

Powering the Future

Women at the Heart of India's Energy Transition

Neha Saigal



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Photographs by
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This publication was commissioned by
the India Office of the Heinrich Böll Stiftung.
in.boell.org

Published by
Heinrich Böll Stiftung
New Delhi & Berlin, 2026

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Editorial: Jochen Luckscheiter, Sadia Sohail and Namrata Kabra
Design & Layout: Abhishek Chauhan
Copyediting: Priyaranjan Sahu
Printed by Logani Printers

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Prologue

India stands at a historic threshold. With a commitment to reach net-zero emissions by 2070 and a target of 500 GW of non-fossil fuel capacity by 2030, the country is reshaping its energy future at extraordinary speed. Having achieved 50 percent of its installed electricity capacity from non-fossil sources in July 2025, the energy transition is unfolding here and now!

Alongside these advancements, conversations on a “just transition” are emerging in policy rooms and public discourse. How do we move away from fossil fuels without leaving workers and communities behind? How do we ensure that new green economies are built in ways that do not reproduce existing inequalities? Yet within these conversations, gender too often continues to be a blind spot.

This publication begins with a simple but urgent proposition: there can be no just transition without a gender lens. And gender-just transition cannot be reduced to token inclusion; it must be embedded in the design, imagination, and governance of our energy futures.

At a moment when India’s energy transition is accelerating, this publication seeks to foreground gender within ongoing debates - not as an add-on, but as a structural lens through which policy, finance, and governance must be reimagined. Women are not peripheral to energy systems. They are central to them. Women consume energy in homes and enterprises; they manage household resources; they power informal economies; they anchor agricultural and micro-enterprise livelihoods that are deeply vulnerable to climate change and energy disruption. And yet, their labour is undervalued, their expertise overlooked, their leadership under-recognised. Women remain underrepresented - and often absent - in planning and decision-making processes within the energy sector.

Yet across India, women are not waiting to be invited into the transition. They are already shaping it.

Travelling across geographies and social locations, this publication tells some of their stories. In doing so, it brings us into conversations with women farmers, community organizers, entrepreneurs, scientists, and the private sector. They show us that a just transition is not singular. It does not look the same in a tribal village, a mining belt, a polluted city, or a coastal metropolis. Instead, it takes shape in diverse ways: through decentralised renewable energy, alternative livelihoods, clean mobility, and institutional reform.

These pathways come to life in places as varied as Koraput (Odisha), Dhanbad (Jharkhand), Amritsar (Punjab), Pune (Maharashtra), and Rajapalayam (Tamil Nadu).

In the green, hilly landscapes of Koraput, solar energy is more than a technology; it is an enabler of dignity. Here, women-led poultry farming initiatives are powered by decentralized solar systems that strengthen women socially and economically.

Travel east to the coal-scarred terrains of Dhanbad, where the shadows of mining define both landscape and life. As the future of coal grows more uncertain, women in mining-affected communities confront a pressing question: what comes next?

In the holy city of Amritsar, where worsening air quality has become impossible to ignore, women leaders are at the forefront of shaping a gender-responsive electric mobility transition. In Pune, science and innovation intersect with women's leadership to build sustainable energy futures. And further south, in Rajapalayam women in decision-making roles demonstrate why representation at the highest levels matters.

What binds these diverse stories is not geography, sector, or scale, but a shared commitment to equity - and to women's meaningful participation in shaping change.

This publication bears witness to women who are already building the foundations of a just transition, often beyond the spotlight of policy and public discourse. These five

stories are not exceptions; they offer glimpses into transformations unfolding across the country.

It is intended for policymakers, practitioners, researchers, and civil society actors committed to ensuring that India's energy transition is both rapid and living up to its full potential.

The invitation is simple but urgent: to reimagine energy transitions in ways that centre lived realities, redistribute power, and recognise women not just as beneficiaries, but as architects of the future.

Neha Saigal
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CHAPTER ONE — KORAPUT, ODISHA

When the Lights Stay on

The promise of solar for women entrepreneurs in rural Odisha lies in recognising women not as passive beneficiaries but as central architects of a regenerative future.

A LIFE SHAPED BY RESILIENCE

For most of her 36 years Dipti has lived a challenging life. But today she is an entrepreneur running a small poultry business from her home in Lamtaput, tending to 300 chicks that flutter under her careful watch.

Each one represents not just income, but the independence she carved out of years of struggle. Dipti now earns between ₹7,000 and ₹10,000 a month, a remarkable leap from the uncertain days when she earned barely enough through daily wage labour.


Her story begins in a small mud house not far from the village where she lives and works today. Born into a family from the Other Backward Classes (OBC), Dipti was the eldest of several siblings. While her brothers went to school, she stayed home cooking, fetching water, and

caring for the younger ones. "My brothers went," she says quietly, "but I stayed."

Her parents were daily wage labourers, their earnings unreliable and meals never certain. When food ran short, Dipti was the one who stayed hungry.

At six, she began working as a house help for a local teacher. Between scrubbing floors and washing utensils, she learned only one thing for herself: To sign her name. "That's all the schooling I ever got," she says.

At 15, she was married off, another decision made for her. Her husband was studying to graduate, and Dipti laboured in fields and homes so he could continue his education. But he never graduated, and their lives remained trapped in debt and daily labour.

A woman with dark hair, wearing a red and maroon sari with gold jewelry, stands against a grey wall. She is holding a small, brown, speckled chicken chick in her arms. The scene is brightly lit, casting shadows on the wall behind her.

“Earlier, I used to say I work for others, now I say I have my own business”.

Dipti with one of her three hundred desi chicks, Lamtaput.

THE FIRST STEP TOWARDS CHANGE

Two years ago, Dipti's life began to change quietly and through her own determination. She had become a member of a self-help group (SHG) formed through Odisha's Mission Shakti department. At a meeting of her SHG, she heard about a government poultry scheme managed by the veterinary department to support individual livelihoods. It sounded ambitious – a 2000-bird unit – but Dipti saw in it a chance to rebuild her life. With her brother's help, she filled out the paperwork and secured approval.

The first challenge came quickly: She had to build the shed before receiving any funds. Dipti borrowed ₹50,000, bought materials on credit, and constructed the poultry unit with her own hands. When the first instalment finally came

through, she purchased broiler chicks, fast-growing but demanding.

The results were devastating. The chicks required steady warmth and expensive feed; with unreliable electricity in Lamtaput, many died. "When the power went out, the chicks got cold and died one after another," she recalls.

The losses were crushing. Training had been minimal, and there was no one to guide her. Yet, Dipti refused to give up. At another SHG meeting, she heard about desi or local breeds, hardier, easier to manage, and suited to her environment. Selling off the broilers, she took another small loan and began again, this time with 500 desi chicks but the challenge of regular electricity still remained.

A SOLAR-POWERED TURNING POINT

Around the same time Dipti first heard about solar power. She didn't quite understand what it meant but knew one thing: her chicks were dying because of the lack of heat and light. Without warmth, the young chicks would not survive and she would not be able to earn a livelihood.

