ultimately resulting in better-informed communities.

- **Interventions** - The interventions for awareness building among affected communities include the establishment of a re-consultation mechanism and awareness campaign. Local civil society organisations (CSOs) and unions play a critical role in creating the groundwork for proper consultation before land acquisition and the formulation of mine closure plans. Additionally, engaging CSOs and grassroots organisations in conducting legal literacy camps within coal mining-affected communities is crucial. Furthermore, designing communication tools such as street plays, short films, and campaigns is essential to increase public awareness on these issues.

Case Study: Bottom-up stakeholder engagement in Slovakia⁴⁷

The development of Upper Nitra's (Slovakia) regional coal transition strategy, known as the Transformation Action Plan in 2018, stands as a testament to strong and inclusive stakeholder engagement from the bottom up. This collaborative approach spanned various governance levels, with a significant focus on local involvement. Initiated by local public administrations, an open invitation was extended to citizens to actively participate in shaping the strategy.

Overwhelmingly, sixty individuals volunteered to take part in this collective endeavour. The participants included local civil servants, entrepreneurs, heads of schools, social institutions, and representatives of non-governmental organisations (NGOs). Several engagement meetings were conducted, during which local stakeholders deliberated, discussed, and collectively agreed on the fundamental priorities and pillars of the region's transformation. These pillars encompassed the domains of the economy, mobility, and social infrastructure, all essential elements for a holistic transition.

To further bolster this initiative, support was provided by the Technical University in Bratislava, offering invaluable expertise and guidance. Additionally, the European Commission's Structural Reform Support Service played a pivotal role in facilitating the process.

Recognizing the significance of raising awareness and promoting active participation, Friends of the Earth-CEPA made a significant contribution. They created a web platform designed for effective communication and information-sharing, thereby making the transition strategy more accessible to the public. The inclusive, bottom-up approach to developing Upper Nitra's transformation strategy stands as a model of effective governance and community collaboration, fostering a promising future for the region.

B.2. Socio-Economic Transformation

This theme is concerned with the fulfilment of Distributive justice for equitable outcomes for all stakeholders involved in the coal sector by -

1. **Recognizing the obstacles presented by informal labour** engaged in significant numbers due to the increasing privatisation and contractualisation of coal mining activities.
2. **Creation of alternative livelihood opportunities** through re-skilling and a prioritised delivery of national and state livelihood programmes in communities where opportunities

for income that are not linked either directly or indirectly to coal are hard to come by due to the creation of a mono-economy to the high economic viability of coal production in comparison to more traditional means of income like agriculture, artisanal products, etc.

3. **Gender sensitive development** in affected communities to address the mostly indirect but significant impact on women's health, labour, income generation and decision making capacity with the dominance of the coal mining economy and the social structures it promotes in coal producing regions.
4. **Enhancement of social infrastructure** in coal mining regions such that existing facilities of schools, hospitals, etc, are not compromised by the transformation of labour engagement in the coal sector and to improve existing facilities by increasing the scope of the population that is benefitted by these facilities through increased and targeted investment in them.

B.2.1. Dealing with the consequences of informality

- **Stakeholders** - Dealing with the consequences of informality involves various stakeholders, including labour contractors, informally engaged labourers, district public authorities, and the state government's labour department.
- **Challenges and risks** - Socio-economic transformation faces challenges and risks, including limited skillsets among workers, the absence of an official database tracking the number and types of informal workers, regulatory pressure favouring privatisation and the contractualization of the coal workforce, a knowledge deficit and lack of bargaining power among workers regarding existing social security measures, and ineffective grievance redressal mechanisms.
- **Change indicators** - Outcomes of dealing with informality would include increased transparency in processes to avail social security benefits, a rise in employment across diverse sectors, and an augmentation of bargaining power among affected individuals.
- **Interventions** - The interventions for dealing with the consequences of informality include conducting a coal census and establishing a special transition fund dedicated to financing severance instruments for informal workers.

B.2.2. Alternative livelihood creation (re-skilling)

- **Stakeholders** - In the context of alternative livelihood creation through re-skilling, the key stakeholders include coal mining affected communities (including workers, farmers, and their families), district and block level public authorities, and the CSR departments of coal companies.
- **Challenges and risks** - Creating alternative livelihoods presents challenges and risks, including limited employment opportunities due to the coal economy's monopoly, a mono-economy overly reliant on coal production, a lack of established markets and supply chains, limited knowledge about accessing formal credit, and insufficient awareness of available government schemes and methods for obtaining formal credit.
- **Change indicators** - The change indicators for alternative livelihood creation through re-skilling include a diversified local economy, heightened demand for locally made products, the adoption of best practices in alternative livelihoods, and the creation and promotion of green jobs.

