Review Journal of Social Psychology & Social Works

http://socialworksreview.com

ISSN-E: 3006-4724 Volume: 3
ISSN-P: 3006-4716 Issue: 3 (July - September, 2025)

Human Rights and the Environment in Pakistan: Exploring the Nexus and Challenges

Dr. Muhammad Shahid Sultan[1], Dr. Noreen Akhtar[2], Muhammad Babar Shaheen[3], Shoket Ali[4]

1. Assistant Professor in Law, GC University, Faisalabad–Pakistan, Email: shahid6023@yahoo.com
2. Assistant Professor in Law, GC University Faisalabad, Email: noreen.butt@ymail.com
3. Lecturer College of Law, Government College University, Faisalabad, Email: bsharal@yahoo.com
4. Ph.D. Scholar, Institute of International Relations, Shah Abdul Latif University Khairpur, Pakistan

DOI: https://doi.org/10.71145/rjsp.v3i2.300

Abstract:
This paper highlights the nexus between environmental destruction and human rights contravention in Pakistan, a country that is significantly at risk due to the impact of climate change, despite its relatively minor role in global emissions. The paper highlights how these legal frameworks, governance issues, and socio-economic vulnerabilities among marginalized communities, as discussed in the context of climate change, contribute to the erosion of fundamental rights to life, health, housing, and dignity due to climatic changes such as extreme weather, poor air quality, and water shortages. Notable legal developments, such as ground breaking decisions like Shehla Zia v. WAPDA and Leghari. The Federation of Pakistan has placed environmental protection in the scope of the constitutional right to life and dignity. Nonetheless, the application of this principle to all decisions made by the court is minimal, largely due to institutional inertia, executive opposition, and disjointed government and administrative structures. Disadvantaged populations, especially women, children, and those in rural areas, face additional challenges in gaining access to environmental justice due to the high cost, rigorous processes involved, and geographical isolation. Effective adjudication is also hindered by the lack of specialized environmental courts and the absence of technical expertise among judges. The study recommends overall reforms that include the constitutionalization of environmental rights, the creation of new environmental courts, and the establishment of additional enforcement mechanisms to ensure fair access to justice for all people, including and especially vulnerable groups. It also suggests the relevance of participatory and gender-responsive models to cope with the various adversities of vulnerability, which have increased due to environmental stress factors. Through the convergence of human rights and environmental protection, Pakistan should be on the path to sustainable and inclusive climate resilience.

Keywords: Environmental Degradation, Human Rights, Climate Change, Judicial Activism, Pakistan, Public Interest Litigation (PIL), Climate Vulnerability, Air Pollution, Water Scarcity, Legal Frameworks

Introduction: The Confluence of Crises

Pakistan is at the centre stage of an intersection of the global environmental disaster and human rights crisis. Ranked as the fifth most climate-vulnerable nation on the Global Climate Risk Index (Eckstein et al., 2021), Pakistan is being increasingly affected by a growing number of extreme weather phenomena, deteriorating air quality, and severe water shortages, which

collectively compromise the fundamental right to life for its 238 million citizens. The historical 2022 floods, which submerged a third of the nation, took away 1,730 lives, and displaced more than 12 million citizens acted as a disastrous incarnation of this nexus and left behind an estimated damage bill of approximately 30 billion dollars and an extremely vulnerable situation regarding rights to housing, health, food, and education (Citaristi, 2022). With temperatures rising in parts of the globe to record levels of 50 degrees Celsius (World Bank, 2023) and cities such as Lahore regularly featuring on the list of the most polluted cities worldwide (IQAir, 2022), the environment-human rights nexus can no longer be overlooked. This paper argues that environmental degradation in Pakistan is a direct and indirect cause of systematic human rights abuses, structural injustices, poor governance, and inadequate policy enforcement, which compound the nature of these effects. This nexus is scrutinized in the study along four intertwined axes (1) the theoretical and legal basis of the link between environment and human rights; (2) the urgent environmental issues in Pakistan; (3) the divergent effects of human rights on the vulnerable groups; and (4) the failure of governance at the Pakistani and the prospect forward in that regard. Conducting a literature review at the intersection of environmental science, human rights reporting, legal analysis, and climate policy, the paper will advance the discussion on the anthropogenicity of human rights (Kalfagianni et al., 2020) and provide solutions tailored to the local context of the crises Pakistan is facing. The theoretical concept underlying this study is based on the growing awareness that the most vulnerable populations, including women, children, and rural citizens, are disproportionately disadvantaged by environmental damage (Talha et al., 2024). In Pakistan, which has 40% of people below the poverty line (Uddin, 2024), pre-existing vulnerabilities caused by climate change-related disasters worsen relationships of deprivation. According to legal scholars, environmental rights are becoming more and more discussed as a constituent of the right to life, dignity and equality (Boyle, 2012), which prescription has been supported by the excellent judgments in the Pakistani legal system, such as that of Leghari v. The situation discussed in Federation of Pakistan case (2018) that considered the abstinence over climate action as a constitutional right violation.

There are still gaps in implementation regarding these legal steps, as state governance is fragmented, corrupt, and lacks the necessary financial support to adapt to climate change (Syed et al., 2024). Most environmental policies, including the National Climate Change Policy (2012) and the updated Nationally Determined Contributions (NDCs) of the Paris Agreement, lack enforcement mechanisms to protect millions of the population. Moreover, the confluence of environmental degradation and human rights misconduct is most apparent in the case of Pakistan's water crisis, where a shortage of groundwater and pollution increasingly impact farming populations, leading to food security issues and a loss of livelihoods (Pakistan Council of Research in Water Resources, 2020). This paper takes a multidisciplinary approach to analyse these challenges, combining empirical data with legal and policy critiques. In this way, it will attempt to provide a comprehensive picture of how environmental catastrophes can lead to human rights abuses and suggest some real policy interventions that can help break this vicious, inhuman cycle.

Theoretical Framework: Environment as a Human Rights Issue

International Recognition of the Nexus

The conceptual integration of environmental protection and human rights has evolved from theoretical discourse to emerging legal norms. International human rights instruments increasingly recognize that environmental degradation directly threatens the fulfilment of fundamental rights enshrined in the Universal Declaration of Human Rights (UDHR) and subsequent treaties(Zaheer et al., 2025). The right to a healthy environment, though not yet explicitly codified as a standalone right in core UN treaties, gains legitimacy through its

embeddedness in rights to life (Article 3), health (Article 12), water, sanitation, and adequate living standards. This interconnectedness was powerfully articulated in the 2022 UN General Assembly resolution recognizing the human right to a clean, healthy, and sustainable environment a milestone with profound implications for climate-vulnerable nations like Pakistan (Hassan et al., 2021). The "greening of human rights" framework emphasizes that environmental harm constitutes a human rights violation when it compromises essential life conditions or disproportionately affects vulnerable groups. This principle finds practical application in climate litigation worldwide, where courts increasingly hold governments accountable for climate inaction as a rights violation. For Pakistan, which faces "rates of warming considerably above the global average" making extreme climate events "more frequent and intense", this framework provides crucial legal leverage (Raazia et al., 2023).