With support from a local NGO SPREAD and SELCO Foundation, Dipti decided to take the leap. SPREAD supports in identifying the women entrepreneurs and walking with them through the entire journey of adapting solar power – from initial awareness to everyday troubleshooting. Their team helps women build confidence, understand the technology in simple terms, and access the required financial and institutional support. SELCO provides the solar panels and the technological expertise required to make the systems reliable and sustainable over time.

Dipti installed a 2 kilowatt (kW) solar panel system, complete with an eight-hour battery backup, on her shed. The upfront cost was ₹25,000, subsidised by 75 per cent through the project. For the first time, her poultry shed had reliable light and warmth. Fans and halogen bulbs kept the air circulating and the chicks comfortable, even through cold nights. Mortality rates dropped dramatically.

The change was immediate and visible, her losses reduced, her confidence grew, and she was able to make a steady income. "Earlier, I used to say I work for others," Dipti says, her eyes bright with pride, "now I say I have my own business".

For a woman who had spent most of her life in uncertainty, solar became more than technology; it became trust. Reliable, clean, and constant, it gave her what years of labour had not, a sense of control over her time, her work, and her future.

Even as Dipti speaks enthusiastically about her solar-powered poultry shed, she knows the journey is far from over. The steady glow of her halogen bulbs has brought relief and dignity but not complete certainty. During long stretches of rain, the solar system falters. Power dips, batteries drain, and the fragile rhythm of her enterprise is disrupted. She says: "I just know how to clean the panels and check the battery but if something breaks, we have to depend on the local NGO to call the technician from the neighbouring district."

Her shed was built to house 2,000 birds, yet she maintains only 300. Scaling up would mean more feed, higher costs, and a larger working capital cycle, investments she cannot yet afford. A ₹60,000 debt still shadows her small successes. Each month is a balancing act between earnings, repayments, and the daily demands of survival. "I want to grow but can't take that risk right now," Dipti says.

NO FIRE ZONE



POSSIBILITIES OF SCALING CHANGE

Dipti's story captures both the promise and the limits of rural solar adoption. Technology can open doors but who helps women like her walk through them? Reliable energy has transformed her work, but energy alone cannot dismantle the web of debt, limited market access, and fragile supply chains that shape her livelihood.

And yet, beneath these struggles lies a quiet possibility: Could solar do more and expand their businesses sustainably?

Dipti's story also reveals how fragile transformation can be without deeper systems of support as many women poultry entrepreneurs in Koraput face similar barriers. Renewable energy like solar has shown what's possible, but scaling up requires more than technology; it requires redesigning the ecosystem around women's lives and labour.

Women-centric financing is the first step. Most women entrepreneurs juggle business costs alongside household expenses, childcare, and debt. Flexible credit, lower collateral, and financing models that link energy and enterprise could give them the breathing room to grow.

But financing alone isn't enough. Reducing household drudgery and redistributing care work is equally vital. When homes are powered by reliable solar energy lighting kitchens, charging mobile phones, running small appliances, women save hours otherwise spent collecting firewood or cooking in smoke-filled rooms. Those reclaimed hours could be redirected into building and

managing their enterprises, if that is what they choose to do.

Equally critical is technical training. If women were not just users but maintainers and producers of solar systems, the dependency on external technicians would fade. For example, local women trained as technicians could service systems, troubleshoot issues, and create new income streams.

Integrated livelihood design and community solar hubs could link energy access with markets, feed units, and storage, turning isolated efforts into collective strength.

Finally, policy recognition matters. Women like Dipti must be seen not as passive beneficiaries but as central actors in India's clean energy transition.

If such systems were in place, Dipti's shed would not stand alone; it would be part of a vibrant, women-led solar economy lighting up rural livelihoods and redefining empowerment from the ground up.

The energy transition is often spoken of in the language of megawatts, emissions, and policy targets. But in Koraput, it lives in smaller, quieter revolutions in a poultry shed where solar light keeps 300 chicks warm, and a woman rediscovers her power to dream.

Dipti's story reminds us that when energy access meets women's agency, the outcomes go far beyond productivity; they reshape lives. Energy is not just about

electrifying villages; it's about illuminating the spaces where women labour is, often unseen, in the kitchens, the sheds, the fields. When these spaces are powered, so too is the possibility of equality.

For the energy transition to be truly just, it must have a gender lens recognising women not as passive beneficiaries but as central architects of a regenerative future. In Dipti Khare's solar-lit shed lies a glimpse of that future: Resilient, rooted, and radiant.



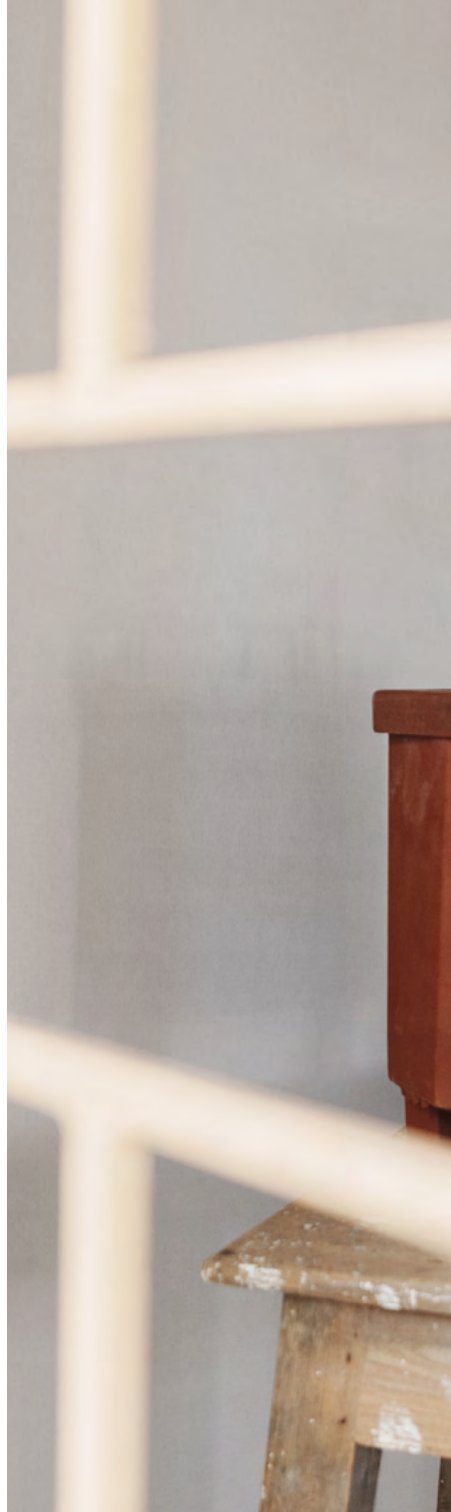


CHAPTER TWO — PUNE, MAHARASHTRA

Cooking a Revolution

Scientist and innovator Priyadarshini Karve's journey illustrates how science, social commitment, and women's leadership can transform the energy landscape.

