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Environmental Protection Policies and Human Rights in Pakistan: Theory and Practice

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Abstract

Environmental protection policies devised to reduce the negative impacts of climate change often create hurdles for human rights protection. These policies clash with the basic rights of vulnerable communities living in resource-dependent regions like marginalized or indigenous communities, who are unable to sustain their livelihood because of these restrictions. Besides that, their right to land, property, or culture is often compromised because of these factors. This research aims to explore these tensions in Pakistan by analyzing cases of green policy exploitation and the socio-economic impacts of climate actions. The study will focus on the exploitation of the environment for profit generation by multi-national corporations, ignoring of environmental regulation standards, and its impacts on local communities. The study will focus on the emerging concepts of environmental justice and sustainable development to understand the future prospects of climate governance. The study will provide solutions to integrate human rights protection within the domain of environmental standards and vice versa.

Keywords: Environmental Protection Policies, Marginalized Communities, Human Rights, Indigenous Communities, Climate Governance.



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Introduction

Climate Change has caused some serious threats and reactionary consequences to unsustainable humanitarian development. The rapid environmental degradation comprising deforestation, ecosystem destruction, pollution, and biodiversity loss has caused serious repercussions to multiple humanitarian prospects and made us all feel the need to look for alternatives oriented to nature's demand. The introduction of environmental policies in all developmental sectors is one way to solve it. However, one key challenge is the clash between these policies with the human rights demands of the marginalized or vulnerable communities whose livelihood depends directly on the environmental or natural resources.

Further complicating this are the ethical dilemmas in conservation efforts. For example: Land Grabbing for ecosystem conservation, creating national parks by forced displacement of Indigenous communities, displacements due to green projects like building dams, large-scale wind or solar energy projects, and no corporate accountability of multi-national corporations working in resource-rich regions. The rights of land, culture, or economic support are compromised by these restrictive policies that are targeted to reduce carbon emissions and conservation of resources. This negative overlap between environmental protection and human rights protection demands sustainable developments in resource-dependent regions to sustain local livelihood.

This report focuses on case studies in different provinces of Pakistan and bring to understand the difficulties faced by local communities and by government in balancing environmental & human rights policies. By examining existing work such as the ongoing major energy projects, projects under China-Pakistan economic corridor and international trade agreements, the research seeks to identify gaps and propose integrative policies. Such policies would prioritize equitable resource distribution, uphold community participation, and safeguard the rights of marginalized populations. An integrated approach to environmental governance that respects human rights is crucial to achieving sustainable outcomes that protect both people and the planet.

The execution of environmental policies like restrictions on deforestation, conserving nature through establishing national parks, and regulating industrial gas emissions are aimed at curbing environmental degradation. But along with these measures come problems like economic displacement, loss of traditional well-reserved lands, and restricted access to crucial resources. In a lot of cases, states and business corporations do not care about local communities and use environmental policies as a guide to prioritize their economic gains. The problem is exacerbated when local communities are not included in the decision-making of environmental policies leading to social resistance and legal disputes. This study shows these tensions between environmental sustainability and human rights with a particular focus on Pakistan's environmental policies and the socio-economic ratification.

In Pakistan, the China-Pakistan Economic Corridor (CPEC) energy projects are a key example of this phenomenon. These projects will definitely improve energy security and economic growth on one hand, but they frequently overlook the social and cultural aspects of the local populations where the projects are based. For example, Thar Coal project has raised some controversy due to its detrimental effects on the indigenous communities of Thar region. The influx of non-local population of external laborers affecting the culture, and health risks associated with coal-based energy production calls for the need for a balanced approach that underscores these aspects in project execution as well.

Another complex issue in this regard is the emergence of “anti-green authoritarianism” a government strategy aimed to suppress and abuse human rights, restrict freedom, limit public

participation, and justify human rights violations through the disguise of climate policies. Governments might use environmental protection policies to create barriers to the civil liberties of local communities. Thus, environmental justice might sometimes cause democratic backsliding.

This research report aims to explore the conflict between environmental protection and human rights, focusing on the need for frameworks that incorporate human rights protections within environmental policies. The research helps to identify unsustainable developments and will provide suggestions on their mitigation plans. By understanding the existing harmful impacts on both the environment and human rights, the experts will be able to devise better plans to counter these damages, making pro-environment and pro-rights policies.