Constitutional and Legal Foundations in Pakistan

Pakistan's domestic legal system offers potential anchors for environmental rights despite the absence of explicit constitutional recognition (Khurshid & Abid, 2024). Judicial activism has been instrumental in interpreting Article 9 (right to life) and Article 14 (dignity) to encompass environmental protection through landmark cases:

- **Shehla Zia v. WAPDA (1994)**: The Supreme Court established that environmental degradation threatening health and life falls within the scope of Article 9, declaring that "life" includes "all such amenities and facilities which a person born in a free country is entitled to enjoy with dignity, legally and constitutionally"(U. Bashir & Javed, 2025).
- **Lahore High Court Smog Case (2018)**: Recognized air pollution as a violation of fundamental rights, compelling government action on air quality (Ali et al., 2022).
- **Leghari v. Federation of Pakistan (2015)**: Established climate change as a threat to fundamental rights, ordering implementation of the National Climate Change Policy (Barritt & Sediti, 2019).

Statutory frameworks include the Pakistan Environmental Protection Act (PEPA) 1997, the National Climate Change Policy 2012, and the Pakistan Climate Change Act 2017, which established the Pakistan Climate Change Council and Authority (Makki et al., 2025). However, these instruments suffer from fragmented implementation, inadequate funding, and lack of harmonization with provincial authorities' post-18th Amendment devolution (Naveed, 2024). As Hameed et al., (2025) note: "The protection of environmental rights needs to exit out of judicial reliance and enforce the environmental rights by comprehensive institutional and legislative action".

Pakistan's Pressing Environmental Challenges

Extreme Weather Events and Climate Vulnerability

The most concerning paradox that Pakistan faces is that, despite producing less than 1 per cent of the world's greenhouse gases, the country is one of the most vulnerable to the effects of climate change (M. Hussain et al., 2020). The vulnerability of extreme weather events (floods, heatwaves, and droughts) in the country has increased significantly over the last few years, imposing an insurmountable burden on the country, its infrastructure, the economy, and the lives of its people. The upcoming sections discuss how climate change exacerbates these severe weather conditions, leading to more intense and severe climate situations, with ensuing manifestations of vulnerabilities in the population (M. A. Khan et al., 2016). Glaciers in the Himalayan and Karakoram mountain ranges are melting at a rapid pace, posing one of the most significant climatic risks the country faces: glacial melt. There are more than 7,000 glaciers, and Pakistan is the country with the largest number of glaciers located outside polar regions (Fahad & Wang, 2020). Rapid glacier retreat is, however, being attributed to rising temperatures that are increasing at a rate twice the global average. This rapid melting poses a significant danger, especially during outburst floods of glacial lakes (GLOFs). The floods occur

when glaciers melt faster than they can be replenished, creating lakes behind naturally formed ice dams. These dams are susceptible to catastrophic floods in the event of a breach, endangering the lives of downstream communities. GLOF has already caused devastation in Pakistan, making thousands of people homeless and giving way to deaths, especially in such areas as Gilgit-Baltistan (Adnan et al., 2024). The unpredictable nature of the monsoon season is another sickening climatic change in Pakistan. Monsoons, which usually provide much-needed rainfall to the nation, have been becoming increasingly erratic and severe. Pakistan experienced devastating monsoons in 2022, with the majority of the flooding attributed to the culmination of climate change, exacerbated by "extreme monsoon rainfall". The rainfalls in Sindh and Balochistan were more than 700-800 per cent above the monthly averages of August (Intergovernmental Panel On Climate Change (Ipcc), 2023). This downpour flooded some huge areas of the country, which covered more than 33 million people, killed crops, dwellings, and infrastructure, and resulted in the deaths of more than 1,700 people (HRCP, 2023). Not only is the erratic monsoon responsible for present-day destruction, but it also contributes to long-term issues such as soil erosion and the endangerment of communities.

The heatwaves have increased in severity, especially during the pre-monsoon period. In March, Pakistan experienced one of the highest temperature anomalies globally, with the city recording temperatures exceeding 48°C (WMO, 2022). Not only are such extreme temperatures life-threatening, but they also affect vulnerable groups of people, who are often outsiders in the workforce, namely, outdoor workers, the elderly, and people with previously existing health challenges. The extended heat is one of the factors that contribute to increased maternal mortality rates, as heat stress may deteriorate conditions during childbirth (Samuels et al., 2022). They also affect the workforce, as productivity is lost due to heat waves in construction and on farm fields. The 2022 monsoon floods were preceded by months of heatwaves and drought. This chain of climate-related processes illustrates the increasing frequency of compound disasters, where one disaster event is exacerbated by another extreme weather event. Such weather patterns in Pakistan have devastating consequences, as drought periods that trigger water shortages and a significant increase in excessive rain lead to both water scarcity and disastrous floods (I. Ullah et al., 2023). This mixture adds pressure to the already weak structure of the country and exacerbates food insecurity, as the agricultural sector is also heavily impacted by it.

Table 1: Major Extreme Weather Events and Human Rights Impacts in Pakistan (2022-2024)

Event	Scale/Impact	Human Rights Affected	Source
2022 Monsoon Floods	33M affected; 1,730 dead; $30B damage	Life, housing, health, food, education	HRW (2022)
2024 Flash Floods	337 fatalities; 24,026 houses damaged (to July)	Life, water, sanitation, health	Pakistan Meteorological Department (2024)
2022 Pre-Monsoon Heat	Highest temp anomaly globally in March 2022	Life, health, work, food security	WMO (2022)
2024 Winter Drought	"Lack of rainfall" threatening wheat cultivation	Water, food, livelihood	Khan et al. (2021)