“Cookstoves are more complicated than designing a car engine,” says Priyadarshini Karve. “The cooks need the same amount of heat every single day, but from different fuels and designing them is challenging but a necessity.”





Priyadarshini makes you reflect deeply, not just on the role of science in shaping everyday life, but on what it means to rebel with quiet persistence. Her rebellion is not loud, but steadfast: A refusal to let women's struggles in kitchens filled with smoke remain invisible.

There are many things that strike you immediately about Priyadarshini, who grew up in a rural area of Maharashtra's Satara district – the clarity of her thought, the depth of her empathy, and her unwavering commitment to solutions rooted in both science and justice.

Her passion for improving the design of Indian cookstoves started as a young bachelor's student. She stepped into a laboratory expecting the rigours of science but what she encountered shocked her. She discovered that millions of Indian women were exposed to dangerous levels of smoke every single day in their homes while cooking, and yet, this reality had barely registered in the scientific community. The silence of science on an issue so pervasive became the spark that set her journey in motion.



DESIGNING CLEAN ENERGY FROM LOCAL RESOURCES

For her Master's degree, Priyadarshini took on a problem that was both deeply local and nationally significant: How to create a clean and reliable cooking solution from the waste materials lying unused around her? She designed a sawdust-burning cookstove, by optimising airflow, she ensured that the sawdust gasified and burned efficiently, producing almost no smoke. The design not only worked in the laboratory but went on to become a commercial product, the "Vivek Sawdust Stove". Its impact spread far beyond her immediate circle when it was adopted under the Government of India's National Programme on Improved Cookstoves/ Chulhas (NPIC) launched in 1984, reaching rural households that had long depended on smoky, inefficient stoves.

Yet for Priyadarshini, this was only the beginning. After completing her PhD in Physics from the University of Pune, she sought to address another pressing problem in Maharashtra's sugarcane-growing regions: The widespread burning of dry sugarcane leaves left behind after

harvest. This practice not only wasted a potential resource but also caused severe air pollution. Through the Young Scientist Scheme grant, she set out with an ambitious vision to transform this agricultural residue into a standardised, locally manufacturable fuel that could power improved cookstoves more effectively.

The result was a breakthrough. Priyadarshini and her team developed a process to convert sugarcane trash into char briquettes, compact, smokeless fuel units that could be produced locally and affordably. Alongside the briquettes, she designed a compatible steam cooker, creating a closed-loop system where renewable charcoal could power clean and efficient cooking.



A LEGACY OF PROGRESSIVE THOUGHT AND INSPIRATION

Behind Priyadarshini's scientific innovations lie a rich legacy of progressive thought and pioneering spirit. She often reflects that her own journey was made easier because of her family's deep commitment to education and social reform. Her great-grandfather was among the early champions of women's education in India, breaking barriers at a time when few imagined women in classrooms. Her grandmother was a pioneering anthropologist, while her aunt established herself as a respected feminist writer. Growing up in this atmosphere of intellectual courage and social questioning, Priyadarshini absorbed the importance of pushing boundaries.

When it came time to choose her own field, she decided to study physics, half in jest; she calls it her "rebellion," since none of her illustrious ancestors had ventured into this science. But her choice was more than symbolic; it gave her the tools to bring rigour and innovation to deeply practical problems of everyday life.

Her father, an agricultural scientist and botanist, influenced her in another way. Through his NGO, he initially focused on farming and rural livelihoods. Yet, inspired by his daughter's growing interest in energy systems, he began to experiment with biogas technology. By combining his expertise in botany and microbiology, he developed new food waste-to-biogas systems that eventually earned his institute a second international award. In this way, father and daughter found their work interlinked, his

experiments with biogas complemented her innovations with cookstoves and renewable fuels, both rooted in addressing rural energy poverty.

Priyadarshini's own pioneering contributions have since earned global recognition. Her work on converting agricultural waste into decentralised renewable energy not only addressed environmental and health concerns but also offered scalable solutions for communities across India. This dedication was honoured with the Ashden Awards widely regarded as the "Green Oscars" celebrating her as a leader shaping sustainable energy futures.



Priyadarshini Karve during a curriculum planning meeting at a university.

WOMEN AT THE CENTER OF INDIA'S DECENTRALISED ENERGY TRANSITION

Priyadarshini's philosophy on energy transition grows out of her conviction that equity and sustainability must go hand in hand. She often speaks of "renewable charcoal," a concept that captures her belief in decentralised energy systems powered by locally available resources. For her, true energy transition is not simply about replacing fossil fuels with large-scale renewable projects. It is about fundamentally shifting the way energy is produced and accessed moving from centralised, inequitable systems fueled by petroleum and mineral coal toward localised solutions like biogas for kitchens, solar panels for homes, and small windmills for villages. Only then, she argues, can energy become both clean and just.

Her work in cooking energy has been a testing ground for this philosophy. She points out that although cooking is largely women's responsibility in India, women's voices were almost absent in the NPIC. Most of the technical backup units were led by men in engineering colleges. The programme itself prioritised deforestation concerns, with women's health, time, and labour burdens added as an "afterthought". For Priyadarshini, this imbalance revealed a deeper flaw: Energy solutions designed without women

at the decision-making table often fail to meet the realities.

She also challenges the misconception that biomass inherently causes pollution. With scientific precision, she explains that the problem lies not in the fuel itself but in how it is burned. Traditional stoves lack control over airflow and fuel consistency, producing smoke. Her approach converts agricultural residues into standardised fuels like biogas, ethanol, or char briquettes, which burn cleanly with zero smoke and no carbon penalty since they use waste biomass.

The innovator reminds us, technical fixes are not enough. The cookstove sector's obsession with laboratory efficiency often ignores rural women's lived needs such as the multipurpose heat from traditional clay stoves. Her vision insists that the energy transition must be shaped not just by engineers, but by the women who use these systems daily, making them central to innovation and decision-making.

True energy transition is not simply about replacing fossil fuels with large-scale renewable projects. It is about fundamentally shifting the way energy is produced and accessed moving from centralised, inequitable systems fueled by petroleum and mineral coal toward localised solutions...

GREEN ENTREPRENEURSHIP FOR A JUST TRANSITION

As she deepened her work on clean cooking, she noticed a troubling policy gap: Despite their centrality to household energy and women's well-being, improved cookstoves remained absent from India's mainstream energy transition debates. Clean cooking is a vital part of this transition, shifting households away from polluting biomass fuels toward healthier, more sustainable energy sources and driving energy equity for women and marginalised communities. Yet many households continue to rely on biomass because of the high cost of LPG refills, last mile delivery of cylinders, barriers to subsidies, the ready availability of firewood, and cultural preferences for the chulha.