- **Interventions** - Interventions for alternative livelihood creation through re-skilling include mapping induced employment in the service sector in coal mining affected areas, linking local farmers with Krishi Vigyan Kendras to promote scientific agricultural practices, establishing local resource centres to facilitate the placement of youth skilled under the Pradhan Mantri Kaushal Vikas Yojana (PMKVY), promoting service sector skills, and fostering the growth of micro-enterprises.

Case study 1: Training for mine closure in Romania⁴⁸

In Romania, mining technical institutes were responsible for designing the physical closure of each mine. The Romania Mine Closure and Socio-Economic Regeneration (MCSER) loan from the World Bank played a crucial role in training 650 technical staff in International Federation of Consulting Engineers (FIDIC) contracts and standards. This training effort aimed to establish a proficient workforce capable of effectively managing mine closure activities in the country.

Case Study 2: Establishing Mine Closure Companies in Poland⁴⁹

In a strategic move to transition from a coal-dependent economy, Poland enlisted the expertise of mine closure companies, SRK and BSRK, between 1997 and 2002. These professionals were tasked with the closure, remediation, and reclamation of 16 coal mines in the country. Their responsibilities were wide-ranging, ensuring safe mine closures, environmental restoration, and the potential for future land use. The collaborative effort with these experts showcases Poland's commitment to responsible mine closure and the sustainable management of its mining legacy.

Case Study 3: Re-skilling and business promotion in Romania⁵⁰

In Romania, the Social Development Fund was created to boost new business development through a microcredit program. Local non-governmental organisations were in charge of its administration. This program ran in parallel with the national employment agency's conventional re-skilling initiatives.

B.2.3. Gender Sensitive Development

- **Stakeholders** - In the context of gender-sensitive development, the key stakeholders include coal mining affected communities (comprising men, women, children, and adolescents), public authorities at the district level, civil society organisations, and coal mining officials.
- **Challenges and risks** - Gender-sensitive development is confronted with challenges and risks, including the dominance of patriarchal values and power structures, the marginalisation of women, diminished decision-making capabilities, the disproportionate burden of reproductive activities, and the absence of lucrative alternative income opportunities.
- **Change indicators** - Gender-sensitive development is marked by change indicators such as increased engagement of women in decent jobs, gender-inclusive governance processes, heightened participation of women in decision-making forums, the implementation of gender-sensitive Just Transition (JT) policies and Mine Closure Plans (MCP), and the cultivation of improved self-esteem among women in coal mining-affected communities.

- **Interventions** - Interventions for gender-sensitive development include implementing gender-specific budgeting for a just transition at all levels (national, state, district) and ensuring that Mine Closure Plans (MCPs) and Just Transition (JT) plans for projects incorporate gender-disaggregated interventions and programs, such as skilling and reskilling, livelihood promotion, and compensation measures tailored to the specific needs of women in coal mining-affected communities.

Case Study 1: Gender Inclusivity in Poland's Coal Reform Program⁵¹

In Poland's coal reform program, a significant shift towards inclusivity and gender equality emerged as surface workers took centre stage. Surprisingly, the majority of these surface workers were women, who initially faced exclusion from the Miners Social Package—a benefit exclusively available to underground mine workers and coal washing plant employees, all of whom were men.

Recognizing the need for a more equitable approach, eligibility criteria were duly adjusted to encompass surface workers, marking a significant step toward gender parity within the labour divestiture process. This policy change not only rectified a historical imbalance but also empowered women in the coal industry, acknowledging their essential contributions.

Moreover, the Polish experience revealed a noteworthy contrast in attitudes between male and female mine workers. Women in the industry demonstrated a greater willingness to explore alternative job opportunities, showcasing their adaptability and openness to career transitions. In contrast, many male mine workers seemed less inclined to consider lower-paying positions in other sectors.

The shift in policy and the response it garnered from workers exemplify the evolving landscape of gender equality and workforce dynamics in Poland's coal industry. The reform program not only expanded opportunities for women but also underscored the importance of inclusivity and gender equity in a historically male-dominated field. This transformation sets a promising precedent for the coal sector and other industries striving for more diverse and inclusive workforces.

Case Study 2: Women's Nonprofit Organizations in Silesia Amid Coal Sector Challenges⁵²

In Silesia, women's nonprofit organisations emerged as crucial pillars of support during a challenging period of downsizing and layoffs in the Polish coal sector. These organisations played a significant role in assisting individuals, families, and communities in their response to the adverse effects of this transition.

