Feminist Just Energy Transition in Nepal

Advocacy Paper

Feminist Just Energy Transition in Nepal

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Solidarity Partners

Bighnaharta Nepal
"Empowering Communities"

स्वच्छ ऊर्जा नेपाल
CLEAN ENERGY NEPAL

DIGO BIKAS INSTITUTE

FOCUS FOR INDIGENOUS GIRLS Nepal

ARANYA

Harin Nepal

NCID
NEPAL CENTER FOR INTEGRATED DEVELOPMENT

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With love and gratitude,

Mega Maskey

About the Paper

Just Energy Transition, or JET as we call it, has been gaining all the momentum since the past decade with its introduction in the Preamble of the Paris Agreement (and rightfully so!). At the cusp of evolving technologies and development of alternative energy systems, the time is now more than ever to dive into deeper dialogue, reimagine existing oppressive structures, and co-create truly equitable, just, and context-specific energy processes. Globally, the concept emphasizes phasing out of fossil fuels without replicating existing hierarchies of power, and creating pathways for social, economic, and ecological resilience.

But what does JET look like in Nepal? Or an even more eccentric angle: what does a Feminist Just Energy Transition mean for us?

Even though Nepal sources all of its electricity from renewable hydropower, it obscures the realities of communities, whose way of life depends on the resources that these energy structures extract. The narrative of 'clean' energy masks the 'not-so-clean' realities of women, Indigenous Peoples, and local communities, who carry the heaviest burden of these transitions, while their voices and rights remain marginalized in decision-making. Nepal's unique contexts, geography, and cultural diversity demand equally unique approaches to energy transition, ones that diversify sources, decentralize governance, and center the voices of those most affected.

It is with this vision that this paper was conceptualized: to challenge dominant perspectives of energy systems and to foreground women as stewards, resistors, and innovators in Nepal's energy transition.

Objectives of the Paper

1. To document and visibilize the stories, struggles, and leadership of women living in and around energy project sites, highlighting how they resist harm, adapt, and innovate in the face of transition.
2. To provide recommendations and inputs for policymakers and practitioners to ensure that Nepal's energy transition is just, inclusive, and responsive to the needs of marginalized communities.

Methodology

The preparation of this paper combined participatory and research-based methods to ensure both technical facts and lived experiences. Secondary Research was done through review of existing literature, policy documents, and case studies to situate Nepal's energy transition within broader debates on climate justice, gender equity, and sustainable development. A Focus Group Discussion was conducted with professionals, practitioners, Indigenous activists/girls and academicians working in the energy and development sectors to capture expert perspectives on policy gaps and opportunities. Conversations with women directly affected by hydropower, and other energy projects were carried out to center their experiences, agency, and visions for justice.

The cornerstone of the process was the collaboration with CSOs from the energy, environment, and climate sectors, designated as 'Solidarity Partners' in the paper, who work directly with grassroots communities. Individual consultations were held with these organizations, and through collective agreement, they endorsed the vision of the paper and provided critical reviews and insights to co-create the Advocacy Paper. This partnership is a testament to the co-ownership of the work we have created together and the shared commitment to our advocacy efforts for a Feminist Just Energy Transition.

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Photo: Sharana Sherpa, Indigenous Media Fellowship 2025 Focus for Indigenous Girls (FIG Nepal)

Introduction: Just Energy Transition

With the escalating impacts of climate change, governments worldwide have increasingly been recognizing the need to shift towards carbon-neutral economies. In 2022, global installed capacity from fossil fuel-based power plants stood at approximately 4,570 gigawatts (GW), while renewable energy sources accounted for about 3,372 GW (IEA, 2023; IRENA, 2023). By the end of 2023, global renewable energy capacity had risen to approximately 3,900 GW, reflecting a record annual addition of 510 GW, the fastest growth rate in two decades. On the other hand, fossil fuel-based capacity remained dominant at around 4,600–4,700 GW, showing only marginal growth (IEA, 2023; World Economic Forum, 2024). This indicates that while fossil fuels still dominate the global energy mix, there has also been a rapid growth in renewables. Today, 91% of new renewable energy projects are now cheaper than fossil fuel alternatives (IRENA, 2025). The global commitment to triple renewable power capacity and doubling the annual rate of energy efficiency improvements by 2030 was a key outcome from the 1st global stocktake (GST-1) at the UNFCCC COP 28. The decision further calls upon countries to transition away from fossil fuels in a just and equitable manner.