According to the National Family Health Survey (2019–21), nearly one-third of rural households in Maharashtra still cook with solid fuels such as coal, wood, crop waste, and dung cakes and across India only 59 per cent households are using clean fuel for cooking. India has made significant progress over the past decade and a half, beginning with the Rajiv Gandhi Gramin LPG Vitrak Yojana launched in 2009 and later the Pradhan Mantri Ujjwala Yojana (PMUY) initiated in 2016, which together expanded LPG coverage to 10.6 crore connections till date, yet barriers exist in sustained adoption.

When the government's improved cookstove programme came to an end due to changing priorities and focus within government departments to other energy sectors, Priyadarshini realised that without a functioning market, the innovations she

and others had developed would not reach households. Determined to bridge this gap, she established her social enterprise, Samuchit Enviro Tech, as a private limited company.

The venture was not without challenges. Communities accustomed to receiving cookstoves free of cost through government programmes were hesitant to pay, and the team lacked business experience. Over time, the enterprise broadened its scope, taking on climate change education and carbon accounting consultancy for IT companies. Yet, at its heart, the mission of decentralising clean energy remained unchanged.

Priyadarshini also redefined how cookstove design should be approached. She and her team developed a participatory process that identified 18 different parameters households value in stoves from cooking rice and making rotis to the importance of residual heat for secondary kitchen tasks. Using a game-like survey, they captured preferences from both "cooks" and "heads of households", careful not to reinforce stereotypes that cooking is only women's work. The results were analysed to identify non-negotiables for each community, guiding either the adaptation of existing stoves or the design of new ones. Local manufacturers were trained to produce these stoves, ensuring livelihood opportunities and community ownership.

Her collaborations with women-led enterprises such as OrjaBox underscore her

conviction that women entrepreneurs are vital to India's energy transition. Together, they promote LPG-free urban kitchens powered by solar, biogas from kitchen waste, and charcoal from garden waste. For her, women-led green enterprises embody the future that is grounded in everyday realities, committed to equity, and confident that environmental protection and profitability can go hand in hand.

Priyadarshini Karve's journey illustrates how science, social commitment, and women's leadership can transform the energy landscape. By turning waste into fuel, customising technologies to meet real cooking needs, and building women-led enterprises, she has shown that the energy transition must be both decentralised and equitable. Her vision challenges centralised fossil fuel systems and insists that renewable energy be rooted in local realities and everyday lives. In doing so, she reminds us that women's leadership is not peripheral but central driving innovation, resilience, and justice in shaping a sustainable energy future for India and the world.





CHAPTER THREE — AMRITSAR, PUNJAB

From Concern to Change

The Women Steering Amritsar's Clean Mobility Transition

The promise of Amritsar's clean mobility transition lies in women's civic leadership turning concern for clean air into collective action, economic agency, and gender-just change.

Amritsar, Punjab's second-largest city, is home to Sri Harmandir Sahib, the Golden Temple, the holiest shrine of Sikhs, which welcomes thousands of pilgrims each day. The city's identity is shaped by faith, collective memory, and a long tradition of community service.

Yet like many growing urban centres, Amritsar faces mounting environmental pressures. Rapid urbanisation, declining green cover, industrial activity, and an expanding vehicle population have steadily affected air quality. What was once taken for granted - clean mornings and breathable neighbourhood streets - has become increasingly uncertain.

For many residents, this is not a distant policy issue but a lived experience. It shows up in recurring respiratory illnesses and prolonged winter coughs. The question of clean air becomes inseparable from the question of health, dignity, and intergenerational responsibility.



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WHEN CONCERN BECAME COLLECTIVE ACTION

Clean Air Punjab did not begin as a formal institution. It emerged from a shared recognition that deteriorating air quality in Amritsar required civic leadership and systemic change. At the forefront is a collective of women whose professional expertise converges with public purpose. Dr. Amrita Rana, a radiologist, links rising respiratory illness to environmental exposure. Gurpreet Kaur, a technologist, engages urban local bodies to strengthen data-informed governance. Nidhi Sindhwani brings on board experience in women's leadership and institutional development, while Indu Arora, the Founder of Voice of Amritsar, has long advanced civic accountability.

Together, they assert a clear position: environmental health, social justice, and democratic governance are inseparable. Through research, consultation, and sustained dialogue, they have built fluency in air quality science and policy mechanisms. Individual concern has evolved into structured civic intervention.

From this work, Clean Air Punjab took shape as a citizen-led platform committed to identifying pollution sources, strengthening public awareness, and advancing evidence-based policy reform. Its defining strength is building collaborations connecting municipal authorities, informal workers, universities, neighbourhood associations, and farming communities to align lived experience with decision-making.

Within Clean Air Punjab, women's leadership is strategic and operational. These

leaders convene stakeholders, advocate transparency, engage residents, and collaborate across institutions to accelerate clean air solutions and regulatory action. They combine professional expertise with continuous learning, reinforcing credibility and collective capacity.

What began as alarm has become sustained civic stewardship. In the process, these women are redefining citizen leadership in Amritsar advancing a gender-responsive clean mobility transition grounded in public health, equity, and women's economic agency.



Dr. Amrita Rana, radiologist and clean air advocate, Amritsar, Punjab.



Indu Arora, founder of Voice of Amritsar and a member of Clean Air Punjab, Amritsar, Punjab.

Women constitute just 0.03 percent of India's transport workforce, and only 0.01 percent are engaged as licensed mobility service providers with relatively stable earnings and public visibility.

PUTTING PINK E-AUTOS ON AMRITSAR'S ROADS

One of Clean Air Punjab's most significant recent initiatives is the activation of the Pink E-Auto scheme designed to accelerate Amritsar's clean mobility transition while placing women's economic agency at its center. The intervention was grounded in a clear institutional principle: women must have equitable access to income-generating opportunities, public space, and independent mobility in contexts where structural and patriarchal constraints continue to restrict participation.

Women constitute just 0.03 per cent of India's transport workforce, and only 0.01 per cent are engaged as licensed mobility service providers with relatively stable earnings and public visibility. Despite this pronounced gender gap, most electric vehicle (EV) policies across India remain gender-neutral. Of the 27 state EV policies currently in place, only seven reference initiatives specifically targeting women, and only Delhi and West Bengal explicitly include provisions for women drivers.

The Pink E-Auto scheme in Amritsar responds directly to this structural imbalance within India's transport and clean mobility sectors. Under the city's *Rejuvenation of Autorickshaws in Amritsar through Holistic Intervention (RAAHI)* framework, gender inclusion was embedded within the local electric three-wheeler (e3W) policy architecture. The scheme established a formal pathway for women particularly those from low-income and marginalised communities to participate in the clean mobility economy through a 90 per cent capital subsidy, structured training, and coordinated institutional support. The implementation process was deliberate and community-anchored. Clean Air



Ranjeet Kaur, a beneficiary of the Pink E-Auto scheme in Amritsar, is among the women entering the clean mobility sector through sustainable transport livelihoods.