Literature Review

In the article “Pakistan’s Path to Climate Action Needs Strong Political Leadership” published by A. W. Bhutto (2024), the author explores the case studies in Pakistan under the CPEC project in which the energy projects threaten the local culture, customs, and traditions and above all the people’s living conditions. Projects based on the intention of benefitting locals will, in reality, harm them. The author exemplifies the Thar Coal Energy project that will cause an influx of external community of workers which will dilute the indigenous community of Thar. Moreover, coal will worsen the environmental standards through high greenhouse gas emissions and pose health risks to the locals already deprived of necessities. An inclusive approach by engaging Indigenous knowledge and giving local politicians power over these decisions is necessary to preserve their rights. (Bhutto & Waheed, 2024)

The article “Threats of Global Climate Change: A Review of the Driver to Multiples Environmental Degradation, Human Right Injustice, and Unsustainable Development” by A. M. Nkongho and C. N. George, talks about the need for climate change justice to make the environment resilient for this continuous environmental degradation. Due to climate change, the right to free enjoyment of culture is at risk. Climate change requires cultures to adapt to the changing dynamics rather than just respecting long-standing traditions. The author recommends reinforcing human rights based on climate change policies, and legal frameworks that will balance rights protection with environmental goals also known as the “rights-based approach” in governance. This will guarantee sustainable outcomes that can be integrated with future prospects. (Nkongho & George, 2019)

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The book “*Human Rights and Environmental Sustainability*” by K. Woods (2010) dives into the complexities between balancing human rights and environmental protection, often revealing tensions where environmental policies may harm and impeach human rights or vice versa. The book challenges the assumed harmony between human rights norms and the demands of environmental sustainability. Given the significant environmental challenges we face, and the

dominance of human rights as a normative framework, these concerns demand our attention. It presents case studies illustrating conflicts between Indigenous rights, land use, and conservation policies, often showing how vulnerable communities bear the consequences of strict environmental guidelines. The author also discusses frameworks and legal precedents that attempt to balance both areas, emphasizing the importance of collaborative, rights-sensitive approaches to environmental governance. (Woods, 2010)

Research Questions

- Q1.** How does the quest for human rights lead to unsustainable developments harming the environment?
- Q2.** How do vulnerable communities bear the brunt of strict environmental policies?
- Q3.** What ways are needed to have a sustainable human rights development in terms of environmental protection

Research Methodology

The research employs a qualitative approach primarily by first analyzing whether the major energy projects in Pakistan are based on renewable or non-renewable resources. Then I will pick energy projects from each province and study their impact on local environment so far. I will draw conclusions and predict future consequences based on the real-time evidence.

I have analyzed the data from vulnerable communities in each province of Pakistan. By studying climate-action frameworks, case studies and the state policies of, I found the gap and needs for improvement for each province. Also keeping in focus, the political, social, and economic dynamics that shape these policies and give rise to these conflicts and tensions.

- 1)** How does the quest for human rights lead to unsustainable developments harming the environment?
- 2)** How do vulnerable communities bear the brunt of strict environmental policies?
- 3)** What ways are needed to have a sustainable human rights development in terms of environmental protection

Data Collection

The study relies on secondary data from scholarly articles, policy documents, and reports by international organizations such as the United Nations. Case studies are used to examine real-world applications and their socio-economic impacts. Data is sourced from databases, journals, and governmental publications to ensure comprehensive topic coverage. Additionally, thematic reviews of literature on environmental governance, green politics, and human rights provide context and theoretical grounding.

Data Analysis

The collected data is analyzed through thematic and comparative analysis. Themes such as the socio-economic impact of environmental policies, authoritarianism in environmental governance, and trade-off dynamics between human rights and conservation efforts are identified and examined. Comparative analysis is conducted between case studies to highlight commonalities, differences, and lessons learned. This approach helps to uncover patterns, evaluate policy effectiveness, and propose actionable solutions that integrate human rights into environmental governance.