The term energy transition refers to a fundamental shift in how societies produce, distribute, and consume energy. Historically, energy transition has metamorphosed from wood to coal during the Industrial Revolution, and then from coal to oil and natural gas in the 20th century. Now, it is the shift from fossil

A Just Energy Transition means that the shift to a low-carbon future has to be fair, inclusive, and equitable.

fuels (coal, oil, and gas) toward renewable and low-carbon energy sources such as solar, wind, hydropower, and modern bioenergy. This transition is driven by the urgent need to reduce greenhouse gas emissions, mitigate climate change, and build more sustainable, resilient, democratic and decentralised energy systems.

The world is no doubt transitioning to cleaner and newer forms of energy. But as we move away from fossil fuels, we also need to eradicate the oppressive systems that uphold them, while simultaneously addressing economic insecurity and systemic inequality. A Just Energy Transition means that the shift to a low-carbon future has to be fair, inclusive, and equitable. As the International Labour Organization defines it, it means "greening the economy in a way that is as fair and inclusive as possible to everyone concerned, creating decent work opportunities and leaving no one behind". Rooted in principles of climate and social justice, it recognizes that the burdens of climate change and energy transitions have a disproportionate impact on workers, women, Indigenous Peoples, and marginalized communities, who often face the greatest risks while contributing the least to the crisis. A just transition, therefore, seeks to create decent work, protect human rights, and guarantee that no one is left behind as economies decarbonize.

Why Should Energy Transition Be Feminist?

Energy transitions affect different groups of people differently. Energy policies, infrastructures and initiatives particularly impact women, indigenous communities and other marginalized groups. The World Bank's paper (2021) on coal transition argues that mining sector restructuring affects the welfare of women due to loss of employment, which increases the burden of domestic responsibilities on women, intra-household tensions, and possible migration

Women often bear a disproportionate burden of unpaid care work, restricting their access to paid employment and education. As a result, women find it more difficult to adjust to structural changes. This restricted access to capital hampers women's capacity to adjust to transition processes. This pattern is not new. It has its historical roots in colonialism and is currently maintained by the neo-colonial, neoliberal, and extractivist global economies (FoEI, 2021). Even though women produce the majority of the world's food supply, they own only 20% of the world's land (UN IOM, 2016). Women all across the globe are disproportionately affected by environmental and climate crises and face the weight of energy poverty, especially in rural communities.

Feminism advocates for a worldwide overhaul of systems of extraction, exploitation, and oppression (FoEI, 2021). Hence, a just and feminist energy transition is needed to dismantle these multiple, deeply connected systemic crises, placing people and the planet at the centre. This transition presents a vital opportunity to challenge gendered power dynamics, empowering women by reshaping household roles and labour divisions, thereby enhancing their access to decision-making processes. However, achieving gender equality within this framework requires an intersectional approach that acknowledges the diverse challenges faced by women in the energy sector, ensuring marginalized groups as critical stakeholders in shaping energy policies.

Energy Use and Transition in Nepal

Nepal's energy landscape remains heavily reliant on traditional resources, despite gradual progress toward diversification. In the most recent fiscal year, overall energy consumption declined by 16.81 percent compared to the previous year. However, traditional energy sources such as firewood and biomass continue to dominate, accounting for 63.87 percent of total consumption, while renewable energy contributes only 3.1 percent. Electricity access has expanded significantly, with 96.7 percent of households now connected to the national grid, the majority of which is supplied by hydropower. Encouragingly, the share of renewable energy increased by 2.39 percent compared to the previous fiscal year, reflecting a modest but positive incline, in line with the global trends. (GoN, WECS, Energy Sector Synopsis Report 2024). However, Nepal's high dependency on fossil fuel contradicts with the global commitments in the document like long term strategy (LTS) to net zero emission by 2045 and other ambitious national policies. According to the Department of Customs, Annual Foreign Trade Statistics 2022/23, diesel and petrol imports are the two top-most major imported commodities in 2022/23, with import of petroleum products being twice as much as the electricity it exports.