Punjab undertook sustained neighbourhood-level outreach, engaging nearly 300 women in structured discussions around licensing, safety, financing, and long-term viability. Introducing women as electric auto drivers in public space required careful trust-building and sustained engagement well before formal rollout.

On 18th February 2024, Clean Air Punjab and Asar Social Impact Advisors convened a city-level dialogue on a gender-responsive EV transition in collaboration with partners, bringing together public representatives, municipal officials, policy experts, and civil society stakeholders. More than 250 prospective women drivers attended to understand the scheme and explore participation pathways. The dialogue clarified institutional responsibilities

and reinforced the environmental and gender rationale of the proposal.

Following the convening, the proposal awaited final approval from the Union Ministry of Housing and Urban Affairs. During this period, members of the Clean Air Punjab hub maintained consistent engagement with decision-makers to ensure the proposal remained under active consideration. Amrita, Indu, Nidhi, Gurpreet, and other hub members collectively drafted a formal representation and wrote directly to the then Union Cabinet Minister for Housing and Urban Affairs, articulating both the environmental case and the urgency of expanding women's economic access through the scheme.

Within days of this collective correspondence, the policy



Women participating in Amritsar's Pink E-Auto initiative share a moment between rides.

received approval.

Clean Air Punjab subsequently worked in close coordination with the Amritsar Municipal Corporation to support structured rollout under the RAAHI framework, ensuring alignment between policy intent and on-ground implementation.

At this critical juncture, interested participants were supported through each procedural stage. Women were organised into self-help groups under the National Urban Livelihoods Mission (NULM), assisted with documentation and interviews, and guided through regulatory clearances. Clean Air Punjab organised and facilitated certified driving instruction, road safety training, and traffic regulation orientation, ensuring participants were professionally prepared and operationally ready.

This progress was built on sustained, hands-on effort. Harwinder Singh, who works closely with Clean Air Punjab, undertook extensive door-to-door engagement, holding repeated meetings, addressing hesitation within families and communities, and supporting women through each administrative requirement. Gurpreet Kaur described the initiative as a “double win”, a 90 per cent subsidy enabling women’s livelihoods while simultaneously reducing emissions through the replacement of diesel autos.

Today, women operate Pink E-Autos as licensed drivers, generating steady and independent earnings that strengthen household financial resilience and enhance decision-making power, while continuing to balance domestic responsibilities. The

vehicles have become a visible marker of women’s presence in urban transport systems. What began as a women-centred clean mobility intervention has evolved into a broader demonstration of how climate transition can be practical, dignified, and aspirational. More women are expressing interest in joining, and drivers operating diesel and petrol vehicles have begun exploring transitions to electric mobility.

The Pink E-Auto scheme illustrates how just and clean transitions can simultaneously promote environmental sustainability and structural inclusion through the integration of gender-responsive design into municipal electric vehicle reform. Clean mobility, in this context, becomes both an economic pathway and a governance innovation, expanding access, reshaping public space, and institutionalising gender equity within urban policy frameworks.



Harwinder Singh with the Pink E-Autos in Amritsar, Punjab.





SUSTAINING A GENDER-JUST EV TRANSITION

For the women of Clean Air Punjab, the launch of the Pink E-Auto scheme marked a beginning, not a culmination. As the initial momentum stabilised, deeper implementation challenges emerged, underscoring the structural work still required to secure a gender-just EV transition.

Although multiple charging stations were installed, several remain non-functional, creating daily uncertainty for drivers planning routes around unreliable infrastructure. The absence of designated parking spaces, auto stands, or rest depots adds further strain. Women need to continue to assert space in transport corridors dominated by male drivers, including instances where Pink E-Autos are operated illegally by men. Harassment persists, compounded by the lack of basic facilities such as accessible toilets and a safety helpline.

The transition has also required substantial individual capacity-building. Many participants had never driven before and had to navigate

India's multi-tiered licensing system - from learner to permanent licences alongside insurance, registration, and other compliance processes. Each electric auto represents an asset of nearly 3 lakhs, with 90 per cent subsidised under the RAAHI scheme.

These challenges, however, have not slowed Amrita, Nidhi, Indu, and other members of Clean Air Punjab. The obstacles reinforce why their work must continue. The focus now is on strengthening infrastructure, securing sustainable financing, ensuring safety, and protecting women's rights on the road.

The Pink E-Auto journey, they insist, is far from over, each challenge, each conversation, and each determined step is still being written, one at a time.

BEYOND AMRITSAR: REPLICATING GENDER-CENTRED EV TRANSITIONS

Amritsar's Pink E-Auto journey positions the city as a pioneer, demonstrating what becomes possible when gender is intentionally centred in the electric mobility transition. While the initiative continues to evolve, it offers powerful lessons for cities across India: that energy transition can create livelihoods, that women can lead clean transport systems, and that policy is strongest when shaped alongside the people it seeks to serve.

At the heart of this transformation is women's leadership within Clean Air Punjab. Their persistence pushed the policy through moments of delay; their credibility kept government doors open; and their empathy ensured the scheme responded to women's lived realities. Subsidies made participation viable but subsidies alone were not enough. What sustained momentum was continuous engagement with administration, consistent engagement with officials, and active public participation.

The experience underscores what future efforts must prioritise. Governments cannot design EV policies in isolation. Civil society and citizens must be engaged early through consultation and co-creation. Women's safety, dignified livelihoods, and practical implementation must be treated as inseparable goals. Clear vision, strong objectives, and end-to-end support from beneficiary identification and training to financing and infrastructure are essential.

Above all, Amritsar shows that energy transitions are not just technical, they are deeply human. And it is women leading with care, courage, and consistency who are proving that lasting change is built not once, but every day.





CHAPTER FOUR – DHANBAD, JHARKHAND

Meet the Women who Stayed Behind

A call for just transition from abandoned coal mines of Dhanbad, Jharkhand.

In the heart of Baghmara block of Jharkhand's Dhanbad district lies Tetulia 2, a village suspended between what it once was and what it might become.

For Bala Devi, who arrived here as a young bride, her sense of the village is woven together from the stories of elders. They spoke of fertile soil, where agriculture was enough to feed families and sustain entire communities.

There were bustling weekly markets, close-knit neighbours, and a rhythm of life tied to the land. "Life was full. Homes thrived, and people had reasons to stay," says Bala.

Today, the contrast is stark. "There is nothing here," she says, gesturing to the emptiness that has replaced fields and market squares. No markets, no banks, no primary health centre. Most of the men have left to work elsewhere; jobs are scarce, hope even scarcer.

Her friend Mamata Devi remembers the turning point: The arrival of the coal companies. "They gave people jobs, even though the land was no longer ours but the state's," she says. Underground mines brought health risks and danger, but steady wages meant food on the table.



Balā Devi of Tetulia 2,
Dhanbad, Jharkhand.



Mamata Devi of Tetulia 2,
Dhanbad, Jharkhand.