Major Energy Projects

Is Pakistan on its way towards environmentally sustainable development? To answer this question, we have to look at the major economic projects currently ongoing and the energy resources they are running on. Even an apparent analysis can tell that the country heavily relies on non-renewable resources including coal, oil, and natural gas with a minimal focus on sustainable development goals. The China-Pakistan Economic Corridor has led to rapid industrialization in the past decade but even those recent projects are environmentally unsustainable.

According to the National Electric Power Regulatory Authority’s (NEPRA) 2022 yearly report, 59% of Pakistan’s total installed power generation comes from thermal (fossil fuels), 25% from hydro, 7% from renewable (wind, solar and biomass), and 9% from nuclear. That means the biggest chunk is based on non-renewable resources that are unsustainable and harmful (International Trade Administration, 2024) As per the International Energy Agency (IEA) report of 2022, the total energy supply of Pakistan is 14.3% coal, 25.5% oil, 24.2% natural gas, 26.8% biofuels and waste making a total of 90.8% of non-renewable energy resources. (International Energy Agency, 2022) To visually represent the disparities between Pakistan's major energy projects and their implications on environmental sustainability and human rights, I have created the following visual aid:

Energy Source Overview

Energy Source	Percentage of Total Energy Supply (2022)
Oil	25.5%
Natural Gas	24.2%
Coal	14.3%
Biofuels and Waste	26.8%
Renewables (Wind, Solar)	7%
Nuclear	9%

Source: International Energy Agency, 2022

One of Pakistan's major energy projects, Guddu Combined Cycle Power Plant, a 1,762 MW thermal power plant in Sindh, was commissioned in 1985. It runs on thermal energy since its start just like other major power plants, such as the Port Qasim Coal power plant, Sahiwal coal power plant, Kot Addu power plant, and Hub coal-fired power plant, which use thermal energy from fossil fuels, primarily coal, to operate. All other major energy projects come under the China-Pakistan Economic Corridor to boost Pakistan’s economic capability. Most of these projects are also coal-based. (Ministry of Planning, Development and Special Initiatives, 2025)

- 1320MW Sahiwal Coal-fired Power Plant
- 1320MW China Hub Coal Power Project, Hub Balochistan
- 1320MW Coal-fired Power Plant at Port Qasim Karachi
- 660MW Engro Thar Coal Power Project
- 1320MW SSRL Thar Coal Block-I 7.8 mtpa & Power Plant

These are the completed ongoing projects under CPEC, producing the highest amount of energy and all of them are coal-based meaning complete disregard for environmental preservation. Around US \$33 billion is reserved for 19 energy projects associated with CPEC and most of these projects are coal power plants. These coal power plants will have negative health consequences and Pakistan is not seeking to ask China for alternatives to these plants. A few percent are based on renewable resources introduced just recently. Quaid-e-Azam Solar Park in Bahawalpur, China Dawood wind farm, UEP wind farm, and Sachal wind farm, all in Thattha are environmentally sustainable but even if they are renewable based, they do not involve local communities, consult their needs and demands but rather run on the motive of profit generation only. Also, these wind farms have very small production as compared to coal projects, having a maximum production capacity of fifty to hundred megawatts.

As the CEPC route becomes fully operational, almost 7000 vehicles will travel daily on this route and emit 36 million tons of additional carbon dioxide gas into the air making it more polluted. In addition to this, Pakistan also carries old-age Heavy-Duty Trucks (HDTs) having no formal vehicular emission standards. This is also a dangerous associated social risk. (Faisal & Askari, 2024) Besides the vehicular emission, when the fossils required on-site are shifted through railroads, the rail cabins are very old and damaged not fully sealed to keep the coal and other fossils not releasing any gases while shifting. This might cause another health risk for the locals living near those railway tracks through air pollution in the area. On top of that, the transport sector itself is one of the highest consumers of fossil fuel and emitters of carbon dioxide.

