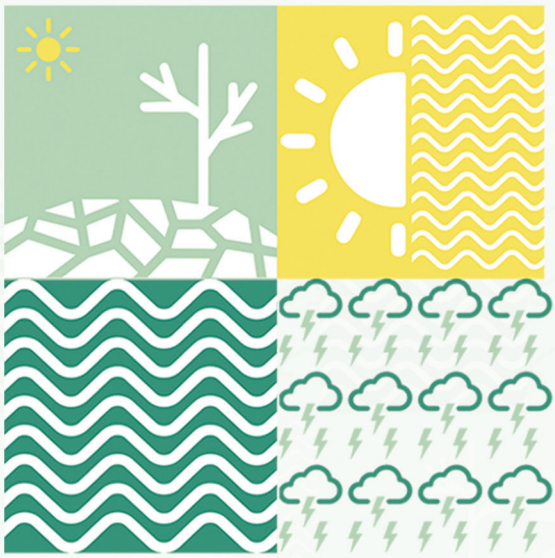
POLICY & DEVELOPMENT ADVISORY GROUP

Facilitating people-centric public policy

asar

REPORT

JUNE 2022



BUILDING A CLIMATE RESILIENT JHARKHAND

CREDITS

The report has been prepared with the valuable contribution of the following members from PDAG and Asar

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Asar

- Munna Jha
- Rasika Ganame
- Vinuta Gopal

About PDAG

Policy and Development Advisory Group (PDAG), established in 2018 is a social enterprise working at the intersection of public policy advisory, research, and strategic communications. Our work at PDAG is focused on outcomes that are evidence-based, data driven and facilitate people-centric policymaking to drive impact at scale. PDAG's team of researchers, policy analysts and communications professionals have rich academic backgrounds from leading global and national institutions and dynamic professional experience across diverse interdisciplinary backgrounds with strong programmatic, data analysis, evaluation, and communications skills. Over the last few years, PDAG has engaged across multiple at scale partnerships with policymakers, multilateral institutions, impact investors and academic researchers across our key practice areas - Migration, Governance, Social Protection, Gender, Climate Change, Misinformation and Digital Cultures, and Health and Nutrition.

About Asar

Asar Social Impact Advisors (Asar) is a start up in the social and environmental impact space in India. We are incorporated as a for profit company under Indian law. Our focus is the climate challenge and opportunity facing India today. The coming decade is critical to define the actions that the country and its people take in building a prosperous and climate resilient future. Our solutions are predicated on the understanding that the systemic and transformative changes we require can only be catalysed by collaborative problem solving and implementation. Asar exists to empower individuals,

organisations and networks working on the climate crisis by collaborating, coordinating and collectivising their efforts to amplify their effectiveness and impact.

For any queries or questions related to the report please reach out to

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◆Workshop attendees listening to the speakers

INTRODUCTION

Repercussions of climate change are increasingly becoming apparent within the larger domains of food security, water security, exacerbating migration stresses, increasing the frequency and intensity of weather related disasters and is no longer just an environmental or energy issue. The Intergovernmental Panel for Climate Change (IPCC), in its Sixth Assessment, has highlighted the need to expedite the mitigation measures this decade, as human induced climate emergency is already upon us. One of the most significant transitions societies across the world will have to make is the energy transition process from fossil fuel to renewable energy to limit global warming to 1.5 degrees celsius of the pre-industrialisation level. Phasing out of coal and increasing the share of renewable energy in the total energy mix countries are being considered the key to sustainable transitions. India is currently discussing how to phase out coal and increase renewable energy installations. The process is bound to affect the livelihoods of the people who are a part of the coal-based economy, especially those involved in mining-related activities.

Jharkhand has one of the world's largest coal reserves (27% reserves of India) and coal mining is one of the biggest contributors to the state revenue.The national conference was aimed to place Jharkhand within the larger context to understand how the coal transition will impact the state, and what are the curent opportunities/barriers in the transition. The state is a classic example of a 'resource curse', wherein despite the abundance of minerals and natural resources, the majority of the indigenous population has not benefited from the extraction. Additionally, due to the lack of economic diversification and dependence on the coal economy, the state is especially vulnerable to the consequences of climate change and the energy transition. To expedite proactive measures and generate consensus regarding the impact along with the prospective course of action, a multi-stakeholder engagement that welcomes voices and concerns across the local (panchayat), regional and national levels would play a critical role.