During this time, the region witnessed an upsurge in domestic violence, alcoholism, and substance abuse issues, often exacerbated by the economic uncertainties brought about by layoffs. Women's nonprofit organisations took it upon themselves to address these pressing social challenges, providing vital counselling, support, and shelter for those in need. Their unwavering commitment to the well-being of the affected individuals helped mitigate the social repercussions of the coal sector's downsizing.

These organisations demonstrated the remarkable resilience and dedication of women in Silesia, who not only supported their communities through difficult times but also actively contributed to the region's social recovery. Their work underscores the vital role that nonprofit organisations, led by women, can play in addressing complex social issues and fostering a sense of community resilience during times of upheaval.

B.2.4. Enhancement of social infrastructure

- **Stakeholders** - In the enhancement of social infrastructure, key stakeholders include healthcare providers, including ASHA workers and ANMs, coal mining-affected communities, district and block level public authorities, as well as zila and panchayat functionaries.
- **Challenges and risks** - Enhancement of social infrastructure faces challenges and risks, including the lack of quality physical infrastructure, the prioritisation of short-term and fast-yield investments like civic infrastructure over long-term investments in health and education, environmental risks to health and social outcomes resulting from coal mining activities, and barriers to mobility within affected communities.
- **Change indicators** - Enhancement of social infrastructure is reflected in change indicators such as increased investment in long-term social amenities, particularly in health and education, improved mobility within communities, better health outcomes, and increased levels of literacy and formal education.
- **Interventions** - The intervention for enhancing social infrastructure involves improving access to healthcare facilities and schools, thereby ensuring better social infrastructure within the affected communities.

Case Study 1: Promotion of business and the arts in the Genk/Limburg coal mining region in Belgium⁵³

In the city of Genk in Belgium, the conversation about reimagining the area's coal heritage and infrastructure emerged after the closure of former mining sites. The preservation of coal mining heritage and infrastructure has become a central guiding principle in the current phase of transition. This approach leverages existing opportunities within the local community. Former mining spaces and infrastructure have undergone remarkable transformations, now serving as contemporary workplaces. These include a cutting-edge technology park, a business park catering to small and medium-sized enterprises (SMEs) and local entrepreneurs, as well as a creative hub and cultural centre. This evolution showcases the region's ability to adapt and repurpose its industrial legacy for modern and innovative purposes.

Case Study 2: Romania's Social Support Program to mitigate coal mine redundancy⁵⁴

In Romania, a multi-faceted approach was in place to address the social challenges arising from economic transitions, particularly in the mining sector. The Ministry of

Labor, Social Solidarity, and Family collaborated closely with the National Agency for Employment and mining companies to spearhead comprehensive social measures.

These measures encompassed a range of initiatives, including social protection programs aimed at preventing social exclusion, with a particular focus on ensuring that children had access to education, regardless of the economic circumstances facing their families. Moreover, youth employment was a significant priority, with viable alternatives being developed to offer young individuals meaningful job opportunities.

To support redundant workers, temporary work programs were implemented, providing a safety net during employment transitions. Incentives for employers to hire laid-off workers, often through retraining and upskilling, were also in place, facilitating the reintegration of these individuals into the workforce.

Workers with minimal prospects for re-employment received social protection, offering them stability during uncertain times. Finally, professional training programs were established to enhance employability, ensuring that individuals were equipped with the skills required to thrive in an evolving job market. Romania's concerted efforts underscored its commitment to addressing the social dimensions of economic transitions and fostering greater social inclusion and resilience.

B.3. Green Development

Key to the realisation of Restorative Justice is the green development of coal mining areas as one of the crucial aspects of mine closure is the restoration of mining lands to their pre-mining state while also preparing them for a greener and cleaner future. This would involve -

1. **Promotion of clean energy infrastructure** such as installation of both utility scale and decentralised solar PV based energy sources including agri PV, the electrification of public transport and the associated supply chain, integration of RE in livelihood value chains and conversion of old/closed coal mines to pump storage
2. **Land reclamation, repurposing and redevelopment** to enable alternative uses of erstwhile coal mining land such that it is available for activities that economically benefit local communities and revenue agencies.
3. **Containment of environmental risks** posed by mining activities such as the recession of groundwater aquifers and resulting water scarcity and the degradation of soil quality due to mining related pollution.

B.3.1. Promotion of clean energy infrastructure

- **Stakeholders** - In the promotion of clean energy infrastructure, stakeholders include coal-dependent industries, coal-dependent and coal mining-affected communities, ITIs (Industrial Training Institutes) and vocational centres, and the renewable energy (RE) industry.
- **Challenges and risks** - Promoting clean energy infrastructure comes with challenges and risks, including the absence of dedicated finances, a deficit in skilled workforce to effectively utilise clean technologies, and concerns about the viability and cost of clean energy solutions, potentially resulting in unequal distribution and adoption.