The Government of Nepal has demonstrated growing interest in expanding hydropower, with plans to classify it as a renewable energy source in future reporting. This ambition is reinforced by rising private sector investment in hydropower projects and the nationwide construction of transmission lines supported by international donors. Nepal's updated Nationally Determined Contribution (NDC 3.0) sets a target of expanding renewable electricity generation capacity to 14,031 MW by 2030, with at least 10 percent of this capacity derived from mini and micro-hydro power, solar, wind power and bio-energy. Additional commitments include the adoption of electric cooking stoves in 2.1 million households by 2030, the formulation of national policies on energy efficiency and renewable energy,

and the development of Municipal Energy Plans in 400 local governments by 2035. (UNFCCC NDC 3.0 Nepal).

While these commitments signal progress, they remain largely gender-blind and insensitive to the lived realities of women, Indigenous Peoples, and marginalized communities. The emphasis on large-scale hydropower risks perpetuating displacement, ecological disruption, and loss of livelihood of the local communities. Although the NDC 3.0 references Gender Equality, Disability, and Social Inclusion (GEDSI) and Just Transition, as 'Key Considerations', these commitments are vague, lacking concrete mechanisms for implementation, accountability, or monitoring. Without explicit safeguards, women risk being treated as symbolic participants. Moreover, the long timelines of Nepal's energy targets (2030–2035) even for simple and basic GEDSI measures, fail to reflect the urgency of addressing the immediate gendered impacts of energy poverty, harassment, and exclusion that women face today.

Large hydropower projects, frequently branded as "clean energy," have emerged as false solutions, that worsen ecological crises, displace communities, and deepen social injustices.

Nepal's policy framework provides a foundation for energy transition, anchored in the National Climate Change Policy (2019) and the National Environment Policy (2019). The 16th Periodic Plan further emphasizes renewable energy, outlining measures such as concessions in the energy sector, mobilization of climate finance, promotion of waste-to-energy initiatives, investment facilitation in hydropower, and the expansion of solar energy on unused land. Other key specific instruments include the National Energy Efficiency Strategy (2018) and the Renewable Energy Subsidy Policy (2016), both of which aim to reduce energy intensity, enhance energy access and security, and decrease dependency on traditional and imported energy sources.

However, without strong implementation mechanisms, clear accountability, and a sharper focus on equity and justice, there lies a risk of deepening existing inequalities.

When Energy System is Neither Feminist, Nor Just

Nepal's transition to a low-carbon economy may appear relatively harmonious, given that the country sources all of its electricity from renewable hydropower. However, the reality is far more complex. Inadequate research, disregard for local knowledge and practices, and the neglect of community voices have led to energy policies and projects that often exacerbate rather than resolve existing inequalities. Large hydropower projects, frequently branded as "clean energy," have emerged

Case Study 1

Photo: Sharana Sherpa, Indigenous Media Fellowship 2025 Focus for Indigenous Girls (FIG Nepal)

Bhotekoshi Hydropower in Rasuwa

A small village of the indigenous Tamang community that lies in Syafrubesi, Rasuwa of Nepal was once a popular trekking route to Langtang National Park. Right below their village, a hydropower project is currently under construction, at the confluence of the Bhotekoshi and Langtang Lirung rivers. Due to explosive blasts and other construction activities, landslides posed a serious threat, and the people living in 32 houses were displaced. On the other hand, villagers lost their primary source of livelihood because the once vibrant touristic place had now turned into a ghost town.

Source: The Rising Nepal, 2023

as false solutions that worsen ecological crises, displace communities, and deepen social injustices. These projects are often pursued at the expense of Indigenous identity, cultural sovereignty, and particularly the rights of women and Indigenous women and girls.

The state's energy policies are designed not to empower people but to consolidate power and profit. Energy infrastructure is being built to serve export markets, urban elites, and corporate capitalism. Polluter countries and transnational companies invest in green projects in developing countries like Nepal as carbon credits.

Such carbon offsetting mechanisms, instead give a free pass to polluters to keep emitting. For instance, while Nepal's Community Forestry Program is hailed as one of the most successful government initiatives, channeling its REDD+ credits into international carbon markets risks turning it into yet another route for polluters to buy immunity rather than reducing emissions. These claims are not meant to invalidate the enormous potential of climate financing, which could well be a key driver to tackle climate change. However, the issue arises when political elites and bureaucrats benefit from contracts, commissions, and donor funds, much of which is further misused in corruption. On the other hand, rural poor continue to face energy poverty. Dirty energy companies deflect their actual responsibilities to the planet through Corporate Social Responsibility (CSR) in the name of sustainability programs that promote the same old capital market remedies and education initiatives that instead burden the responsibility of greening on individuals and small communities. These investments do not challenge the capitalist economy or systemic oppression that are at the core of all forms of injustice.