OBJECTIVE OF THE CONFERENCE

The first phase of the conference (Conference of Panchayats) was to engage with local elected representatives and members of the civil society organisations across Jharkhand to take stock of the ground realities and impact of climate change on agriculture, health, education, and employment, especially in the coal mining regions. After a successful engagement with the local elected members and representatives from local CSOs, the second stage aimed to bring key stakeholders from government, academia, and civil society to a common platform and deliberate upon three overarching themes, namely:

(i) Climate change adaptation and mitigation strategies in Jharkhand.
(ii) Decentralised renewable energy systems and access to reliable energy.
(iii) Ensuring just transition.

INAUGURAL SESSION

The national climate conference on 'Building a Climate-Resilient Jharkhand' brought together 110 delegates from different parts of India, which included Mukhiyas, NGOs, CSOs, women self-help groups, academicians, and journalists. The session started with a keynote by Mr Sumit Kumar, Lead - Climate Change at Policy & Development Advisory Group (PDAG). He opened the conference by shedding light on the severity of climate change issues in the context of Jharkhand. He also highlighted significant takeaways from the first phase of the conference (Conference of Panchayats). PDAG and Asar engaged with local elected representatives and members of the civil

◆Members of Warrior Moms attending the workshop

society organisations across Jharkhand to take stock of the ground realities and impact of climate change on agriculture, health, education, and employment, especially in the coal mining regions. The session began with Ms Vinuta Gopal, CEO of Asar, giving the welcome address. She set the context of the day on the premise of what climate change means in the context of Jharkhand, and how a state like Jharkhand can be an example for other states dealing with issues of climate change. She invited the participants and panelists to imagine a new pathway that Jharkhand could lead on. Jharkhand can play an important role in leading other states in India by building a climate-resilient Jharkhand with the help of a collective local force.

> Jharkhand can show the way forward on how small can be big as it builds a new and resilient form for Jharkhand
> - Vinuta Gopal, CEO

This was followed by a presentation by Dr Anjal Prakash, Research Director and Adjunct Associate Professor

at Bharti Institute of Public Policy (BIPP), Indian School of Business (ISB), on the recent climate change report on the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report. He said climate-related risks are increasing. India is at much greater risk due to its topographical placement from all sides; declining glaciers, sea level rise in the coastal areas, and heat waves in the semi-arid regions. Jharkhand is also severely affected by climate change. Rising temperatures, variability of rainfall, and heatwave have a direct impact on agriculture. Number of cyclones on the coastal belts are increasing in number and size; 50% cyclones have increased along the west coast in the last 15 years. However, even with reduced water bodies, forests, and rising livelihood issues, not all is lost. We should turn our focus to more green and blue infrastructure with the help of new technological solutions.

He indicated that there is a need to build cities in Jharkhand that are climate efficient and resilient by slowly moving towards electric transport from individual to public, and by building energy efficient buildings.

◆Felicitation of Ms Vinuta Gopal (CEO, Asar)

He also highlighted the need to co-create knowledge by implementers, officials, and academia to inform policy making. There is also a need for the local and traditional knowledge at the level of villages to be documented to help in building research that supports action and implementation at the ground level.

> “Changing livelihoods in climate and environmentally stressed areas and climate change hotspots regions have implications that are gendered. While men are migrating, the women are doing triple shifts to cope with the impact of the climate change
> - Dr Anjal Prakash

SESSION 1 - CLIMATE CHANGE ADAPTATION AND MITIGATION STRATEGIES IN JHARKHAND

Ms Huda Jaffer, Director of the SELCO Foundation, chaired the first session. She started the session by discussing the current energy system and policies designed in the past. Energy policies are not centralised, and the push now is from the demand side like houses, communities etc. Renewable energy solutions provide opportunities for decentralised approaches unlike large fossil fuel projects. The decentralised solutions can be localised and could be seen as a way of delivering other important outcomes such as health, education and livelihood, she added. The panel had three speakers, Dr Manish Ranjan, IAS - Secretary, Department of Rural Development of Government of

◆Moderators and Panelists of Session 1 - Huda Jaffer, Jayashree Mohanta, Manish Ranjan, Anjal Prakash (L-R)

Jharkhand, Ms Jayashree Mohanta, who is a Team Coordinator at PRADAN and has extensive experience working on the ground with the farmers, and Dr Anjal Prakash, Research Director, BIPP, ISB (Hyderabad). The latter also is an author of the 6th Assessment report by IPCC. The first session broadly focused on understanding the impact of climate change on two sectors; agriculture and non-timber forest produce (NTFPs). The session also aimed to shed some light on the IPCC findings and their relevance for a state like Jharkhand, which houses a sizable tribal population heavily dependent on agriculture and NTPFs. Lastly, it highlighted discussions on the need to divert attention towards climate change adaptation and mitigation strategies for states like Jharkhand and include them in the national discourse.