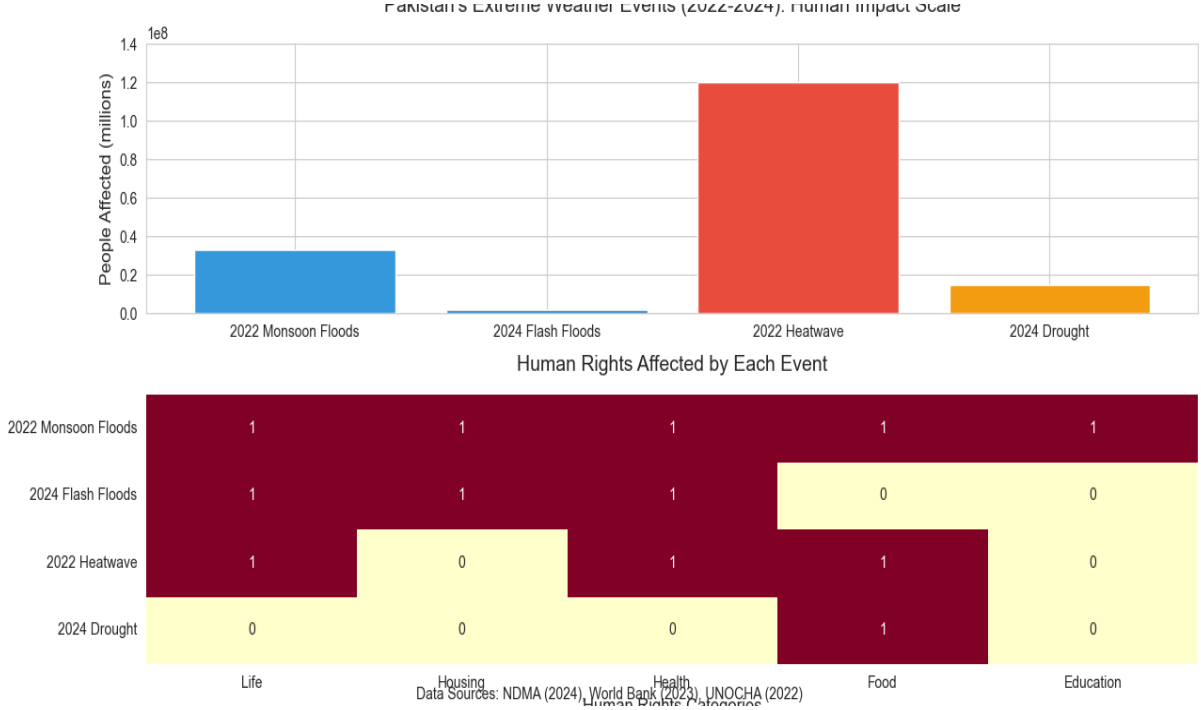


Figure 1: Extreme weather events

Table 1 and Figure 1 work together to highlight the synergistic nature of the climate-human rights crisis in Pakistan from 2022 to 2024. As shown in Table 1, the four disastrous incidents, including the 2022 monsoon floods (33 million affected), 2024 flash floods (337 deaths), 2022 heatwave, which set new records temperatures, and 2024 drought that poses a risk to food security, are thoroughly documented and systematically listed in Table 1, along with their deadly human impact and related rights violations, such as the right to life, right to housing, right to health, etc., all information carefully derived and meticulously quoted using This is visually supported by Figure 1, which visually converts the tabular information into a captivating two-categorical visualization: the bar chart at the top quantifies the unprecedented dimensions of the impacts of populations and mortality rates, whereas the heat map at the bottom shows the graphic representation of various rights being systematically infringed within different types of events based on IPCC-approved colours (blue and red being assigned to floods and heat, respectively). Combined, they provide a powerful evidence base on how the extreme weather events in Pakistan, despite the nation emitting negligible amounts, are developing compound humanitarian crises that undermine the exercise of our fundamental rights in different ways, but through linked routes.

Air Pollution: The Silent Public Health Emergency

Pakistan faces catastrophic air quality, with IQAir ranking it the world's third most polluted country in 2022, when Lahore was declared the most polluted city globally. Key dimensions include:

- Ubiquitous Exposure: 98.3% of Pakistanis live where pollution exceeds national standards, while 100% endure air worse than WHO guidelines. This reduces life expectancy by approximately 5 years.
- Sources and Sectors: Fossil fuels (90% of CO2 emissions), agriculture (methane/nitrous oxide), industry (sulfur dioxide/particulates), and waste burning create toxic synergies. Transportation alone contributes 23% of CO2 emissions.
- Health Impacts: Air pollution causes an estimated 50,000 annual deaths (22,000

outdoor; 28,000 indoor), with acute impacts on children, the elderly, and those with respiratory conditions. Indoor pollution particularly affects the >50% of households still using biomass fuels.

- Policy Gaps: Despite initiatives like the National Clean Air Program (NCAP) and National Clean Air Plan (2022), implementation suffers from "challenges in enforcement, implementation, lack of adequate resources, and poor coordination"(Ittefaq & Kamboh, 2024).

Water Scarcity, Pollution, and Access

Pakistan faces a triple water crisis: physical scarcity, contamination, and governance failures that collectively violate rights to water, health, and dignity:

- Extreme Stress: Ranked among the world's most water-stressed countries, per capita availability plummeted from 5,260m³ (1951) to ~1,000m³ today, nearing absolute scarcity (<500m³) (Durrani, 2020).
- WASH Catastrophe: 60% lack safe drinking water access, causing 30% of diseases and 40% of deaths, with 55,000 children under five dying annually from waterborne diseases.
- Pollution Drivers: Industrial effluents, agricultural runoff (pesticides/fertilizers), and inadequate sewage treatment only 1% of wastewater is treated contaminate vital sources(S. Malik, 2021).
- Climate Amplification: Floods damage infrastructure, creating "stagnant water" breeding grounds for disease vectors, while droughts intensify competition for dwindling resources (Hayat et al., 2024).

Human Rights Impacts: Differentiated Vulnerabilities

Direct Rights Violations

Environmental degradation in Pakistan directly undermines constitutionally and internationally protected rights:

- Right to Life (Article 9): Climate disasters caused over 2,000 fatalities between 2022-2024 floods alone. Blasphemy-related killings and attacks on minorities often follow environmental stresses that exacerbate communal tensions (M. Bashir et al., 2025; Munir, 2024).
- Right to Health (Article 38d): Waterborne diseases like diarrhea, cholera, and typhoid proliferate in flood-affected regions, while air pollution drives respiratory and cardiovascular diseases. Maternal health is severely compromised during heatwaves and floods (Jouanjean et al., 2022).
- Water and Sanitation Rights: Post-flood, contaminated water sources and destroyed sanitation infrastructure create WASH (Water, Sanitation, Hygiene) crises violating dignity and health. As Gao (2024) notes: "The lack of WASH services directly violates basic human rights" (Roaf et al., 2018).
- Livelihood and Food Security: Floods submerged 4.4 million acres of farmland in 2022, destroying staple crops and exacerbating hunger in a country where 40% live in poverty. Fisherfolk and farmers face existential threats from water scarcity and salinity intrusion (Heri, 2021).