Large infrastructure projects, including mega-hydropower plants or mega-solar plants follow neo-colonial models that extract rivers, forests, and Indigenous territories, and treat them as material resources to be harnessed for the state and global capital. The language of "just transition" is co-opted, stripped of its radical roots, and reduced to a technocratic slogan. Instead of dismantling systems of oppression, the current energy model entrenches them, offering a future that is neither sustainable nor just. Hydropower is considered the golden goose of Nepal's economic development. The government, often supported by international donors, tends to overlook the socio-cultural and environmental costs, relying on flawed Environmental Impact Assessments (EIAs) to justify projects. Citizens, too, are encouraged to support such initiatives under the banner of "development," as the concept of a just energy transition

Case Study 2

The Upper Tamakoshi Transmission Line and Bojheni

For the Indigenous Tamang community of Bojheni of Sankharapur Municipality in Nepal, the construction of the Upper Tamakoshi Transmission Line has been a story of dispossession and violence. The project, envisioned as Nepal's largest transmission line carrying 400 kV, 220 kV, and 132 kV of electricity, was first disclosed to villagers only after

Photo: Sharana Sherpa, Indigenous Media Fellowship 2025 Focus for Indigenous Girls (FIG Nepal)

surveys had already begun in 2077 B.S. Shockingly, the Detailed Project Report (DPR) and Environmental Impact Assessment (EIA) were never prepared specifically for Bojheni; instead, documents from another district were repurposed to justify land acquisition.

Tracing back to the aftermath of the 2015 earthquake, villagers' land ownership certificates (*lalpurja*)—used as collateral for reconstruction—were frozen by the Land Revenue Office without FPIC. In 2074 B.S., the Nepal Electricity Authority (NEA) issued a notice demanding 200 ropani of land from Bojheni, effectively stripping the community of its ancestral holdings. The process was riddled with historical injustices, including the denial of Indigenous land rights and the invocation of colonial-era *birta* claims.

When villagers resisted, demanding fair compensation and relocation of the transmission line away from their settlement, they were met with escalating state violence. From 2079 to 2081 B.S., repeated surveys were carried out under heavy police and Armed Police Force (APF) protection. Peaceful protests were met with arbitrary arrests, beatings, and intimidation. As the village is filled with mostly women, with most of the men migrated for work, they were the victims of police clashes. Even infants and elderly villagers were not spared during mass arrests in Magh 2081.

Source: Yula-Sa Saprala Jhang (an exhibition about Tamang women's resistance by Focusfor Indigenous Girls

remains unrecognized in public discourse.

"A 'development' that displaces 300 families cannot be called development. There were alternative options for the Hydroelectric Transmission Line construction. But it went through a bigger settlement, so it was scrapped. Another alternative involved a forest that would compromise wildlife. But are we even less important than birds and animals? What about our temples, streams, wells? We let them build deep water boring once. But now they are boring again because they need more water for construction. This will destroy our farmlands. We are famers, how will we survive? However, they cannot sustain either. The construction site is a sacred land to us protected by a deity. History has shown that any attempt to impose construction there has failed to endure. So it has been left empty for a reason- empty but holy. Therefore, the project will not be successful."

– Tamang woman, Bojheni.

While hydropower and transmission lines are promoted as symbols of national progress, their implementation often disregards the principles of justice, equity, and participation. Much of Nepal's hydropower is designed for export to neighbouring countries, which makes it clear that the state prioritizes profit and geopolitics over people. For Indigenous communities, particularly women, these projects become dispossession. It is especially the case when land is seized without Free, Prior, and Informed Consent (FPIC), environmental and social impact assessments are either absent or misapplied, and compensation mechanisms fail to reflect the cultural, spiritual, and economic value of the land. The failure to uphold Indigenous rights compounds these injustices.

Although Nepal has ratified ILO Convention 169 and endorsed the UN Declaration on the Rights of Indigenous Peoples (UNDRIP), the commitment to uphold these is a rhetorical gesture rather than a binding obligation. Article 15 of ILO 169, which guarantees Indigenous Peoples' rights to natural resources on their lands, is also found to be violated on multiple accounts. Additionally, UN CEDAW Committee, GR 39 adopted in 2022 interprets how states must eliminate multiple and intersecting forms of discrimination faced by Indigenous women, recognizing their collective rights to land, territories, natural resources, participation, culture, and self-determination. For Nepal, as a State Party to CEDAW, this Recommendation holds particular significance: it urges the government to ensure Indigenous women's meaningful participation in decision-making to uphold Free, Prior, and Informed Consent (FPIC) in development projects.