- **Change indicators** – The promotion of clean energy infrastructure is marked by change indicators such as the mainstreaming of green technology and energy in coal mining affected areas, an increase in renewable energy (RE) installed capacity, the integration of RE into production value chains, and a reduction in the carbon footprint of the affected regions.
- **Interventions** – Interventions for the promotion of clean energy infrastructure include setting up utility scale solar power parks, promoting electrified public transport, transforming closed coal mining land by installing e-recharging infrastructure and repair hubs for electric vehicles (e-vehicles), promoting Agri-photovoltaics, RE linked production in livelihood value chains, repurposing old coal mines for pump storage facilities, and setting up e-mobility production plants to support the adoption and growth of electric vehicles.

Case Study 1: Electric Car Plant in the coal mining town of Jaworzno, Poland⁵⁵

Poland's first state-backed electric car plant will be built in the town of Jaworzno in the south of the country and is expected to begin production by 2024. The area currently relies heavily on coal mining for jobs. As yet, the company has not revealed details on the planned production capacities but around 15,000 jobs have been announced, including 3,000 at the plant itself and 12,000 with suppliers and subcontractors.

Case Study 2: Lewis ridge Pumped Storage plant, Kentucky, USA⁵⁶

The project is a 200MW closed-loop pumped storage plant that is being built on a former coal mine site and will become operational by 2030. The \$1.5 billion+ project will create 1,500 jobs and deliver enough clean energy to power about 67,000 homes annually. It offers 8000 hrs of energy storage daily and would contribute millions in local tax revenue.

Case Study 3: Extreme E events⁵⁷

Extreme E is a radical off-road racing series in the most remote corners of the planet impacted by climate change. 10 teams, consisting of one male and one female driver, racing to highlight global issues and inspire the next generation.⁵⁸ The May 2023 Hydro X Prix was organised on the former Glenmuckloch opencast coal mines in Dumfries and Galloway, Scotland. The restored former coal mine, which is about to undergo the next phase of its major transformation into a Pumped Storage Hydropower (PSH) plant and wind farm, provided a poignant backdrop for the sport which uses its platform to raise awareness of climate change and global solutions.

B.3.2. Land reclamation, repurposing, and redevelopment

- **Stakeholders** – In the context of land reclamation, repurposing, and redevelopment, stakeholders include coal company officials, coal mining affected communities, and district and state-level government officials.
- **Challenges and risks** – Land reclamation, repurposing, and redevelopment efforts face challenges and risks, including the poor implementation of Supreme Court guidelines,

the high cost associated with backfilling mine voids, soil quality degradation resulting from environmental damage, and the absence of replicable models for successful land restoration.

- **Change indicators** – Change indicators for land reclamation, repurposing, and redevelopment efforts include innovative land use interventions, the implementation of a people-centric coal mine closure policy to facilitate the just transition of coal mining affected communities, the repurposing of land through land pooling or leasing arrangements, and a reduction in overburden dumps and the associated risks they pose to the environment and communities.
- **Interventions:** An intervention for land reclamation, repurposing, and redevelopment involves the development of eco-parks and eco-tourism projects, tree plantation and leveraging carbon credits, agriculture, solar parks, water recycling and reuse for agriculture & fishery, township development, establishing industrial estate etc. which can help transform former mining areas into environmentally sustainable and economically viable attractions, benefiting both the local community and the environment.

Case study 1: Coal-Mac Mining's Phoenix #2 in West Virginia⁵⁹

At Coal-Mac Mining's Phoenix #2 site in West Virginia, an exemplary approach to environmental restoration has been undertaken. The focus of this restoration effort is not only on reclamation but also on the enhancement of ecological and economic aspects of the region.

One notable aspect of the restoration is the establishment of backfill elevations that closely mimic the natural terrain. This innovative approach prevents soil compaction, which can be detrimental to future land use and hinders ecological recovery. By preserving the natural contours of the land, the restoration work sets the stage for a more harmonious coexistence between the environment and potential human activities in the area.

Another critical component of this restoration effort is the improvement of soil quality. This enhancement is designed to facilitate reforestation, which plays a pivotal role in restoring the ecological balance in the region. Notably, two distinct types of trees have been planted. These tree species have been carefully selected to not only support the resurgence of wildlife but also to contribute to soil stability. Additionally, they include commercially valuable crop trees, aligning the restoration process with economic sustainability.