Indigenous Communities & Energy Resources

Most energy projects in Pakistan are technology-centric focused on just technical aspects of development and no concern is made for the socio-cultural aspects. The social dynamics of the place the projects are based on, the living conditions of people living there, and the unique needs of people living there are not analyzed. This not only reduced the effectiveness of the project but also led to poor maintenance and eventual failure. Dr. Rihab Khalid underscored her experience in the Helario village, Tharparkar district. She combined a mixed approach to understand the needs and challenges of villagers for data collection before starting the solar energy project. This made sure the project is not just technically viable but also aligned with the local customs and culturally sustainable. (Khalid, 2023)

The article “Greener Energy Issues and the Challenges for Pakistan’s Wind Power” gives us a field report that says the introduction of wind energy in Pakistan has not involved the local indigenous rural communities. The renewable energy produced by wind has not reached the rural areas of Pakistan to support their basic livelihood, local industries, or agricultural production capacity. There is a need to incorporate renewable energy in supporting the livelihood of rural areas where wind is a good source of energy and can support a community of a union council. (Bhutto, Bazmi, & Zahedi, 2012)

In the case of the Thar Coal project, the EIA report has been prepared and the Sindh Environmental Protection Agency has also accorded its approval. However, the local population contacted for the preparation of the UNCHR report, complained that they were never consulted during, before, or after the finalization of the EIA. The Environment and Social Impact (ESIA) Report covers the concerns of the communities affected by this project. According to the report, the villagers were against the displacement from the area due to cultural norms. The proposed relocated area was also not suitable for the agrarian-based livelihood of local communities. Also, relocation in

urbanized or developed cities will deprive them of any job opportunities because of lack of skills. (Qureshi & Shaikat, 2019)

Are We Really Moving Toward Sustainable Development?

To answer this, it's essential not only to look at numbers and installed capacities but also to reflect on *how* energy is produced, *who* it affects, and *what* gets left behind in the process. Observing the current pattern of Pakistan's energy expansion, we can see that infrastructure growth is at the heart of the process, without giving much attention to the people or places around them. While there is no harm in celebrating economic progress or megawatt milestones by policy-makers but the hidden costs often borne by the local community should not go unnoticed. For example, we have to acknowledge that the coal-fired plants under CPEC may generate much-needed electricity but also emit toxic chemicals that settle into the lungs of nearby villagers. These are not distant, abstract harms, they are lived realities. Families living near the Thar coal projects, for instance, have reported displacement, respiratory diseases, loss of ancestral lands, and a sharp drop in agricultural productivity due to dust and contamination. Yet, their voices are rarely included in the planning processes

There are two domains to the problem: first is Pakistan is heavily relying on coal and the development done from it is perceived to be done at high pace, detached from human realities in a centralized way. On paper, the renewable projects in Thattha and Bahawalpur are eco-friendly but in reality, they fall short of being people-inclusive. Consulting locals is not even a thought while devising these projects. Governments use indigenous land, alter them for their purposes but are there any benefit-sharing mechanisms involved? Ofcourse not! And when later the locals realize it, it further deepens resentment and mistrust between the government and the people.

Coming to the second point, the transport and logistics of these projects are even worse. Outdated coal trains having leakages and trucks spewing smoke continuously add another layer of public health harm. It's not just a low efficiency issue but a human rights concern. Coal is moved across provinces on these rails that leak dust into the air. There are no government initiatives to modernize this infrastructure, which puts entire communities living along railway tracks at risk. Careful planning, ecological sensitivity, and long-term maintenance strategies are key to make a project sustainable; otherwise these projects become nothing more than token gestures.

Higher number of solar panels or more trees planted never mean a more sustainable future. We have to have a balance between ecological protection, economic growth, and well-being of humans. The reliance on fossil fuels for up to 90% of total energy mix of Pakistani industries, suggests that the short-term industrial gains are prioritized over the long-term environmental health and human security. Even the major symbols of progress like the projects under China-Pakistan Economic Corridor (CPEC), are disproportionately coal based and brought no significant environmental improvement and communal prosperity, specifically in the resource-dependent indigenous area

Case study of Khunjerab National Park

There are certain factors due to which the establishment of the Khunjerab National Park (KNP) in 1975 displaced Indigenous Wakhi communities and disrupted their traditional way of life. No-grazing zones are the designated areas by park's creation and these areas are directly affecting Wakhi pastoral practices. Core habitats critical for species like the Marco Polo sheep are in these zones but overlapped with traditional rangelands used by the Wakhi for centuries. Enforcement of

grazing bans intensified over time despite initial allowances for grazing, and it is causing economic distress for herders reliant on these lands. (Knudsen, 1999)