In actuality, development agencies only begin to consider alternatives, or even the suspension of projects, when larger infrastructures such as highways or dams are threatened. This shows how corporate and state actors prioritize roads and economic corridors over the survival

and sovereignty of local and Indigenous Peoples. At the same time, large-scale projects entrench Nepal in cycles of dependency on foreign loans and donor financing. This debt-driven model locks the country into perpetual repayment obligations, while the real costs are borne by communities who lose their land, livelihoods, and cultural landscapes.

"Initially, they told us only a small office was going to be built. They lied to us, and we were naïve. Now that we know what's really happening, we have been protesting constantly. We will sleep under the dozer, but won't let them take our homes away. We clashed with armed police for 13 days. It got to the point when they would crash into our house and arrest us during dinner. We were unsafe in our own house, as they were searching us for three days. We spent a night in the forest. The forest protected us, but we stood helplessly behind the bushes staring at the Tower Pad being built. We are living in fear, but we will still continue to fight."

– A Tamang woman, Bojheni.

The gendered dimensions of this transition are stark. Nepal is an agricultural country where women constitute nearly 80 percent of the agricultural workforce. Yet, land ownership remains deeply unequal. In 2016, only 5 percent of women owned land, accounting for just 20 percent of total holdings (UN IOM, 2016). The figure has increased to 39% in 2023/24 according to The Department of Land Management reports, because of the government policy of tax and revenue exemption for land registration under the name of women. Yet, at closer inspection, most of these holdings are concentrated in urban areas, and with no measurement of who actually holds the decision-making power in the land. In rural contexts, where hydropower projects are concentrated, women continue to face dispossession with little compensation and poorly designed relocation plans.

As men in villages migrate for work, women are the ones left behind who face the compounded burdens of survival.

As men in villages migrate for work, women are the ones left behind who face the compounded burdens of survival. They must shoulder agricultural labour, household responsibilities, and community care, all while navigating the disruptions caused by large-scale energy projects. When farmland is seized or degraded, it is women who struggle to secure food, water, and fuel for their families. When relocation schemes are poorly designed, it is women who must rebuild homes, re-establish social networks, and care for children and the elderly under increasingly precarious conditions. Women are expected to absorb the shocks of displacement and ecological destruction, yet they are systematically excluded from decision-making spaces where the future of their land, rivers, and livelihoods is determined. Their knowledge of

agriculture, water management, and community resilience is dismissed as "informal," while technocratic and male and upper caste dominated institutions dictate policies that directly undermine their survival. Women's care work, labour, and knowledge are structurally invisibilized from energy systems and policy planning- a structure entrenched in patriarchy.

"Sunkoshi river is where our Majhi community is believed to be originated from. We cannot leave this land. When this project (Sunkoshi 2 Hydroelectric Plant) was first proposed 40 years ago, it was without our knowledge. It was our 40 years of resistance that drove the project developers away, but we live in constant fear of getting displaced any day. We are Majhi people of the Sunkoshi, our existence has no meaning without the river."

– A Majhi woman from Ramechhap.

For indigenous communities, land and river are intrinsically connected to their lives and identities. Displacement would mean not only the loss of homes and livelihoods but also the erosion of language, rituals, and Indigenous knowledge systems. Women, as stewards of such practices, feel their relationship to natural elements as a living landscape, embedded in spiritual as well as material connections. Their daily work of gathering water, cultivating fields, fulfilling rituals, and ceremonies anchors the community's relationship to nature. Any deviation from traditional and indigenous practices entices disruption of this bond, that becomes a threat to their cultural identity and collective resilience.

Construction sites enable an environment where harassment, sexual and gender-based violence amplifies.

On the other hand, construction sites enable an environment where harassment, sexual and gender-based violence amplifies. Women's mobility is restricted, their safety is compromised, and their mental health deteriorates under constant fear and surveillance. Such psychological dimensions and women's bodily autonomy are rarely addressed in policy discourse. Any vision of just energy transition must therefore be realized such that women's well-being is prioritized, agency to live a free, safe and dignified life is recognized, and to openly pursue productive activities as well as participate in therapeutic community life is actualized.