In conclusion, Coal-Mac Mining's environmental restoration efforts at the Phoenix #2 site in West Virginia demonstrate a holistic approach to reclamation. By focusing on mimicking natural terrain, improving soil quality, and strategically planting trees, the restoration not only aids in ecological recovery but also holds the promise of future commercial viability in the region. This initiative sets a remarkable example of how responsible mining practices can contribute to environmental well-being and sustainable land use.

Case Study 2: Repurposing of open cast coal mines in Lusatia, Germany⁶⁰

In eastern Germany's Lusatia region, an impressive transformation has taken place. This area, known for its mining history, embarked on an extensive regeneration program with a substantial budget of over €10 billion. Since the 1970s, disused and abandoned open-cast mines have been ingeniously converted into a sprawling 'lakeland.' This remarkable effort has turned Lusatia into Europe's largest artificial lake district, boasting more than twenty interconnected lakes. These picturesque lakes are now surrounded by beaches, lush forests, scenic cycle paths, and state-of-the-art water sports facilities.

Beyond the aesthetic enhancements, this transformation has brought about a revival of local flora and fauna in what was once a heavily industrialised mining zone. This natural resurgence plays a vital role in further reducing carbon emissions. Additionally, the region has taken great care to preserve its industrial heritage. Structures like a conveyor bridge, wastewater treatment plant, and a viewing tower have been kept intact as lasting monuments to the area's industrial legacy.

Visitors can also explore the operational open-cut mines, providing a unique opportunity to witness the region's mining past and ongoing industrial activities. The successful reclamation of former mining sites in Lusatia serves as a shining example of how environmental and economic interests can harmoniously coexist in a post-industrial landscape.

Case study: The Appalachian Wildlife Center⁶¹

The Appalachian Wildlife Center is a remarkable conservation, education, and research facility situated on 19 miles of reclaimed mine land. Nestled in the tri-state regions of southeastern Kentucky, northeastern Tennessee, and southwestern Virginia, this centre is a beacon of hope for the environment and the local communities. One of its most significant roles is serving as an elk restoration and viewing centre. By actively participating in the recovery of this iconic species, the centre not only contributes to biodiversity but also provides a unique opportunity for the public to witness these magnificent creatures in their natural habitat. A distinctive feature of the Appalachian Wildlife Center is its dedication to economic rejuvenation. Located in a former mining area, the centre recognizes the importance of creating jobs and spurring economic growth. It achieves this by fostering tourism, which not only offers visitors a chance to connect with nature but also plays a pivotal role in conservation efforts.

In essence, the Appalachian Wildlife Center embodies the idea that conservation, education, and economic prosperity can coexist harmoniously. By restoring mine lands and supporting the resurgence of native wildlife, this facility serves as a shining example of how environmental stewardship and community development can go hand in hand, ultimately contributing to a more sustainable and vibrant future for the region.

B.3.3. Containing environmental risks

- **Stakeholders** - In the context of containing environmental risks, stakeholders include coal mining affected communities, district-level officials and agencies, and coal company officials. These stakeholders play crucial roles in addressing and mitigating environmental risks associated with coal mining activities.
- **Challenges and risks** - Containing environmental risks in coal mining involves addressing challenges and risks such as the reduction in groundwater levels, resulting water scarcity, and pollution of freshwater sources; topsoil stripping caused by coal mining activities; loss of biodiversity due to coal mining projects and degradation of biodiversity due to pollution caused by coal mining; and addressing chronic air pollution concerns.
- **Change indicators** - The change indicators for containing environmental risks in coal mining operations encompass achieving cleaner air, increased soil fertility, replenished groundwater or access to quality water sources, reduced vulnerability to environmental health hazards, enhanced green cover, and a decrease in emissions through carbon capture initiatives.
- **Interventions** - An intervention for containing environmental risks involves the promotion of water harvesting and groundwater recharging initiatives to mitigate water-related challenges and reduce environmental risks associated with coal mining activities.