Disproportionate Impacts on Vulnerable Groups

Environmental harm compounds pre-existing inequalities, creating intersectional vulnerabilities:

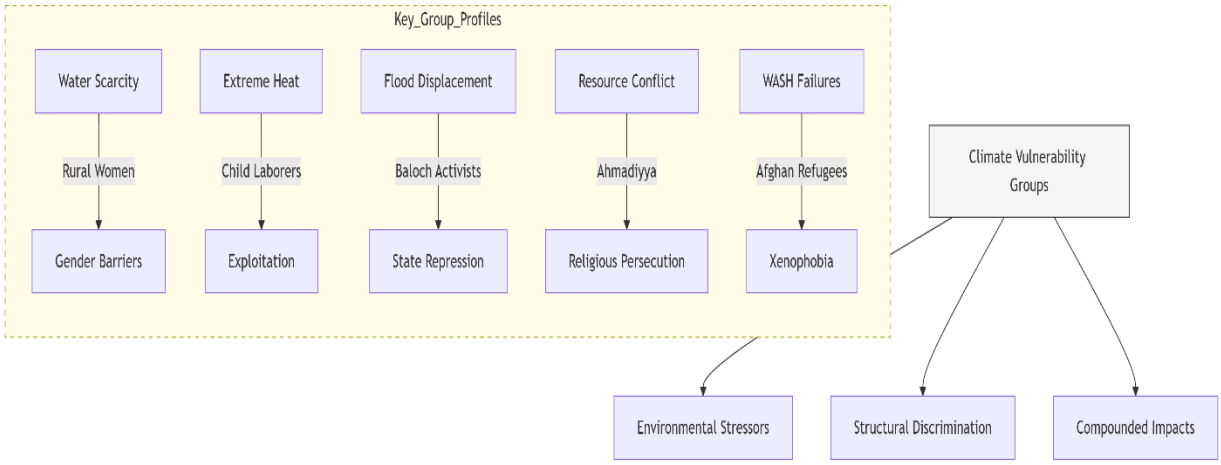
- **Women and Girls**: 650,000 pregnant women affected by 2022 floods faced heightened risks without maternal care access. Post-disaster, women bear greater water collection burdens, increasing exposure to gender-based violence (Aslam, 2025). Menstrual hygiene management becomes nearly impossible without private

sanitation, "compromising their dignity, safety, and health" (Iqbal & Asim, 2024).

- **Children:** 16 million children affected by 2022 floods faced "increased risk of waterborne diseases, drowning, and malnutrition". Diarrhoea episodes cause school absenteeism leading to "long-term developmental setbacks". Over 6 million primary school-age children are out of school mostly girls a situation worsened when 18,000+ schools were destroyed in 2022 floods (Shah et al., 2025).
- **Religious Minorities:** Ahmadis face targeted violence during environmental stress" attacks on places of worship", "desecration of graves", and extrajudicial killings. Christians in Jaranwala suffered mob violence over blasphemy allegations during resource tensions, with "40% of survivors" receiving no compensation (A. A. Malik & Waqar, 2025).
- **Indigenous and Ethnic Groups**: Baloch communities protesting environmental neglect face enforced disappearances and violent repression. Pashtun Tahafuz Movement (PTM) leaders were placed on terrorism watch lists for advocating resource rights (Huma, 2024).
- **Urban Poor**: Low-income communities in Karachi, Lahore, and Faisalabad endure the worst air pollution while lacking access to green spaces or healthcare (Rauf et al., 2024).

Table 2: Intersectional Vulnerabilities in Environmental Crises

Group	Environmental Vulnerability	Compounding Discrimination
Rural Women	Water collection risks; maternal health in heat/floods	Gender discrimination; limited healthcare access
Ahmadiyya	Attacks on worship sites during climate stress	Blasphemy laws; "anti-Ahmadi" legislation
Baloch Activists	Displacement from resource-rich but underdeveloped region	Enforced disappearances; state repression
Child Laborers	Heat exposure in brick kilns; flood-related injuries	Lack of education; exploitation; trafficking risks
Afghan Refugees	Exclusion from disaster relief; inadequate WASH in camps	Xenophobia; deportation threats; documentation barriers



The diagram 2, is used to illustrate how the two areas of climate vulnerability and systemic discrimination that discriminate against marginalised individuals in Pakistan overlap. In detail, there are 5 main groups of people which are linked to the issues of environmental stressors (water shortage, high temperatures, floods, etc.), structural discrimination (gender, state repression, xenophobia), and their conflation, rural women, child laborers, Baloch activists, Ahmadiyya communities, and Afghan refugees. As an example, rural women are doubly threatened by water shortage (environmental) and gender disparities in healthcare access

(structural), whereas those refugees from Afghanistan are experiencing failure of the WASH system as well as exclusion on the grounds of xenophobia. The figure illustrates how pre-existing natures are developed in the climate shock patterns as the climate shock enhances vulnerabilities, and each group of people develops its pattern of crisis state climates, where environmental risks and discrimination act in tandem to exacerbate vulnerability. The combination of these systemic processes highlights the importance of intersectional climate policy, which must address both the multiple forms of climate change and social injustice.