Began the discussion by with Ms Jayashree Mohanta highlighting the changes in farming methods with respect to climate change. Around 54 % of the rural population in Jharkhand is associated with agriculture and aligned activities in 2020-2021 (Ministry of Farmers' Welfare). The changes in temperature directly impact the agricultural produce and thereby affect the income of the farmers. Looking at the changes in climate, PRADAN started focusing on climate-resilient agriculture. She highlighted that PRADAN has been working at the grassroots level to build sustainable solutions for agriculture. PRADAN's main priority is income generation for the farmers by cutting production costs and integrating natural resource management. PRADAN is trying to prepare homemade fertilisers, and use traditional seeds and leguminous crops. PRADAN carried out a survey during Covid-19 and found that families which were dependent on agriculture were less impacted.

Ms Jayashree Mohanta spoke of the change in approach which they implemented in the past few years and its effects. Changes in cropping methods and seasonal farming have helped the farmers to increase their productivity. Another key intervention which PRADAN did in Jharkhand was the introduction of direct seeding of rice (DSR). Farmers all over India are

◆Q&A during Session I

slowly adapting to the use of DSR.

Estimated saving through DSR is around Rs 4000-5000 per acre of land. Ms Jayashree Mohanta added that these changes, and changes in methods also resulted in a 5-7 feet increase in the water table in those region.

She ended her session by speaking on the importance of the value chain to increase the asset value of the product. Various organisations with help of the state Government of Jharkhand have adopted public-private partnership models. Another important strategy is to mechanise farming methods like the addition of weeders which increased productivity and has helped reduce drudgery.

Dr Manish Ranjan later spoke on the policy side of development that the state government has introduced. Dr Manish Ranjan said they have introduced climate-resilient species like millets and have added processing units in some villages. The Ministry has also made a group of 35,000 farmers to provide support to the farmers. More than 32.5 Lakh women are associated with National Rural Livelihoods Mission projects. Under the project, a crop-specific strategy was devised for crops that are climatically adapted, take less time and give a good return, and one such example is millets. A CLF (Cluster Level Foundation) processing unit has been set up in Gumla and Simdega. Secondly, there has been a promotion of Systemic Rice Intensification (SRI) technology to be used in agriculture farmland. He further cited an independent study by Axis Bank Foundation through which they found that the SRI technology can save 8,526 cubic metres per hectare of water. Further, 7 lakh farmers are supported for organic farming, promotion of drip irrigation, and mulching.

He further added the need for advocacy amidst changing temperatures. The department has also introduced the use of SRI technology on 1000 acres of land which has saved around 8586 cubic metres of water in the 1000 acres, said the Secretary of rural development. The department has also introduced drip irrigation and mulching techniques to save water. The department has introduced 'Birsa Harit Gram Yojana', which is promoting plantation on individual farms by providing support for three years. Farmers will also get training and support under this scheme. For women farmers, the 'Didi Bagiya' scheme has been introduced, which is a self-help group that will focus on nurseries, help women earn extra income, and aim to make this process sustainable.

For a short-term solution, a few changes need to be made according to the rising temperature. The government is constantly working on planting drought-tolerant crops, and early-maturing plants, pushing animal husbandry to

◆Moderators and Panelists of Session 2 - Priya Pillai, Disha Agarwal, Ramesh Sharan, Mayank Aggarwal (L-R)

increase policies against felling of trees, integrated farming, and using technology to communicate risk to vulnerable groups. These are some of the changes that need to be institutionalised. Focusing on market and subsidy allocations, Dr Manish Ranjan spoke on making sustainable policies for the long term and linking the markets to extract maximum profits. The rural development department is constantly working to increase the additional income of people. For the same, the government has introduced a new scheme to introduce ponds in every district, and these ponds will be used for integrated farming of fish and duckery.