A TIME WHEN EVERYTHING CHANGED

Dhanbad is known as Jharkhand's economic capital, built on coal mines and the industries that depend on them. Just a few kilometres from Tetulia 2 stood the coal colliery of Bharat Coking Coal Limited (BCCL), famed for producing some of the highest-grade coal in the country.

But in 2006, a methane gas leak underground killed nearly 50 miners. The tragedy shook the community to its core. In its aftermath, BCCL shut down operations, packed up its machinery, and left. Villagers say the abandoned mine still holds nearly 15 years of coal underground, an untapped resource they cannot access, and no longer wish to, given the cost it came with.

The withdrawal of BCCL was like pulling the single thread holding the fabric of village life together. Overnight, services and facilities vanished. The primary health centre shut down. Schools struggled without resources. The local market disappeared. Even the Mahuda coal washery nearby, once a symbol of industrial bustle, now lies silent and rusting. The nearest place to buy essentials is now a five to six kilometre walk away.

For women like Bala and Mamata Devi, the change was more than economic, it was existential. Years of extraction left behind hollowed-out fields and soil too degraded to farm. "The land has been left useless by the mining," Mamata says. "We can't even go back to our indigenous ways of agriculture."

With jobs gone, 75 per cent of the men migrated to cities like Mumbai, Bangalore, Surat, Kolkata, and Delhi for tailoring and construction work, leaving behind an ageing population and women carrying the dual burden of survival and care. For the women who remain, life has become a daily negotiation between scarce resources, absent services, and an uncertain future.

QUESTIONS NO ONE WANTS TO ANSWER


The women left behind are not passive observers. Ritu, who works as a kitchen hand in the local school, and Laxmi Devi, a homemaker, want answers. “Where are the government services? Where is the state?” they ask.

With BCCL gone and illegal coal mining continuing in the shadows, the question hangs heavier: who is really benefiting?

They speak of betrayal, not in abstract policy terms but as a lived reality. The market is gone. The health centre is gone. The jobs are gone. What they want is not handouts but the right to work, jobs within their community, ones they can do without leaving their homes and families behind.

As social activist Ainul Ansari explains, Tetulia 2 is “trapped in the middle”, abandoned by coal companies as well as the state. On paper, the mine is still listed as open under BCCL’s name, which means the state doesn’t feel accountable for the people living here. In reality, it is a dead mine in a dead economy and the benefits of what remains are being quietly claimed by those overseeing illegal mining operations.

From the outside, Tetulia 2 looks quiet. Inside, its women are sharpening their questions into demands and preparing to bring them to decision-makers.

A man with a beard, wearing a white shirt, a dark vest, and blue jeans, stands with his hands on his hips in front of a large, weathered brick structure. The structure has a large, irregular opening in the center, through which some greenery is visible. The scene is set outdoors, with dense foliage and trees surrounding the structure. The lighting is dramatic, with strong shadows and highlights.

“Tetulia 2 is ‘trapped in the middle’...”

Ainul Ansari, Social Activist.

A FUTURE BUILT WITHOUT WOMEN

As the coal mine lies abandoned, Ainul points to another development. The land nearby is being acquired for a solar project. There was news about the project in the media about two years ago, and while BCCL is expected to support the process, no public hearing has been held so far.

In Tetulia 2, most women have only caught fragments of talk about a solar project and the idea feels unfamiliar. For the women left behind, talk of solar plants and green energy feels distant, even irrelevant to the urgent realities they face. What they really care about is work; jobs they can take up even while carrying the unpaid care work that fills their days.

“No one is thinking about us,” Mamata says, her voice growing fierce. “Not the coal companies, not the solar companies.” The conversation about the future of energy, she adds, seems to have no room for women like her and women who have been forced by circumstance to imagine themselves as earners, but still face the constraints of deep rooted oppressive social norms.

In some households, fetching water alone takes two to three hours a day, as there are no pipelines bringing clean water to homes. In others, the lack of public transport means reaching the nearest health facility or market can take half a day.

“No one is thinking about us, not the coal companies, not the solar companies. The conversation about the future of energy seems to have no room for women like us.”

Mamata Devi, Resident of Tetulia 2





THE RESISTANCE TO WORK AND LEARN SKILLS

Still, Bala Devi says they will make time. “We don’t care about rest,” she insists. “We will find a few hours in the day to work, to bring prosperity to our families, to secure our children’s future, and to rebuild the place we call home.”

Mamata, Bala, Laxmi, and Ritu speak with both conviction and pragmatism. They are ready to work, eager to learn new skills, and determined to build livelihoods that fit the realities of their lives. But they are clear-eyed about the limits: Social norms that restrict how long they can be away from home, and the absence of safe, affordable transport to reach district-level training centres.

These barriers have not dented their confidence. They already know the kinds of work they could excel in – mushroom cultivation in their backyards, puffed rice production, small-scale packaging for local companies. All have steady demand and could be done from home. They are willing to put in the effort for sustained income but not at the cost of dignity or safety.

LESSONS FOR A JUST TRANSITION

From Tetulia 2, the lessons are clear: A just transition is not only about shifting from coal to solar, from fossil fuels to renewables. It is also about shifting from exclusion to inclusion, from decisions made in boardrooms to decisions shaped by those who live with the consequences.

Jharkhand is the only state in India to have established a Just Transition Taskforce to chart a sustainable path away from fossil fuels, with the mandate to ensure bottom-up processes that include the voices of women, indigenous communities, and other marginalised groups.

Yet in places like Dhanbad, these discussions have not trickled down. The lived experiences of women in Tetulia 2, their calls for alternative livelihood pathways that allow dignity and choice are precisely the kinds of insights that should guide the taskforce. Without them, policy risks being abstract and detached; with them, it has the chance to be rooted, relevant, and truly transformative.

Right now, the talks of “energy transition” in this area risk replicating the same patterns that coal entrenched: Extraction without accountability and development without participation. If women's voices are absent, especially those from Scheduled Castes and Scheduled Tribes living around coal mines, the transition will not be just.

The women of Tetulia 2 are not asking for charity. They are asking for infrastructure that allows them to work if they choose to: Safe transport, access to water,

decentralised skill training, and social safety nets so that men are not forced to migrate and women are not pushed into precarious labour out of desperation.

A just transition, from their perspective, must be grounded in choice, dignity, and recognition of care work as central to community resilience. If renewable energy is the future, then that future must be built with them, not around them. The women here know what they need, and they know the cost of being ignored.

Tetulia 2 is not just a story of loss; it is also a call to action. Ignore its women, and the energy transition will reproduce the injustices of the coal era. Listen to them, and there is a chance to lead a different kind of change: One that honours both the land and the people who call it home.





CHAPTER FIVE — RAJAPALAYAM, TAMIL NADU

Leading with Care in the Energy Transition

Nirmala Raja's work in Rajapalayam shows that a just energy transition is not only about technology and policy, but also about care, restoration and community-centred leadership.

In Rajapalayam, Tamil Nadu, the land holds memory in layers – of cotton and industry, of heat rising from limestone, and of a town shaped as much by enterprise as by ecology. For decades, the city has been known as a textile hub, its growth closely tied to families like Nirmala Raja's, whose legacy is woven into the region's industrial fabric.