"The construction has restricted our mobility. Surrounded by so many male workers all the time, we no longer feel safe and are afraid to walk alone. This constant fear has also taken a toll on our mental health. My mother, who earlier needed only one pill every five days, now has to take daily medication for depression." – Tamang women, Bojheni

Credit to Digo Bikas Institute. Location Dhapsung

Women as Stewards of Just Energy Transition: Key Examples

Across Nepal, women stand at the frontlines of energy transitions, not only as those most affected by extractive and carbon-intensive projects, but also as innovators, organizers, and defenders of community rights. Their daily labor, knowledge of land and water, and leadership in households and cooperatives position them as central actors in shaping pathways toward sustainability. Yet, too often, their contributions are invisibilized while patriarchal and corporate-driven models dominate the narrative of "development." To speak of a just energy transition, therefore, is to recognize women not as passive beneficiaries but as stewards- resisting dispossession, creating alternatives, and reimagining energy systems rooted in equity, care, and collective resilience. The following case studies illustrate how women across Nepal are already leading this transformation.

INITATIVE	DESCRIPTION
Majhi Women's Resistance to mega-Hydropower	For over four decades, Majhi Indigenous women of Ramechhap have resisted displacement from the planned Sunkoshi-II (1,110 MW) and Sunkoshi-III (536 MW) hydropower projects. Through a Feminist Participatory Action Research (FPAR) process led by National Indigenous Women Forum (NIWF), and Asia Pacific Forum on Women, Law and Development (APWLD), they mapped resources, documented gendered impacts, and produced a digital story to amplify their voices. Their persistent advocacy reached international financiers, forcing ADB and JICA to withdraw from the Sunkoshi-II project. This landmark victory shows how organized Indigenous women can hold powerful institutions accountable and defend land, culture, and sovereignty.
Net Metering in community-owned solar microgrid	Dhapsung Village, in Helambu wrad 6 initially relied on a 2kW petric set for energy access and mill locally grown cereles. The 2015 earthquake destroyed the sytem, was later substituted with 200 W nano micro grid for the energy supply in 2015. The community devastated by Earthquake started the rebuilding drive which needed reliable electricity which can operated A/C motors for the carpentry. Then, Digo

	Bikas Institute (DBI) along with it's partners and community installed a 16 kW community-owned solar microgrid. The system was later managed by the Dhapsung Women's Group from tariff setting to operations and maintenance. The solar micro grid generated surplus energy which could be connected to the National grid and can be piloted as an community led solution in energy democracy and addressing climate crisis. Therefore, DBI along with women's group has been coordinating with Melamchi DSC and NEA for the net metering set up and policy for the options of it. However, the policies gap and vagueness lies with in the authorities for set up. The Dhapsung intervention might be breakthrough on Nepal's aim for rural energy electrification with community at center and Nepal's effort on addressing Climate Crisis.
Socio-Economic Impact Of Biogas Plant	In Shukranagar VDC of Chitwan, rural households turned to biogas technology as an alternative to firewood, reshaping both daily life and community well-being. With support from loans and local initiatives, families installed household-level biogas plants that converted livestock dung into clean cooking fuel and organic fertilizer. The impacts were transformative, particularly to women. Women who were once burdened by fuel collection and smoke exposure, now save 2.5 hours daily, redirecting time to farming, income generation, and leadership. Families save Rs. 600 per month, health outcomes have improved, and agricultural yields rose with slurry fertilizer. Over 63% of women identified themselves as the main beneficiaries, proving that household-level renewables can shift gender dynamics and strengthen community resilience.
Solar Mamas Lighting Their World	From remote villages of Nepal, a group of women known as "Solar Mamas" have become pioneers of community-led energy transformation. Six women from marginalized backgrounds were nominated by the community to undertake six months of intensive training in India through Barefoot College International and Women Light the World. The training incorporated technical skills about solar systems, as well as women's rights, digital literacy, and entreprenuership. Upon return, the Solar Mamas spearheaded the solar electrification of 265 rural households, replacing 250 kerosene lanterns, saving families $104 annually, and cutting 250 tonnes of CO_2 emissions. The impacts transcended beyond environmental and economic benefits to social transformation with children studying longer, girls staying in school, and women emerging as confident agents of change.
Renewable Energy for Rural Livelihood (RERL)	Since 2011, the RERL project- a joint initiative of the Government of Nepal and UNDP has scaled up renewable energy access across rural Nepal. With support from the World Bank, ADB, GEF, and bilateral donors, Alternative Energy Promotion Centre (AEPC) have helped communities develop over 450 micro-hydro projects, solar mini-grids, and hybrid systems, reaching more than 100,000 households under RERL. With a focused gender equality and social inclusion (GESI) integration, women now hold one-third of leadership roles in energy institutions, and 40–60% of new enterprises are women-led, creating hundreds of green jobs. Savings and credit groups, out of which 93% are women, have mobilized over NPR 26 million into livelihoods and small businesses. Training in cooperative management, financial literacy, and enterprise development has further strengthened women's capacity to lead. RERL demonstrates how multilateral partnerships can drive a just energy transition when women's agency is prioritized.