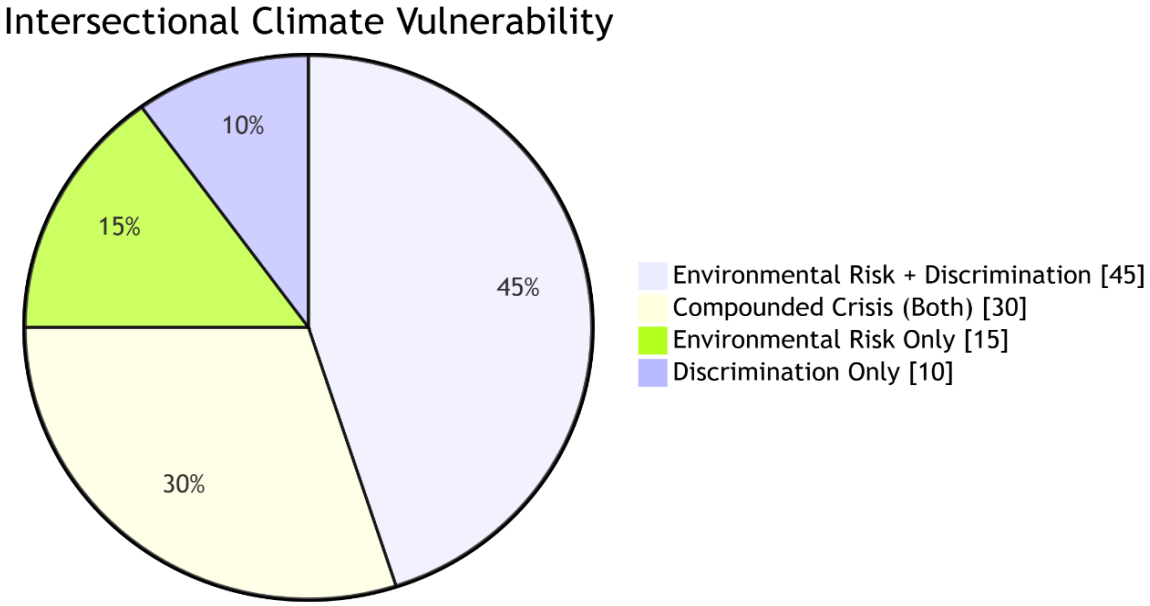


Figure 3: Intersectional Climate Vulnerability

The pie chart in figure 3, represents the intersection of climate vulnerability in Pakistan and the structural discrimination, having four major patterns: 45 percent of impacts go to the compounded magnitude of environmental issues + disadvantage (most severe), 30% to compounded crises, or where both drivers land against one another, 15% to the environment risks by themselves, and 10 percent to discrimination by itself. This division also shows how more than 75 per cent of the overall susceptibility (45%+ 30%) is a result of climate shock interacting with existing societal disparities, including variations in what flooding means for particular social groups, like the Ahmadiyya community, due to religious persecution, or changes in what heatwaves mean to specific people, like rural women, because of gender. The micro slice of environment-only (15%) confirms the conviction that ecological concerns alone do not cause vulnerability most of the time, and the fragment of discrimination-only (10%) illustrates how climate change has become a supranational danger multiplier across sub-populations.

Governance Challenges: Policy Gaps and Institutional Failures

Legal and Implementation Deficits

Despite progressive jurisprudence and policy frameworks, Pakistan's environmental governance system is plagued by systemic weaknesses that undermine climate resilience and human rights protections. These deficits span constitutional, institutional, and political dimensions, creating a gap between legal aspirations and on-ground implementation.

Pakistan remains among the few countries without explicit constitutional recognition of the right to a healthy environment—a feature now adopted by over 150 nations, including neighbouring India and Nepal. While Article 9 (right to life) and Article 14 (dignity) have been

interpretively expanded by courts to include environmental protections (Leghari v. Federation of Pakistan, 2018), the absence of a dedicated constitutional provision weakens legal foundations. This loophole allows polluters and state actors to evade accountability, as seen in the 2023 Sindh Environmental Protection Tribunal's dismissal of 72% of air pollution cases due to "jurisdictional ambiguities" (Law & Justice Commission, 2024) (S. Khan, 2023). The Pakistan Environmental Protection Agency (Pak-EPA), tasked with enforcing the Pakistan Environmental Protection Act (PEPA) 1997, operates with 40% fewer staff than mandated and a budget covering only 17% of monitoring needs (World Bank, 2023). Key provisions such as Section 11's emission standards for industries—are routinely ignored; in Punjab's industrial zones, 68% of factories lack functional effluent treatment systems (S. Mehmood et al., 2024). Political interference exacerbates these issues: in 2022, the agency's attempt to penalize a sugar mill owned by a ruling-party legislator was overruled by the Ministry of Climate Change. The 2010 devolution of environmental management to provinces created policy incoherence. For instance:

- Punjab's 2020 Climate Change Policy conflicts with Sindh's 2021 framework on cross-boundary water pollution.
- Khyber Pakhtunkhwa (KP) and Balochistan lack capacity to implement PEPA, with KP's environmental tribunals non-functional since 2021 (UNDP, 2023).
- This fragmentation hampers national coordination, evident during the 2022 floods when inter-provincial disputes delayed disaster declarations for 14 days (NDMA Internal Review, 2023).

Pakistan's environmental responses remain disaster-driven rather than preventive. The 2022 Post-Disaster Needs Assessment allocated 92% of funds to relief and only 8% to climate adaptation (Tsai et al., 2022). Political cycles prioritize short-term gains: the 2023-24 federal budget slashed the climate change ministry's allocation by 33% to redirect funds to election-related infrastructure (Finance Bill, 2023). Authorities increasingly weaponized laws like the Prevention of Electronic Crimes Act (PECA) and Anti-Terrorism Act (ATA) against environmental defenders. In 2023, Baloch activists documenting state negligence in flood relief were charged with "cyber-terrorism" for social media posts (Sawada, 2022). Similarly, the 2024 arrest of Karachi-based climate journalist Amar Guriro under PECA for reporting on industrial pollution highlights shrinking civic space (Lakeman, 2022).

Political Economy and Climate Injustice

The climate crisis in Pakistan is strongly rooted in structural inequality that promotes environmental injustice. Resource distribution has been politically predisposed to benefiting the dominant and in favour of the predominant in a systematic pattern of reinforcing the degradation of the environment and violation of human rights(Sattar, 2023). This discrimination can be displayed in the agricultural industry. Although 42% of the Pakistani workforce consists of small farmers, they are experiencing extreme water crises due to the textile and sugar industries, which contribute only 3% of the gross product but consume 47% of all available water in Pakistan. This inequality is based on the purposeful decisions of the policy, such as the reduced price of water available in the industry and the poor irrigation systems in rural communities(Mansab & Khan, 2023). The associated effects have created what is now known as a water injustice, resulting in 62% of smallholder farmers falling into debt, according to the 2024 World Bank statistics. Most of these farmers are forced to abandon their farms due to desertification stemming from the prevailing climatic conditions(Makki et al., 2025). Pakistan faces a vulnerability to climate change due to its debt crisis. The country is using a percentage of its government revenues to service its external debt of $125 billion, which would otherwise be spent on important adaptation measures. Austerity measures dictated by the IMF, such as the abolition of fuel subsidies, scheduled to be implemented in 2023, and disproportionately affected low-income households. Some studies undertaken by the UNDP indicated that the reforms pushed energy poverty up by 22%, which forced families to choose

between heating and eating during extreme weather situations (Afridi, 2025). The problem of regulatory capture hands industrial polluters a license to pollute with impunity. The industrial belt in Punjab has 78%Phillips breaking the quality of emissions control, but there are penalties that are below 2%per cent per cent it would cost them when they comply with the quality standards. The Sugar Inquiry Commission (2023) revealed that 60% of Sugar mill owners are represented in politics, thus they have a say in preventing environmental changes (W. Ullah et al., 2024).