The Ramco Group, with which her family is closely associated, is a diversified industrial conglomerate with major interests in cement, textiles, and building materials. In and around Rajapalayam, its cement plants and textile mills have long been central to the local economy, shaping patterns of employment, resource use, and urban growth.

Today, however, another story is beginning to take root here, one that asks what it might mean for a town like this to transform – not just economically, but ecologically and socially. At the centre of this shift is Nirmala Raja, Chairperson of Ramco Community Services – the group's social development arm – and a member of the governing council of the Tamil Nadu Climate Change Mission.

At the Ramco Community Services, Raja leads initiatives spanning education, health-care, and livelihoods, while increasingly shaping the group's engagement with climate action and sustainability in the region. In recent years, her work has focused on rethinking how industrial regions can respond to climate change through locally grounded, community-linked approaches. Her work moves across unlikely intersections – industry and restoration, policy and community, energy systems and emotional wellbeing. It is neither a linear journey nor one confined

to a single identity. Instead, it is guided by a quiet adaptability to move between worlds, to listen closely, and to keep learning.

That openness is what stands out most when you speak with her as she moves easily between reflections on childhood, motherhood, and moments of personal rupture as well as conversations about greenhouse gas inventories, rooftop solar, and circular systems. There is no attempt to separate the personal from the professional; rather her leadership seems to emerge from holding both honesty about uncertainty and a willingness to stay with difficult questions.

At a time when the energy transition is often framed in technical terms – megawatts, emissions, infrastructure – her work offers a different lens. It asks what happens when transition is approached not only as a shift in energy systems, but as a process of rebuilding relationships – with land, community, and ourselves. Because without that, transitions risk reproducing the very inequities they seek to address, often excluding small businesses, informal workers, and especially women, whose labour and knowledge remain under-recognised.

In Rajapalayam, this question is not abstract. It is visible in the transformation of the Pandalgudi limestone mine – once a depleted, extractive landscape, now slowly regenerating into an ecological space. This shift is particularly significant in a region where limestone extraction has historically fuelled the cement industry, linking local ecology directly to industrial production. It is reflected in emerging efforts – detailed greenhouse gas accounting, energy transition planning, and pilots around decentralised renewable



A restored limestone mine in Rajapalayam, now transformed into an ecological restoration site.

energy – to turn Rajapalayam into a low-carbon town. It is also present in the mapping of the town's emissions, where the quiet, everyday consumption of energy in homes and industries emerges as the largest contributor and where the potential for rooftop solar stretches, quite literally, across every available surface.

Listening to Nirmala, you begin to sense that Rajapalayam is being imagined as more than a site of isolated projects; it holds the possibility of becoming a model for how industrial towns might reorient towards ecological restoration while generating wellbeing for their communities. What she is helping to build is not a single programme, but an evolving, place-based transition framework connecting industry, local government, and communities in rethinking development itself.

What makes that possibility feel real is the way she leads, with attentiveness, adaptability, and a grounded empathy shaped by lived experience. In a transition as vast and uneven as this one, Nirmala's leadership offers a reminder: Change is not only about new systems, but about how we carry people and their realities through it.



A restored ecological landscape in Rajapalayam, Tamil Nadu.

Excerpts from an interview with her:

NEHA SAIGAL

You've moved across worlds – rural and urban, India and abroad – and stepped into very different roles over time. When you look back, what feels like the thread that has shaped your journey?

NIRMALA RAJA

I often feel like my life has been a movement between different worlds. My family comes from an agrarian background in West Godavari district in Andhra Pradesh, where land, seasons, and community shaped everyday life. At the same time, my father was deeply committed to education. He moved from a small hamlet to pursue studies, eventually even travelling to the United States in the 1960s. That was not very common then.

I was born in the US, but we came back to India quite early. I grew up in Bangalore, while staying connected to our extended family in Andhra Pradesh. So there was always this duality between the rural and the urban, tradition and modernity.

I think what stayed with me was a certain sensitivity to context; an understanding that people live very differently and that each of those ways of living holds value.

NS

Your life took a very different turn quite early, with marriage and motherhood coming your way even as you continued with your studies. How did those years shape the way you think about purpose and work today?

NR

I got married when I was 19, and within a very short time I found myself navigating multiple roles – student, wife, and then mother. I was still studying engineering when I had my first child.

It was an intense period. I don't think I fully understood who I was at that time. I was trying to grow into these roles while also figuring myself out. But those years also grounded me in a certain way. They made me quite aware of relationships, responsibilities, and what it means to care.

Later, when my children were growing up, I began to question education more deeply. What is it really for? What are we preparing children for? That question stayed with me and eventually led me to start a school.

NS

Your work with education seems to have been a turning point, especially in how you began engaging with ecology and systems thinking. In the 2000s, you set up a school, inspired in part by your children as they began asking deeper questions, which led you to reflect on the purpose and responsibility of education not as a space for passive belief, but for critical thinking and inquiry. What shifted for you in that journey?

NR

When I started the school, Arsha Vidya Mandir, I had a fairly conventional idea of what education should look like. But that changed when I encountered people who were working at the intersection of health and environment, particularly in Auroville.

One interaction that stayed with me was with a doctor who spoke about how deeply our health is connected to our surroundings – sanitation, soil, water, the way we grow food. It sounds simple, but it shifted something fundamental in me.

We began bringing these ideas into the school in more intentional and embodied ways. Children worked directly with soil growing food, observing ecosystems, and learning about microorganisms not as abstract concepts, but through lived experience. We approached waste through a deeply hands-on practice we called “Garbology,” where students traced materials, especially plastics, to understand how waste moves through and impacts larger ecological systems. At the same time, the school engaged with ancient Indian literature not as distant texts, but as rich sources of spiritual psychology. This allowed the community to encounter these traditions experientially, finding both the joy of language and a deeper way to reconcile inner life with the science of psychology.

In that process, I was learning as much as they were. It was never about teaching, but about discovering together. In many ways, the school became a microcosm of what is now unfolding more widely in the community in Rajapalayam.

NS

You often speak about practising what you believe. How did that extend beyond the school into your work with communities and eventually into climate action?

NR

It became difficult to keep these ideas contained within the school. If we were speaking about sustainability, we had to live it at home, in our workplaces, in our communities.

Over time, this work naturally expanded into larger engagements. In Rajapalayam, where my husband’s family is from, I began working more closely with the community initially around



Mapping Ward Level UGSS & Water Supply in
Rajapalayam Municipality





OK UPCYCLING
STUDIO
"HANDS ON
FEET IN"

Master Plan for
Itjapalayam
LPA 2041



wellbeing and mental health, and gradually extending into environmental issues. Atmaprasara is a unique and pioneering community mental health initiative, working towards a society where mental wellness is treated as a priority rather than a stigma. Implemented in partnership with Anna Chandy & Associates, the programme began in 2020 and today reaches the wider community through a team of trained volunteers who offer free counselling sessions.