Recommendations

Small-scale, locally-owned, locally appropriate

To achieve a rapid and just phase-out from fossil fuels, the energy infrastructures that replace fossil fuels should be small-scale and locally owned (Asia Feminist Coalition, 2023). It should incorporate the principles of democracy, i.e. energy system should be owned and run by the local community, and must benefit the community members. The technology must be friendly and appropriate according to local customs.

Diversification of the Energy Portfolio

Prioritize energy diversification by complementing existing hydroelectricity and centralized grids, and investing in a balanced mix of renewables such as solar, wind, biogas, and micro-hydro. Nepal should leverage its topographical, geographical and cultural diversity to adopt the most suitable energy resource appropriate to its unique context instead of heavily relying on hydroelectricity. Decentralizing energy sources would strengthen energy security, ensure equitable access, and build resilience of marginalized communities.

Gender transformative energy policy

Energy policies should incorporate concerns, demands and needs of women during planning, consultation, review and implementation phases. Policies should be formulated not by mere tokenism, but rather by meaningful and extensive participation of women and gender and sexual minorities. Gender disaggregated data should be collected and gender analysis should be conducted so that such policies are evidence-based and scientifically driven.

Women's participation in economic system

Equity and justice should be promoted within the economic system through retraining programmes, pension schemes and other forms of compensation for affected workers and former farmers. Vocational training and education can be offered to women for their integration into the renewable energy sector, green jobs and other market changes brought by the energy transition. Financial incentives can also be created for companies that prioritize hiring women in renewable energy projects. Furthermore, we should prioritize and invest in sectors where women make up the majority of the workforce, as well as support women-owned local solutions. Moreover, women's economic empowerment should be integrated in the circular economy industry, building regenerative local economies.

A rights-based approach

The rights of the community, particularly local groups and Indigenous People, should always be ensured. It includes rights to information, right to land, right to housing and property, and right to free, prior, and informed consent. Development

projects, including renewable energy projects, are notorious for land-grabbing practices and often come at the price of the rights of the community. Energy transition must be such that the rights of the vulnerable communities are not only protected, but they are also empowered to fight for their justice and demand proper compensation.

Community Engagement

Create forums where women from diverse backgrounds can share their experiences and influence policy decisions. Grassroots Movements, community-based organizations, and community projects should be supported with proper funding and resources to bolster advocacy for gender justice within the energy transition.

Gender Responsive Budgeting

Acknowledging that women are more affected by energy poverty, gender responsive budgeting addresses how public resources like energy supply can be distributed and accessed fairly and priced reasonably. By using methods like gender auditing and feminist economic modelling, gender inequalities like pay gaps, care work, and the informal economy are also taken into account to foster a sense of justice, strengthen government accountability, and support better alignment of national budgets with renewable energy development works (Ahmed, 2021).

Capacitating the Local Government

Strengthen the capacity of local governments through targeted training, resources, and technical support to translate energy policies into context relevant implementation at local levels and municipalities. Stern and transparent monitoring and evaluation mechanisms should be co-designed with civil society and affected communities to ensure accountability, curb corruption, and track progress toward equity and sustainability goals.

Structural and Transformative Reform

Solutions are not solely produced via market forces or traditional forms of science or technology, but emerge from modified governance structures, democratic participation and decision making. It implies an overhaul of the existing economic and political system that is seen as responsible for environmental and social crises (Healy et. al., 2017). This means moving away from capitalistic and extractive structures and creating systems that are pro-people, decentralized, inclusive, diversified and feminist.

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