His insights were focused on mitigation and adaptation in agricultural techniques and the role of the government in the same. The last part of the session focused on bridging the gap between theoretical knowledge creation and its dissemination among administrators and government. Dr Anjal Prakash raised a crucial point of bridging the gap between traditional and scientific knowledge and also documenting this knowledge so that it contributes to policy action and implementation. Ms Huda Jaffer wrapped up the session by highlighting the need to focus on Distributed Renewable Energy (DRE) if we have to fulfil our future needs and meet the SDG goals since the traditional centralised energy policies have not been effective in meeting the energy needs of the people living in the remote region.

SESSION 2 - DECENTRALISED RENEWABLE ENERGY SYSTEMS AND ACCESS TO RELIABLE ENERGY

Session II was moderated by Ms Priya Pillai and had three speakers, Prof. Ramesh Sharan - Director, Institute of Human Development, Mr Mayank Aggarwal - Contributing Editor, Mongabay – India, and Ms Disha Agarwal - Programme Lead, Renewables, CEEW. The second session on decentralised renewable energy systems and access to reliable energy focused on understanding the role of renewable energy in helping Jharkhand mitigate the impact of climate change. This session

also deliberated upon the prospective role of Jharkhand Solar Policy 2022 in helping the state reduce its dependence on coal-based power and their experiences of bottom-up approaches developed at the community level to ensure access to renewable energy in the state.

Ms Priya Pillai started the session with a broad question on the role of government in decentralisation and energy democracy. In the light of climate reliance on Jharkhand, it is important to talk about energy ownership, governance, and decision-making. In this context, an emphasis on DRE systems can significantly contribute to energy democracy and ownership. Energy transition is a massive opportunity for a wide range of stakeholders- both companies and policymakers, an opportunity to ensure energy justice for people on the ground. DRE can provide opportunities for local communities, especially for women and youth.

> “Decentralisation is a significant means to delivering energy equity and energy justice
> - Ms Priya Pillai

Prof. Ramesh Sharan started the session by giving a brief introduction to the history of coal mines and ownership in India. The policies have benefitted all the mining companies and it still continues to benefit them. On the other hand, NTPC and other companies are expanding their business, so the question of the scope of decentralised energy systems is important. The use of coal is enormous in the households of the coal belt. People staying in the mine regions do not have access to clean energy.

Prof Ramesh Sharan added that the centralised system now is devastated, and the infrastructural development needs to be in consultation with the Gram Sabha. Panchayats need to be provided with financial autonomy to help them buy technology for renewable energy and its maintenance. District Mineral Foundation Trust and CSR funds can also be tapped to provide initial funding. There are two types of costs associated with solar projects, i) capital costs and ii) maintenance costs. Currently, some villages have installed solar rooftops, but many issues like operations and maintenance are associated with it. Gram Sabha does not have ownership, hence there is no feedback mechanism. Giving the ownership to Panchayats, they can spend their own resources. In Jharkhand, the panchayats are not given financial autonomy, they are dependent on the state for funds. However, there are two major problems which need to be tackled i) inefficient skillset ii) information gap between local non-speaking enterprises and the need for clean energy.

Going forward, Ms Disha Agarwal gave

◆Ramesh Sharan sharing his insights at the workshop

a presentation on 'Mainstreaming decentralised renewable energy for access and livelihoods'. She started her presentation by providing a brief overview of energy access in India and Jharkhand. About 28% of grid users do not have reliable access to electricity and face nearly 5-8 hours of power cut. A decentralised system can play a major role in this scenario by providing reliable access and reducing drudgery. Decentralisation of renewable energy like solar and innovations around it is the need of the hour for India to achieve access to affordable and reliable electricity. CEEW has been working closely with the central government and state governments, particularly on energy access, cooking energy, renewable energy, and decentralised energy. Many industrial and commercial players are moving to a decentralised system due to high tariffs and unreliability, she added.

Some initiatives, such as the Powering Livelihood Initiative, launched in 2018, under which a lot of work has been done like the DRE-based livelihood application and talks with micro-enterprises. The primary issue is unreliable electricity supply, which impacts productivity. Access to electricity can help women save time and generate additional income. Solar dryer and solar-powered vertical fodder units have been successfully installed as a part of pilot projects. These innovations provide added value and reduced waste leading to increased incomes and export opportunities for the owners. Clean energy innovation has a nearly 3.5 lakh crore market in rural areas. Technological innovations like hydroponic vertical fodder units and solar dryers have helped earn additional revenue. She shared light on the Jharkhand Solar Policy 2022 and

◆Q&A during Session II

the key points that have been added in the policy like the role of panchayat as a facilitator, the new ownership model, and net metering in Jharkhand.