The Wakhi community was not counselled or their needs discussed in the decision-making process. Their decades old cultural practices and historic traditions were completely ignored because of these forced rules. This resulted in increased suspicion and mistrust within the community and they perceived it as a violation of their rights. They were limited for their hunting practices and customary grazing. Their customary herding system based on migration involved animal movements each season over the vast mountainous territory they lived on. It was imbalanced and no alternative was provided to compensate for that. This system not only essential had essential economic value but also cultural significance. Their food security became uncertain all of a sudden because of the hunting restrictions on ibex and blue sheep which was a key winter nutrition for them.

When the Khunjerab Security Force forcibly removed Wakhi herders from grazing sites, protests broke out and tensions increased. This could have been avoided by proper consultation. Both parties agreed on the compensation by promising jobs and other lands, but it was either insufficiently compensated or were never fulfilled. The impacted households were financially burdened even more. This is one of the prime examples of the cons of top-down conservation efforts, where participatory approaches of whole indigenous populations to environmental management are often negated. Khunjerab National Park, created in 1975 serves as a learning example of how conservation efforts in future need the inclusion of local communities in planning process or they can go extremely wrong for the public benefit. The centuries old generations who are deeply tied to their surrounding natural components, made their homes and herded their animals ought to have some value in the government's eyes. Its unethical to disturb their pastoral lifestyle and access to rangelands without some sort of win-win agreement. Ofcourse, endangered species and wildlife ecosystem has to be conserved one way or the other like Marco Polo sheep hunting ban or ban on core park zones, but we have to understand the significance of long-standing herding routes and solutions for that. The families who are already poor enough now bear the brunt of these policies.

Case Study of Ten Billion Tsunami Programme

In 2019, Pakistani government launched the Ten Billion Tree Tsunami Programme in order to work for climate betterment through a large amount of forestation all around Pakistan specifically in the north. Initially, the effort was praised quite internationally but later on it was realized that the project is not as good as it seems. There are quite negative consequences on the local key stakeholders. Critics proposed that the project is implemented without a good planning like choosing unsuitable water scarce areas to plant, no future management of how the saplings will be taken care of. (Khan S. , 2021)

There will be a need of a lot of water to plant all those trees especially in the dry regions. Either, the water should be used sustainably and stored otherwise the already scarce region will be further depleted with water underground leaving nothing for the local communities. Financial assistance to maintain the newly seeded saplings field will be needed until they grow to be self-sufficient plants. Additional funds for workers providing water will be incurred annually in those deserted areas. The financial implications of maintaining such a vast number of saplings are significant. Most heads managing the project are from political backgrounds and no forestry or agrarian expertise. Their ignorant decisions will not be the best as compared to someone from the required background. Furthermore, the social interests of the local people will be compromised by the

political interests of the heads. This approach can result in the marginalization of local communities, whose traditional knowledge and involvement are crucial for sustainable environmental practices.

Planting trees on a large scale may necessitate a large amount of land, which could force local residents to relocate or change the land used for grazing and agriculture, which would have an impact on local livelihoods. In order to reach goals as soon as possible, the project may prefer non-native, fast-growing plants, which could result in monoculture plantations. Such actions can negatively impact local wildlife and plant species by reducing biodiversity and upsetting local ecosystems. While the Ten Billion Tree Tsunami Programme aims to address environmental challenges, it is essential to consider and mitigate these potential negative impacts to ensure that the initiative benefits both the environment and local stakeholders effectively.