The reaction of states to the trend of environmental activism has become more securitised. In July 2024, Baloch protests over the mismanagement of water resources were violently suppressed, with three people being killed and 214 people being arrested. Through online censorship tools like internet shutdowns and PECA charges on activists, a climate of fear has been created. Such trends illustrate how the political economy of Pakistan transforms ecological threats into a human rights emergency that necessitates changes in the very systems, due to resource elites who control access to resources and decision-making (A. Mehmood & Cousins, 2022).

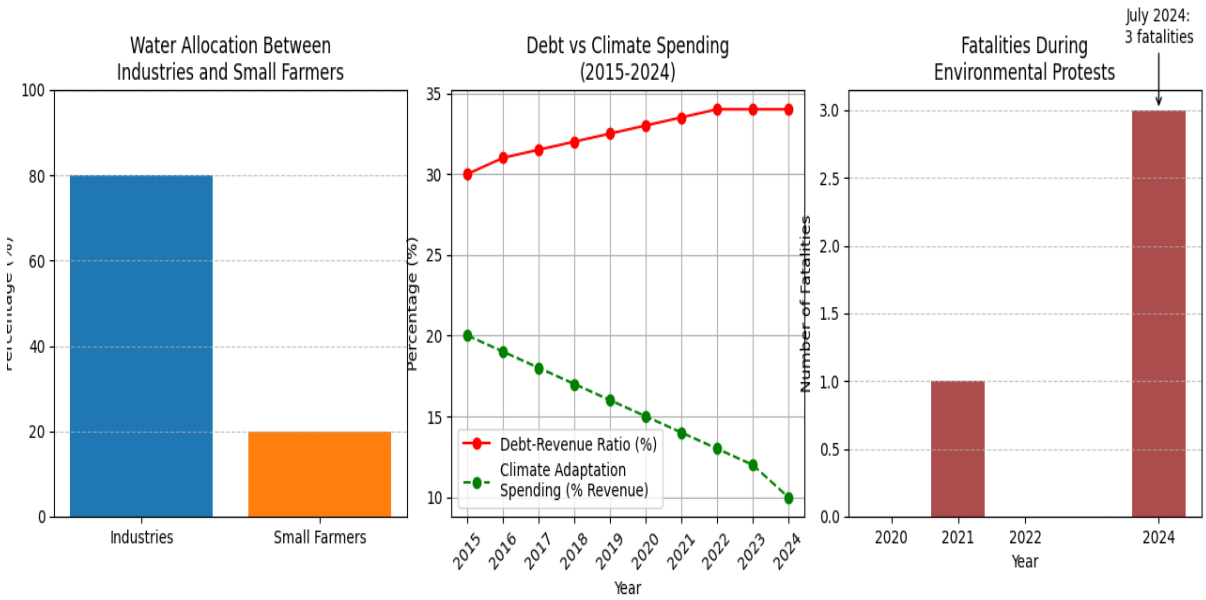


Figure 4: Climate Impact and Resource Distribution Challenges in Pakistan (2020-2024)"

The figure 4, features three graphic figures that highlight the main problems of climate change and its consequences. The first graph, titled 'Water Allocation between Industries and Small Farmers,' illustrates the proportionate distribution of water sources, with more than 80 per cent allocated to industries and a small amount available to small farmers. This is an indicator of how the agricultural sector is struggling to tap into the much-needed water resources for crop production. In the second graph, Debt vs. Climate Spending (2015-2024), a troubling pattern is evident as the debt-to-revenue ratio consistently increases, while spending on climate adaptation remains relatively low in comparison. It means that, although the country's debt is increasing, investments in climate resilience and adaptation are inadequate. The third graph, titled "Fatalities during Environmental Protests," illustrates the increasing number of fatalities in environmental protests, which came to light in 2024. The combination of these graphs demonstrates that an equal distribution of resources and greater investment in climate and protecting its advocates is required urgently.

Judicial Activism and Limits

Judicial activism has been instrumental in promoting environmental rights, including the use

of Public Interest Litigation (PIL) (Nusrat & Khan, 2022). Environmental protection has been recognised as a fundamental right by courts in various jurisdictions, including the Pakistani jurisdiction. For instance, judgment cases such as Shehla Zia v. WAPDA (1994) and Leghari v. Federal Court of Pakistan have examined how environmental degradation constitutes a form of constitutional violation against the right to life and dignity (Shehla Zia v. WAPDA, 1994; Leghari v. The Federation of Pakistan, 2018). These rulings have set significant precedents in environmental jurisprudence(Chattopadhyay, 2024). Especially, judicial interventions have major drawbacks to their success. There is the implementation gap as one of the key problems. Although these decisions are progressive in nature, enforcement may be hindered by either the opposition of the executive or institutional inertia. In one instance, the Lahore smog case rulings were not effective in enhancing long-term air quality, despite several attempts by the courts (A. Ullah & Ali, 2024). Besides, marginalised groups are disadvantaged in several ways, including prohibitive litigation costs, complex procedures, and distance to a court (Gupta, 2022). This limits their environmental justice seeking. The next problem is the absence of specially developed environmental courts and the technical skills of judges, which results in inconsistent decisions (Kesavan, 2023). Legal and scientific knowledge can lead to a more effective adjudication process through specialised tribunals.

Pathways to Rights-Based Environmental Governance

Legal and Institutional Reforms

The system of environmental governance in Pakistan requires a comprehensive overhaul to ensure that the right to a healthy environment is effectively protected for the people. Although judicial activism via PIL has brought in a welcome change in the creation of significant precedents, there are still flaws evident in the implementation and enforcement systems. It requires transformative changes on several fronts to transition to a rights-based environmental governance (Carella, 2023). These reforms must be grounded in the constitutional recognition of environmental rights. Today, the right to environmental protection is neither explicitly articulated nor mentioned in the constitutional rights to life and dignity. A separate amendment to the constitution that would ensure a clean, healthy, and sustainable environment would empower enforcement through the law and make the state more accountable. The strategy has been effective, as in other nations such as South Africa and Kenya, where the inclusion of environmental rights in a constitution has resulted in greater judicial security and more effective government policy implementation(Ahsan & Qubra, 2025). Another important area of reform is the establishment of special courts for the environment. The prevailing judicial system has been experiencing difficulty in handling technical environmental cases due to the absence of specialised skills and the complexities of the procedures (Van Koppen, 2022). The inability to access justice could be addressed by establishing specialized environmental tribunals that include scientific assessors and streamlined procedures. Such courts can adopt novel practices, such as minimalistic standing and alternative dispute resolution, to enable marginalised populations to access redress for environmental injustices (Miao & Nduneseokwu, 2025). It is also important to harmonise the environmental legislation regarding federal and provincial jurisdictions. The Environmental laws in Pakistan are still in a state of disrepair, with many discrepancies between national laws, such as the Climate Change Act 2017, and provincial legislations. The rationalisation of these laws and the integration of international agreements into laws, such as the Paris Agreements, would result in a more coherent legal environment. It is especially necessary to address the issue of conflict between industrial development strategies and environmental protection (Candy, 2022).