The town itself was undergoing significant changes under a master plan, as Rajapalayam had been selected under the Atal Mission for Rejuvenation and Urban Transformation (AM-RUT). Roads were being dug up, infrastructure was shifting, and people were struggling to make sense of what was happening. Through their deep engagement with the community, Atmaprasara volunteers began to surface these anxieties and questions. It was through their insights and relationships on the ground that we recognised an opportunity to engage with the master plan more meaningfully, leading me to work more closely with local governance and planning processes.

Around this time, I was introduced to Tamil Nadu's additional chief secretary Supriya Sahu who heads the Department of Environment, Climate Change and Forests. For me, she was not only an entry point into understanding climate policy, but also a role model who showed how leadership within government can drive meaningful environmental action. Through those interactions, I began to see how local realities connect to larger climate frameworks.

NS

One of the significant contributions from Rajapalayam has been the greenhouse gas (GHG) inventory. Could you tell us about that process and what it revealed?

NR

The GHG inventory was an important step for us because it allowed us to move from intuition to evidence. We worked on understanding where emissions were actually coming from within the town.

What emerged very clearly was that stationary energy electricity used in homes, buildings, and industry was the largest contributor. That was a powerful insight because it shifted the focus of where action was needed.

Rajapalayam is an old town with a dense, continuous built environment. But at the same time, almost every rooftop holds potential. There is a real opportunity for decentralised solar, especially rooftop solar.

The question then becomes: How do we make that transition possible? It's not just about technology it's about awareness, trust and demonstration. People need to see it working to understand its value. That's where pilot projects and community engagement become very important.

NS

Your work in Rajapalayam from mine restoration in 2019 to enabling the GHG inventory in 2021, alongside your role as a member and powerful policy voice on the Tamil Nadu Climate Change Mission Governing Council feels deeply rooted in place and spans practice to policy. What have you learned from building something like this over time?

NR

One of the most meaningful parts of this journey has been the restoration of the Pandalgudi limestone mine, a site that had been extensively mined and left ecologically degraded.

When we first began, the land was harsh and almost lifeless with high lime content, with no topsoil and visible vegetation. The approach we took was slow and deliberate – studying the soil, reintroducing native species, improving moisture retention, and allowing natural processes to regenerate the land over time.

We started with about 60 acres, carefully observing what would survive and adapt. Over the years, this expanded to several hundred acres. Today, the landscape supports a wide diversity of native plants over 100 species and has begun to attract birds, insects, and other life back into the ecosystem.

It has evolved into what is now an eco-restoration park, a space for learning, reflection, and demonstrating what is possible when degraded land is given time and care to heal. The work has also drawn wider public attention. Tamil Nadu chief minister M.K. Stalin and finance minister Thangam Thennarasu (also in charge of environment and climate change), visited the site and commended these efforts. There is now growing recognition that Rajapalayam offers a kind of living master plan, one that can be adapted and replicated where the learning from this restoration can inform templates for rehabilitating mined landscapes across Tamil Nadu, alongside a more comprehensive study of mines in the state.

For me, this work is not just about restoring one site. It is about asking a larger question: How many such landscapes exist, especially in mining areas and how can we reimagine them to benefit communities living alongside the mines?

NS

You've stepped into spaces such as industry, policy and infrastructure planning that are often male-dominated. What has it meant to be a woman in those decision-making areas?

NR

I have often found myself in rooms where there are very few women. In the beginning, there

can be hesitation both from others and from within yourself. Your work may even be seen as a “hobby” before it is taken seriously.

But over time, what matters is consistency – showing up, doing the work, building credibility.

I strongly feel that when women are part of decision-making, the nature of decisions changes. There is often a more holistic way of thinking, an ability to hold multiple perspectives, to consider long-term impacts, to connect the social, emotional, and ecological dimensions.

Women also tend to build support systems for one another. When that happens, the impact multiplies.

NS

When you think about the scale of transformation needed today, especially in the energy transition, what gives you hope?

NR

What gives me hope is seeing how change can emerge when different pieces –community, government, industry – come together.

And increasingly, I see women playing a very important role in that. Not just as participants, but as leaders, decision-makers, and connectors.

Energy transition is not only a technical shift; it is also a social one. It requires trust, collaboration, and care. These are qualities that many women already bring into their work and lives.

If we can create more space for women in decision-making, I believe we will see deeper, more meaningful change.



Nirmala Raja with community partners driving inclusive environmental action in Rajapalayam.

ACKNOWLEDGMENTS

We extend our heartfelt gratitude to the following individuals and organisations whose invaluable support in connecting and coordinating with the remarkable women leaders featured in this publication made this work possible.

Bidyut Mohanty, SPREAD, Odisha

Sanam Sutirath Wazir, Asar, Punjab

Shekhar, Samvad, Jharkhand

Srinivas Krishnaswamy, Vasudha Foundation, Tamil Nadu

Neha Saigal is a climate and gender justice practitioner working at the intersections of care, equity, and systemic transformation in the Global Majority. She is the co-founder of Intertidal Lab and Climate & Care Collective, both of which focus on embedding care and intersectionality into climate action and resilience building. Previously, she served as Director – Gender & Climate at Asar Social Impact Advisors, where she co-built a network of practitioners, researchers, women leaders, and activists advocating for more gender-transformative climate action and just transitions. She has also worked with organizations including Greenpeace, MobLab, and Swedish Institute, and is a student of degrowth at Universitat Autònoma de Barcelona.

Shivam Harmalkar is a photographer and filmmaker from Goa, India. His work spans documentary photography, cinema, and visual arts. His practice centres on lens-based explorations of culture, memory, place, and contemporary social realities. An internationally exhibited photographer and National Award-winning filmmaker, he remains actively engaged in visual education, workshops, and long-term documentary projects across India.

The **Heinrich Böll Stiftung** (hbs) is a German political foundation affiliated with, but independent from, the German Green Party (Alliance 90/ The Greens). The foundation stands for green ideas and projects, serves as a reform policy workshop for the future, and operates as an international network. We work with over one hundred partner projects in more than 60 countries and currently maintain offices in 34 countries, including India.

For more information, please visit: in.boell.org

Powering the Future: Women at the
Heart of India's Energy Transition

NEHA SAIGAL



What does India's energy transition look like when seen through the lives of women shaping it every day?

Powering the Future travels across Odisha, Maharashtra, Punjab, Jharkhand, and Tamil Nadu to tell stories of women at the centre of change as entrepreneurs powering rural livelihoods with solar energy, innovators rethinking clean cooking, civic leaders advancing electric mobility, communities facing the uncertainties of coal, and women bringing care and equity into institutions and policy. These are not only stories of clean energy, but of dignity, work, health, resilience, and hope. At a time when India is rapidly reimagining its energy future, this publication invites readers to look beyond targets and technologies, and to recognise the women whose leadership is already lighting the way.