Case Study of Karachi Coastline Mangroves

The Karachi mangroves are being destructed due to land reclamations, illegal and allotments, commercial purposes etc The conservation policies to protect mangroves along Karachi's coastline have faced a lot of challenges, leading to several negative impacts on local stakeholders: Mangroves are the source of a fertile breeding place for most of the marine lives especially all kinds of fish. Their destruction due to inadequate enforcement of conservation laws has led to a decrease in the fish populations, directly affecting the livelihoods of local fisherfolk who depend on these resources. If considering them in the climate arena, mangroves act as natural barriers against cyclones, storm surges, and coastal erosion. The reduction in mangrove cover will make the coastal areas more vulnerable to all these natural disasters, posing risks to lives and property. (Khan, 2024)

A lot of mangroves have been cleared for urban development which has led to habitat loss for numerous species, disrupted local ecosystems and reduced biodiversity. The absence of mangroves, which act as natural filters, has resulted in increased pollution levels in coastal waters, affecting both marine life and human health. Development projects encroaching on mangrove areas have led to the displacement of indigenous communities, disrupting their traditional way of life and social structures. Despite existing conservation policies, inadequate enforcement has allowed illegal logging, land grabbing, and unplanned urban development to persist, undermining conservation efforts and leading to further environmental degradation. With the loss of natural coastal defenses, there is a higher likelihood of damage to infrastructure from coastal flooding and erosion, leading to increased economic burdens on local governments and communities (Dada, 2021)

Challenges Faced by Local Communities

- The financial mismanagement and corruption undermine the proper execution of project undermining its overall development. Other problems include influx on alien species and communities. In KPK, the plantation of non-native species under afforestation drives has disrupted local biodiversity, affecting ecosystems and local flora and fauna.
- In Gilgit-Baltistan, large-scale hydropower projects to produce clean energy by dams have changed river flows, local ecosystems, and potential displacement of communities. One point to be noted is that the traditional ecological knowledge has sustained these regions for hundreds of years. These practices are now undermined by modern conservation policies.
- Thee unequal opportunities like high incomes of tourism-dependent people and low income for others, often leads to conflict within the communities. Strict enforcement of environmental

policies, such as anti-logging measures in KPK leads to criminal activities because it violates basic rights of the poor. Displaced communities often receive insufficient or delayed compensation, increasing their vulnerability. The communities are also left on their own for glacial Lake outbursts, natural disasters, river overflows etc.

Policy Gaps in Pakistan's Renewable Energy Transition

After studying all the cases of renewable energy projects, a critical gap was identified in these projects is the consistent absence of local communities in the decision-making and planning of these projects. Especially, the projects located in the remote areas of Thar and Thattha are implemented solely on a profitable scale without considering the needs of the resource-dependent communities living there. When projects fail to address local communities, it results in the complications of matter related to land and water access. Meaning public participation also helps in social acceptance and long-term viability.

Wealthier consumers generate more profit because of high taxation on high energy usage. As wealthier consumers shift to solar and reduce their reliance on the grid, electricity distribution companies face the problem of revenue shortfalls. To compensate this, they have increased tariffs for remaining grid-dependent consumers, disproportionately affecting. These lower-income groups bear the burden of rising electricity costs. Higher operational costs can hinder competitiveness and sustainability. Sudden changes in renewable energy policies, for example, proposed shifts from net metering to gross metering, creates an unpredictable environment. These volatile policies discourage potential investors who feel reluctant to commit resources. Uncertainty also obstructs the scaling of renewable energy initiatives. (Shahid, Varadhan, & Greenfield, 2025)

The study's modeling indicates that by 2030, solar energy will contribute less than 2% to the national grid if the current policies are not altered. Current policies often overlook the socio-economic dimensions of energy access. There is insufficient emphasis on making solar energy accessible and affordable for lower-income and rural populations, leading to energy inequity. The absence of broad, thorough and long-term strategies that integrate solar PV into the national energy framework limits the scalability and sustainability of renewable energy initiatives. (Haq, Rashid, & Zia, 2022)

Another major weakness is the one-size-fits-all, technology-driven model that guides most of Pakistan's energy initiatives. While renewable technologies like solar and wind are essential for a sustainable future, these projects are often proposed with little understanding of the social, cultural, and gender-related needs of the communities. For example, energy use varies between men and women, but this difference is rarely factored into project design. As a result, the solutions may look effective on paper but fail to deliver in the real world. Projects need to be shaped not just by engineers and investors but also by sociologists, anthropologists, and local leaders.