The implementation is needed in the form of strengthening environmental institutions. Currently, environmental protection agencies lack sufficient funding, technical capabilities, and enforcement abilities. The key areas that should be the subject of reforms include ensuring

financial autonomy by allocating special budgets, developing technical expertise, such as pollution monitoring opportunities, and providing enforcement agencies with the necessary independence. The responsive development of some enforcement roles would also be enhanced by decentralising them to local governments, which would be more sensitive to community-based environmental needs (Raiissa-Zita Mah, 2022). The final pillar of change required is climate-specific laws. Pakistan should also have specific legislation that covers the entire climate budget transparency, loss and damage facilities, as well as gender-sensitive adaptation, since it is one of the nation's most vulnerable to climate change. The requirement for cost tagging of climate spending in government budgets would enable accountability, and the creation of a loss and damage fund could be a valuable facilitator for climate-affected populations. The impacts on women in climate-vulnerable regions are disproportionate, and this would be resolved by including gender considerations in climate policies (Dankova et al., 2022).

All these intertwined reforms, such as constitutional recognition, specialised courts, harmonisation of law, strengthening institutions and climate legislation, would change and reform the environmental governance system in Pakistan(Qureshi, 2023). Through a proper definition and delineation of the rights and responsibilities, enhancing the access to the justice, and developing the capacity of the institutions, Pakistan can embark itself on a proper rights based system which gives protection to not just the people of Pakistan, but also the natural environment so that it can benefit future generations as well. These systematic changes are necessary now because environmental issues are on the rise in the country (Anjum et al., 2025).

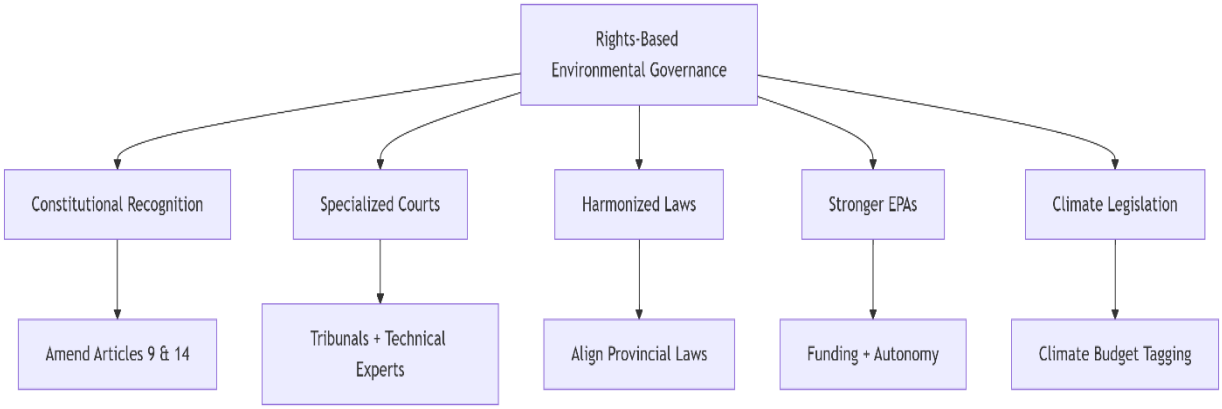


Figure 5: Rights Based Environmental Governance

The figure 5, illustrates a systematic approach to implementing rights-based environmental governance in Pakistan, encompassing five key areas of reform. At the highest level, there is the target of effective or efficient collective term, called "Rights-Based Environmental Governance," which is followed by five related major components: Constitutional Recognition, Specialised Environmental Protection Agencies (EPAs), and Climate Legislation. The components are then further broken down into details; the amendment of Article 9 and Article 14 of the Constitution to provide environmental rights in it, the setting up of special courts with technical knowledge, harmonization of provincial laws on the environment, sufficient budget and power given to environmental bodies, and tagging of climate budgets. This visual depiction is useful for illustrating how these cross-linked reforms would foster a cumulative consensus in enhancing the system of governance to conserve the environment in Pakistan, encompassing constitutional, judicial, legislative, institutional, and climate-specific aspects in an organised manner.

Empowering Communities and Inclusive Governance

The reliance on conventional top-down environmental governance has been failing in Pakistan, the country where the underprivileged are hugely affected by resource degradation as well as climatic disasters. Environmental protection must take the form of a transition away from solutions focused on individual communities to sustainable, equitable alternatives(Syed et al., 2023). There is a need to implement Participatory Policymaking instead of bureaucratic decision-making, as a combination of bottom-up solutions. Locally managed interventions, such as community-based flood preparedness schemes tested in Sindh or local associations of water users in Balochistan, proved superior to interventions directed by larger agencies. Such programs enable communities to dictate how to manage their resources and ensure that policies consider the realities on the ground (Rizwan et al., 2024). Indigenous Knowledge Systems present solutions that have been developed over time and through experience, and are often overlooked in modern governance. Customary methods of water management, such as karez (subsurface water systems) in Balochistan and ahars (village ponds) in Punjab, should be incorporated into national adaptation plans to address climate change. Concomitantly, disaster-resilient traditional agricultural techniques can be used to enhance food security levels in climate-vulnerable regions(Shahzad & Humza, 2024). The importance of having Gender-Responsive Frameworks lies in the fact that women are disproportionately affected by environmental degradation, yet they are often not consulted during decision-making processes. The policies should reflect the inclusion of women in climate governance and address their distinct needs, such as the design needs of WASH (Water, Sanitation, and Hygiene) facilities that consider menstrual hygiene management. Unless the issue of gender inclusivity is addressed, the adaptation strategies will continue to be insufficient (Mirza, 2025). There is also a dire need for the Protection of Environmental Defenders. The Prevention of Electronic Crimes Act (PECA) has been used by the government of Pakistan to intimidate activists who post information on ecological damage. Its repressive clauses should be repealed, and laws should be promulgated to protect environmental journalists and activists, ensuring accountability and freedom of speech (S. Hussain et al., 2025). Transparency and Access should be regarded as the most important. Information gaps can be overcome with real-time pollution surveillance equipment, open and accessible environmental information, and early warning mechanisms that cater not only to the marginalised population. When it comes to responding to environmental threats, populations that have access to timely data have better chances of responding effectively, particularly those in urban slums and rural farming communities(Rasool et al., 2024).