PISCICULTURE BEING PRACTISED
IN THE KENAPARA ECO-
PARK, EARLIER BISHRAMPUR
UNDERGROUND COAL MINE,
SECL, CHHATTISGARH

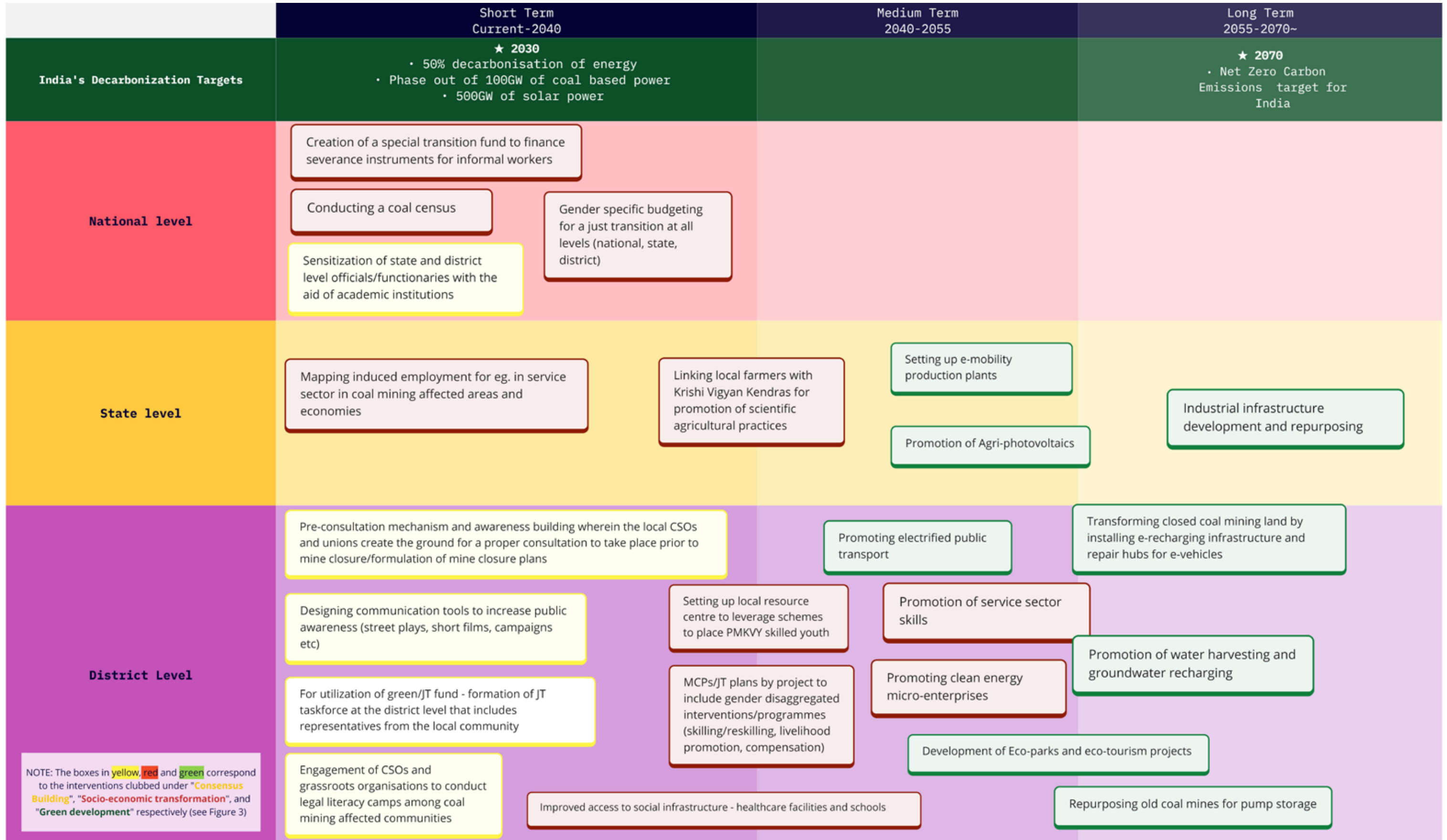
6. Phase wise representation of Just Transition Interventions

The matrix is a suggestive timeline for how interventions suggested in the Framework for a just transition in India's coal sector can be prioritised at the national, state and district (local) level. The interventions follow the colour code of the three themes of the identified means of redressal for key areas of concern in the Framework diagram. Interventions to push for a move towards consensus building are in yellow; socio-economic transformation is in red; green development in green. The strong bottom-up approach of the Framework is reflected in the crowding of interventions at the district and state levels.

The phase wise representation of the framework applies itself to the micro-level as well, as it can function as a temporal guide or checklist for activities to be carried for a just transition in the event of a coal mine being discontinued or closed.

The interventions may also be prioritised according to how relevant they are in the short, medium and long term. These three phases have been roughly divided into 15 years each until India's net decarbonisation target year of 2070. It is worthwhile to notice that consensus building activities nearly completely fall in the first phase as they would often form the pre-requisite requirements for a holistic just transition in coal mining regions. Green development activities on the other hand fall on the other end of the spectrum as they would continue into the net zero future as well, as they are key to the sustenance of climate mitigation measures.