Mayank Agarwal spoke on the impact of large-scale projects and the need for a DRE system. These systems are essential because a significant share of the population still does not have access to electricity. Another important advantage is that DRE systems can save the loss incurred in transmission. Jharkhand has introduced 4GW of electricity through renewable energy, and the government is also talking about decentralisation in this. One of the major barriers he said is that government departments do not collaborate on these issues. The DRE system is important for India because there are crores of people who cannot gain energy all the time. Shifting to DRE can help save the previous losses due to electricity transmission, which can be diverted for other development projects. Nearly around 1000 crores are lost in the transmission losses. The critical issues in decentralised renewable energy systems are first, maintenance, and second, finance. The government

◆Moderators and Panelists of Session 3 - Pradip Swarnakar, Ashim Roy, Aboobacker Siddique P, Swati D'Souza (L-R)

needs to talk to people and also provide local people opportunities to invest in capacity building.

The focus has always been on large-scale projects, but there is a great opportunity in clean energy. Gumla district has 46 villages where mini-grids and panels are installed, so the government can take that as a pilot project and see if it can be replicated. The focus should be on community-based ownership to make these projects successful, he added. Women in these villages can set up their businesses and do not have to rely on others for money. Mayank Agarwal further said people should fund these solar products through ownership models to make operations and maintenance easier. DRE models will help increase opportunities for employment and increase the involvement of women. It will also enable local youth to improve their skills and help them with their education.

SESSION 3 - ENSURING JUST TRANSITION

Session III was moderated by Prof. Pradip Swarnakar who is the head of the Department of Humanities of Social Sciences, IIT Kanpur, and had three speakers in the session, in which Ms Swati D' Souza made a presentation. The other two speakers were Mr Aboobacker Siddique P (IAS), a Secretary, Department of Mines and Geology, Government of Jharkhand and Mr Ashim Roy founder, Chemical Mazdoor Panchayat. The third session on ensuring just transition focussed on understanding the current barriers. The session aims to initiate a conversation toward ensuring a just and inclusive transition.

In the opening remarks, Mr Aboobacker Siddique appreciated the fact that everyone is talking about the transition and clean energy. He started the session by talking about the impacts of transition on the state GDP and workforce. The way how the administration looks at energy transition or the role of coal in the current economy is different. Minerals gave an annual revenue of roughly Rs 6,000 - 7,000 crore to the state and he said seventy percent of this came from coal. There is no debate about clean energy, but for transition, we need to have a clear idea.

> When we are transitioning from one point to another - we need to consider the impact at the point of departure and arrival
> - Mr Aboobacker Siddique P, Secretary of Mines and Geology, Government of Jharkhand

When we think about transition, we should also think about people adapting to the transition. After 2015, DMFT became a good source for local development, and a good amount of money was available in Dhanbad, Ramargh, and Hazaribagh.

He added that the closure of mines might create another disaster for livelihood. To achieve just transition, the focus should be on the post-closure activities of the mines, which are largely ignored at this stage, added the Secretary of Mines and Geology. The abandoned mines have become a source of hazard for the people living there. It has also resulted in illegal mining activities. Many workers in the past have lost their lives in illegal mines because they couldn't get medical help on time. The condition of healthcare infrastructure is also ignored at the moment.

Ashim Roy delivered on similar lines, focusing on how Jharkhand will be at a loss with this transition. There are two ways to tackle climate change, either through the market or through politics. The discourse shifted to Just transition after the Paris convention of 2015, before that focus was just on transition. He further stated that there is a lack of political will for this transition. The government of Jharkhand should introduce a coal tax. The state has a fundamental right to tax and should tax the coal plants and use the money for the development of locals and workers. It is necessary to find out the legal way of taxing.

Another issue is unaccounted DMFT funds. The funds are barely used for the development purpose of the people or workers living there. The transition from coal will benefit the states that have heavily invested in green infrastructure. The DMFT funds will be exhausted once the mines are closed, and there is yet no plan on how to develop the state after that. Jharkhand needs to think about a transition economy that can fulfil the Rs. 6000 crore revenue brought in by the coal economy in the post-coal times.

Swati D' Souza gave a presentation on the future energy mix and Just transition framework in India. She said the share of coal will drop to 10% of India's mix by 2050-60. Going ahead, she spoke on the global scenario, the history of Just transition, and how other countries are going with the process. It took 60 years for the Ruhr region in Germany, with just a 40 lakh population and 6 lakh people dependent on the coal economy to transition to a non-coal economy. India can learn from the other countries and try to

◆Workshop attendees

set up an independent Just Transition cell to assess the social, economic, and financial impact, she added. Once the use of coal stops, the DMFT funds will not exist, affecting all social sector schemes, so we have to start preparing for the transition now.