Dr. Rihab Khalid's experience with a solar energy project in Helario village, Tharparkar district, underscores the importance of integrating socio-cultural considerations into energy initiatives. Her interdisciplinary team employed a mixed-methods approach, combining quantitative and qualitative data collection to gain a comprehensive understanding of the community's unique challenges and needs. This method ensured that the proposed solar energy system was not only technically viable but also culturally appropriate and sustainable. (Khalid, 2023)

Some projects posed as “environmentally friendly” bear set of their own problems that are actually “environmentally unfriendly”. The Ten Billion Tree Tsunami, for instance, was meant to reserve forests and ecosystems but ended up being planted in dry areas without access to water or

community support, which led to poor survival rates of the planted trees. Similarly, solar parks in water-stressed zones also require frequent cleaning with water, creating unwanted environmental stress. These examples show that sustainability doesn't mean just switching to green technology, it also requires ensuring that these solutions do not bring new environmental or social problems.

National and provincial policies do support clean energy transition but Pakistan has struggled to translate these ambitions into proper action. Projects are delayed, poorly managed, or left incomplete due to misaligned priorities between different government departments, lack of trained personnel, or insufficient monitoring. For example, despite the country's high solar potential, solar energy contributes only a tiny portion to the national grid. This is not due to a lack of resources, but due to weak enforcement and inadequate long-term planning.

Conclusion

The very definition of sustainable development needs to be reexamined in the Pakistani context. As currently practiced, many environmental policies are designed in an excluded technical silo—focused solely on emissions, megawatts, or GDP growth—without any assessment of their social trade-offs. True sustainability is not just about protecting forests or shifting to renewables; it's about whether these shifts are making any difference and ensuring fairness, equity, and justice for all. A coal plant that pollutes entire districts but reduces import dependency, or a tree plantation drive that ignores water scarcity and displaces pastoral communities, is not sustainable—it is extractive, greenwashed, and unjust.

To move forward, Pakistan must adopt a rights-based approach to environmental governance. Environmental impact assessments must be made more rigorous and participatory. Policy designs must incorporate Free, Prior, and Informed Consent (FPIC) principles, particularly when dealing with indigenous or vulnerable communities. Projects should include social audits and grievance redress mechanisms as a core part of implementation. Additionally, judicial and civil society actors must continue holding the state accountable to its constitutional and international human rights obligations, especially Article 9 (Right to Life), which courts have already interpreted to include environmental quality.

Recommendations

- While devising each project, the developers and government officials should meet the local community heads to research and consult about on-ground implementation. This will decrease the negative sentiments and mistrust between both parties. When communities are consulted meaningfully, they are more likely to see the project as theirs. Developers should openly share how the project will affect land, water, health, and livelihoods—and what benefits will return to the community (e.g., jobs, revenue sharing, infrastructure upgrades). This builds long-term trust and creates mutual interest in the project's success. This can be done by surveys, group interviews and participatory mapping techniques. For example, in areas like Thar and Thatta, understanding how women fetch water, cook, or engage in home-based work can drastically alter how a solar or wind solution should be designed.
- A rights-based framework would require all energy projects to undergo Human Rights Impact Assessments (HRIAs) alongside environmental assessments. These should evaluate whether the project will affect land rights, water access, cultural heritage, or public health, and whether women, minorities, and indigenous groups are being equally represented and protected. Thus, a checklist ensuring constitutional and international human rights will help to identify

vulnerable or at-risk groups. Conduct periodic social audits to check whether promises made to communities (jobs, compensation, resettlement support) are being fulfilled.

- Policymakers must institutionalize gender-focused energy planning, ensuring women's roles, needs, and participation are reflected in energy projects. For instance, women in rural areas should be involved in training, maintenance, and energy usage decisions. Programs like the "Lighting a Billion Lives" campaign in South Asia empowered women as solar entrepreneurs and can serve as a model for Pakistan. The net metering policy should be expanded, simplified, and protected from abrupt regulatory changes

The government can launch means-tested solar subsidy scheme. Introduce subsidized loans, installment plans, or grant-based incentives for middle-class and low-income families to adopt solar energy. These subsidies should be tiered based on income and verified through NADRA databases. India's "PM-KUSUM," where the government provides direct subsidies on rooftop solar installations for households earning below a certain threshold and Bangladesh's solar home system programs offer working models where subsidies have helped rural and urban poor adopt solar energy without falling into debt.

Conflict of Interest

The authors showed no conflict of interest.

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