Figure 5: (In the foldout) Phase wise representation of Just Transition Interventions



NOTE: The boxes in yellow, red and green correspond to the interventions clubbed under "Consensus Building", "Socio-economic transformation", and "Green development" respectively (see Figure 3)



A TRIBAL WOMAN
MAKING BROOMS FROM
DRIED GRASS IN THE
MAHALAXMI AREA OF
MAHANADI COALFIELDS
LIMITED (MCL), ODISHA
WHICH ARE SOLD FOR
RS.30/- EACH

7. Way forward and Conclusion

India's commitment to global Net Zero goals necessitate a significant transition in the power which presents multifaceted challenges, especially considering the socio-economic and ecological implications for coal-dependent regions. The report has proposed a Just Transition Framework grounded in the theories of ecological and climate justice, aiming to ensure an equitable shift towards decarbonisation. A functional plan for building resilience in a coal producing geography must factor in the technological, social and economic aspects detailed above and budgeting can happen based on short-, medium- and longer-term action agenda. A database needs to be generated post baselining across all the thematic points mentioned above and this will also help create a change/outcome measurement matrix. Systematic monitoring and evaluation of the change process would call for deepening local engagement and creating a governance mechanism by drawing a range of stakeholders active in the coal value chain.

This framework emphasises a three-fold approach to a just transition in coal mining regions that addresses procedural, distributive, and restorative justice. Some key issues addressed overall by the framework are as follows -

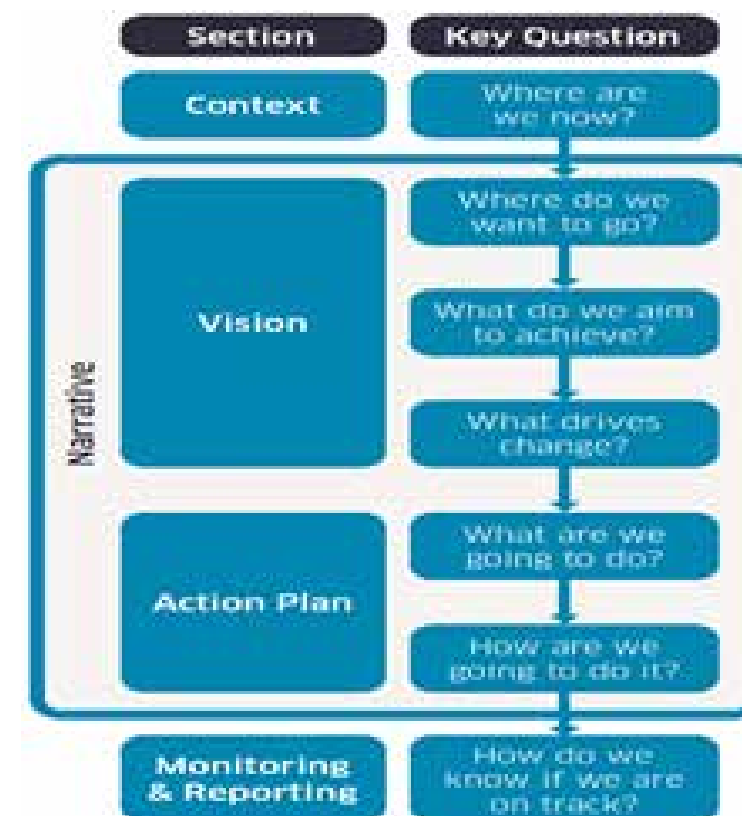
- **Building Institutional Capacity:** The need for national, state, and local level just transition bodies to ensure that all aspects of a just transition are comprehensively considered and addressed
- **Effective stakeholder consultation:** Understanding the existing reality of those affected by coal mining and their needs and desires as India increases its RE capacity
- **Financial Support:** Ensuring affected regions receive the necessary financial backing to ameliorate their conditions, facilitate a greener economy and design alternatives for the same.
- **Repurposing for Economic Diversification:** Transitioning coal-dependent areas to other forms of sustainable economic activities.
- **Environmental Restoration:** Addressing the environmental degradation caused by coal mining.
- **Inclusive Decision-making:** Ensuring all stakeholders, especially those directly affected, have a say in the transition process and so that no one is left behind.

Ultimately, a just transition in coal mining necessitated due to reasons of climate change and changes in labour dynamics is consequential for multiple actors at the state (all levels of governance), market, civil society (including affected communities) levels and must reflect collectively for a robust stakeholder engagement. This is essential to allow for a future that moves beyond the coal mining regions and to promote self-sufficiency, dignity and voice among local communities. Key to the success of these goals will be the creation of a granular action plan that can be executed in a phased manner. The outlining of jurisdictional boundaries and authority between different layers of governments, and evidence-based research to better enable a systematic monitoring and evaluation of the just transition process beyond the coal transition and mine closure.