Whatever work has been done at a state level or national level, five steps have been taken globally, i) who will be affected, ii) evaluate the financial and economic cost, iii) restructuring the current allocation mechanism at national, state, and local scale, iv) set up an independent committee to assess the economic and financial impact, and v) conducting surveys, workshops, and stakeholder consultations to increase the participation of local people.

While ending her presentation she said, the transition process will take a long time and should include consensus-building among the locals and affected communities. Such a transition can be funded by transition-linked bonds and sustainability-linked bonds.

WAY FORWARD

- Bridging gaps between scientific knowledge and local knowledge on climate change. Making policy level changes for maximising the use of local knowledge to tackle climate change.
- The ownership of DREs should be given to the panchayat. It will make the O&M process better. A critical factor is to make the sales viable, which can happen if there are more Non-English (local) speaking technicians.
- A coal tax should be introduced, and the revenue collected can be used in developmental projects and make the transition just in the regions which are going to be impacted by the coal transition in the coming decade.
- Planning of the post-coal transition should happen from now in consideration of different actors affected by the transition.

◆Workshop organising team members from PDAG & Asar

AGENDA

TIME	ACTIVITY
09:30 AM - 10:00 AM	Registration and Tea
10:00 AM - 11:00 AM	**INAUGURAL SESSION** Welcome address by - Ms Vinuta Gopal - CEO, Asar Address by - Dr. Anjal Prakash - Research Director - BIPP, ISB (Hyderabad)
11:15 AM - 12:30 PM	**SESSION 1** - Climate change adaptation and mitigation strategies in Jharkhand **Moderator** Ms Huda Jaffer - Director, SELCO Foundation **Panellists** Dr. Manish Ranjan, IAS - Secretary, Department of Rural Development, Government of Jharkhand Ms Jayashree Mohanta - Team Coordinator, PRADAN Dr. Anjal Prakash - Research Director, BIPP, ISB (Hyderabad)
12:30 PM - 01:45 PM	**SESSION 2** - Decentralised renewable energy systems and access to reliable energy **Moderator** Ms Priya Pillai - Head Of Programme, State Climate Action, Asar **Panellists** Prof. Ramesh Sharan - Director, Institute of Human Development Mr Mayank Aggarwal - Contributing Editor, Mongabay – India Ms Disha Agarwal - Programme Lead, Renewables, CEEW
01:45 PM - 02:45 PM	**LUNCH BREAK**
02:45 PM - 04:00 PM	**SESSION 3** - Ensuring Just Transition **Moderator** Prof. Pradip Swarnakar - Department of Humanities of Social Sciences, IIT Kanpur **Panellists** Mr Aboobacker Siddique P, IAS - Secretary, Department of Mines and Geology, Government of Jharkhand Mr Ashim Roy - Founder, Chemical Mazdoor Panchayat Ms Swati D' Souza - India Lead Analyst and Coordinator, IEA
04:00 PM - 05:00 PM	Networking and Way Forward Closing session

LIST OF PARTICIPANTS

SESSION 1 - Climate Change Adaptation and Mitigation Strategies in Jharkhand

Dr. Manish Ranjan, IAS
Secretary, Department of Rural Development, Government of Jharkhand

Ms Jayashree Mohanta
Team Coordinator, PRADAN

Dr. Anjal Prakash
Research Director, Bharti Institute of Public Policy, ISB (Hyderabad)

Ms Huda Jaffer
Director, SELCO Foundation

SESSION 2 - Decentralised Renewable Energy Systems and Access to Reliable Energy

Prof. Ramesh Sharan
Director, Institute for Human Development

Mr. Mayank Aggarwal
Contributing Editor, Mongabay-India

Ms Disha Agarwal
Programme Lead, Renewables, CEEW

Ms Priya Pillai
Head of Programme, State Climate Action, Asar

SESSION 3 - Ensuring Just Transition

Mr. Aboobacker Siddique P, IAS
Secretary, Department of Mines and Geology, Government of Jharkhand

Mr. Ashim Roy
Founder, Chemical Mazdoor Panchayat

Ms Swati D'souza
Lead Analyst and Coordinator, International Energy Agency

Prof. Pradip Swarnakar
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