Annexure

Alternative JT Frameworks from around the world

- I. **Scottish Government's Framework:**⁶² The Scottish Government's National Just Transition Planning Framework is aimed at ensuring a systematic and ambitious approach towards achieving climate targets while minimising social and economic inequalities. The Framework is designed to help Scotland meet its goal of a 75% reduction in greenhouse gas emissions by 2030, and achieve net zero emissions by 2045. It emphasises adaptability, evidence-based planning, and widespread engagement to ensure fairness and inclusivity in the transition. The Framework will guide the creation of individual Just Transition Plans for various sectors, with the first being the refreshed Scottish Government Energy Strategy. The plans will be co-designed and co-delivered with stakeholders, ensuring actions are well-informed and coordinated. The Framework also outlines a mechanism for regular monitoring, evaluation, and necessary amendments to ensure alignment with evolving circumstances and to track progress towards achieving the set outcomes and goals. This initiative is a step towards a holistic transformation that not only addresses climate change but also promotes economic growth, social equity, and community resilience.



II. JTI's (Just Transition Initiative) Just Transition Framework:⁶³ The framework illustrates how achieving the ambition of keeping global temperature rise to below 2 degrees Celsius will require actions across two critical dimensions: social inclusion and distributional impacts. Social Inclusion refers to the recognition of marginalised groups by including them in discussions and decision-making processes; enabling broad stakeholder participation and the ability to shape the outcomes of change processes; and ensuring that governance structures are in place to influence local, national, and international transitions. Distributional impacts refers to the fair allocation of the benefits and harms associated with transitions including addressing issues of access, historical injustices (restorative justice), the current allocation of transition outcomes, and the consideration of future impacts of transition processes.

A Framework for Just Transitions Definitions



III. Canadian Just Transition Task Force:⁶⁵ The Task Force on Just Transition for Canadian Coal Power Workers and Communities delivered two reports in early 2019, aiming to facilitate a fair transition from coal-fired electricity for affected workers and communities. Comprising a diverse panel of experts, the Task Force concluded its mandate with these submissions. The first report offered ten recommendations for a just transition plan, covering the background of coal-fired electricity in Canada and the ongoing usage in some provinces. The second report encapsulated the feedback received from various stakeholders during their engagement in spring 2018.

VI. World Bank's 'Just Transition For All' initiative:⁶⁶ The "Just Transition for All" initiative by the World Bank emphasises a people-centric approach to transitioning away from coal, a major and carbon-intensive energy source. Essential to meeting the Sustainable Development Goals and the Paris Agreement targets, this initiative focuses on retiring coal power plants and boosting clean energy alternatives. With experience since 1995 and an investment of over \$3 billion, the World Bank aids countries at various stages of the coal transition process. Their strategy is rooted in decades of experience and centres on three key areas: governance structures, the welfare of impacted people and communities, and the reclamation and adaptive reuse of former coal sites. Active involvement from stakeholders and a partnership with the private sector are deemed vital for the success of this transition, ensuring both environmental and societal benefits.

VII. Report of the NITI Aayog Inter-ministerial Committee on Just Transition:⁶⁷ The "Report Of The Inter-Ministerial Committee On Just Transition From Coal" under the Sustainable Growth Pillar of the India-US Strategic Clean Energy Partnership discusses India's coal sector and its future transition. The committee, comprising members from various sectors, was formed post a meeting on 12th July 2021 to enhance India-US cooperation in energy fields. The report highlights India as the second-largest coal consumer, emphasising coal's significance in energy and material production. Despite a push for renewables, coal remains pivotal for the foreseeable future, with consumption potentially peaking between 2035 and 2040. The document identifies challenges in transitioning from coal, including livelihood impacts, community health, infrastructure, resource repurposing, and public finance. It underscores the need for a comprehensive Coal Transition Policy, regional development frameworks, geospatial surveys, and dedicated financing mechanisms.

V. ILO Just Transition Guidelines:⁶⁴ The ILO guidelines, as agreed by the Experts, are meant to provide non-binding practical orientation to Governments and social partners with some specific options on how to formulate, implement and monitor the policy framework, in accordance with national circumstances and priorities. These guidelines include the vision, the opportunities and challenges identified, as well as guiding principles. It defines the four pillars of the Decent Work Agenda – social dialogue, social protection, rights at work and employment – are indispensable building blocks of sustainable development and must be at the centre of policies for strong, sustainable and inclusive growth and development. Similarly, decent work, poverty eradication and environmental sustainability are three of the defining challenges of the twenty-first century.

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