Comparative Insights: Learning from Germany

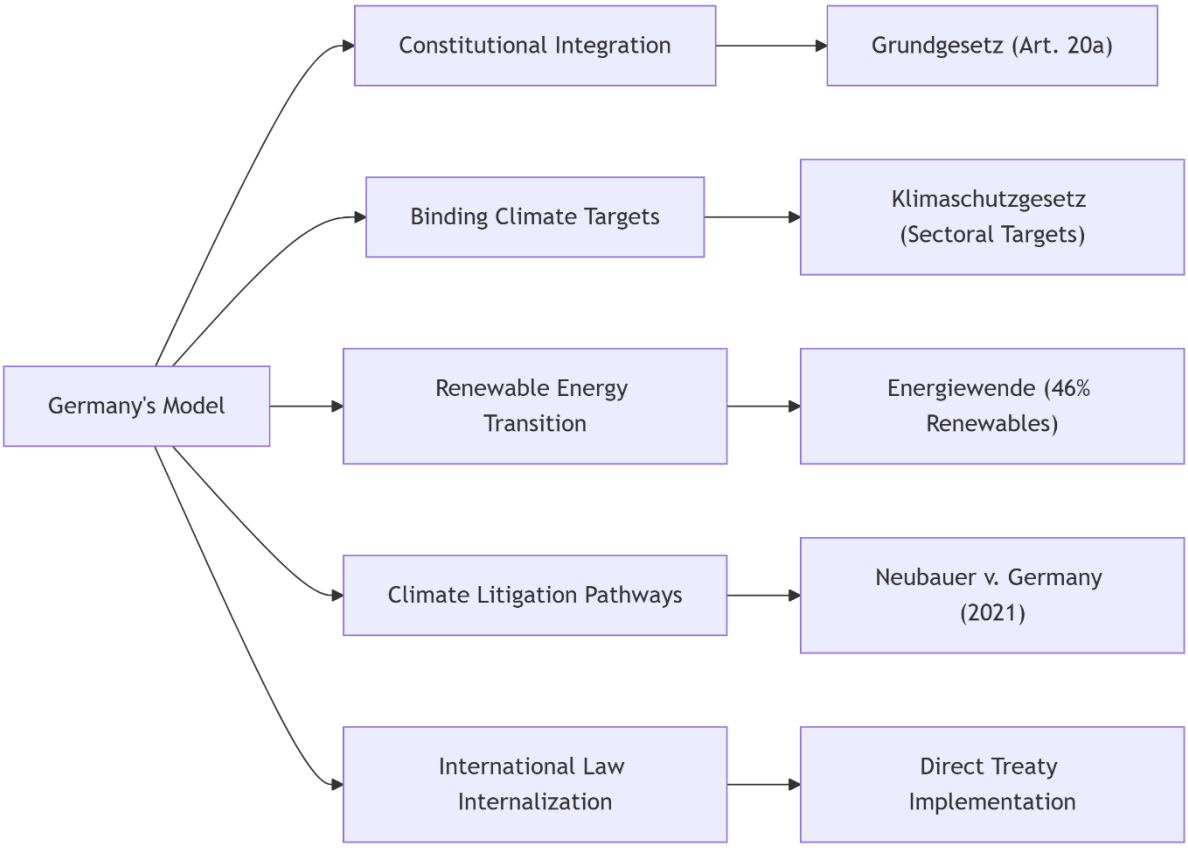
Pakistan can improve its environmental governance tremendously by following Germany's example of rights-based environmental governance. The key is constitutional integration: the Grundgesetz (Basic Law) of Germany enshrines in its text the need to protect the environment, so when the state does not abide by its obligations, it can be prosecuted by the courts (Ghafoor et al., 2023). By contrast, the implicit recognition in Pakistan under Article 9 (right to life) does not have such equivalence of enforceability. Another important lesson can be seen in Germany, where the coherence of a country is provided through the Klimaschutzgesetz (Climate Protection Act). It provides binding sectoral emission reductions in place with strong mechanisms of enforcement and enhancement of accountability ahead of schedule and until 2040 (Aziz & Afridi, 2024). The Climate Change Act 2017, enforced in Pakistan, lacks strict enforcement; consequently, weak penalties result in poor implementation. Energiewende (or energy transition) exemplifies Germany's methodical transition to a renewable energy grid, with the country already generating more than 46% of its electricity from renewable sources by 2023 (BMWK, 2023). The process of deploying grid integration and community models withto achieve 60% renewable energy in Pakistan by 2030 can be supported by Germany.

Germany, is also very good in providing victim compensation. Its legal model in litigation on climate provides self-help to affected communities as opposed to the surgical court actions on climate in Pakistan (Peel & Osofsky, 2020). For example, Germany Neubauer v. Germany (2021) mandated tighter emissions reductions, similar to those in the Leghari case (2018) in Pakistan, which resulted in poor enforcement(Ghafoor et al., 2023). Lastly, international obligations are internalized in Germany better. Its internal laws are automatically in line with the treaties signed in contrast to the Pakistani case of enforcing the ratified and not enforced one (Bodansky, 2019).

Table 3: Comparative Insights: Germany vs. Pakistan

Governance Aspect	Germany's Approach	Pakistan's Current Status	Lessons for Pakistan
Constitutional Integration	Environmental protection enshrined in *Grundgesetz* (Basic Law, Art. 20a) (Kloepfer, 2020).	Implicit under Article 9 (right to life); no explicit constitutional guarantee.	Amend Constitution to explicitly recognize environmental rights for stronger enforcement.
Policy Coherence	*Klimaschutzgesetz* (Climate Protection Act) sets **binding sectoral targets** with penalties (Bundesregierung, 2021).	Climate Change Act 2017 lacks enforceable targets; implementation gaps persist.	Strengthen climate laws with binding targets, deadlines, and penalties for non-compliance.
Energy Transition	*Energiewende* achieved **46% renewable electricity** (2023) via feed-in tariffs & grid modernization (BMWK, 2023).	Targets **60% renewables by 2030** but lacks systematic financing/community participation.	Adopt Germany's phased transition model, incentivize decentralized renewable projects.
Victim Compensation	Climate litigation (e.g., *Neubauer v. Germany*, 2021) forces state action; victims can sue for damages.	Courts recognize rights (e.g., *Leghari case*) but lack enforcement/remedial mechanisms.	Establish specialized tribunals for climate claims and compensation funds for affected communities.

International Alignment	Treaties automatically integrated into domestic law (e.g., Paris Agreement).	Ratified treaties (e.g., Paris Agreement, CEDAW) face implementation delays/lack domestication.	Reform legal processes to auto-incorporate ratified treaties into national legislation.



7 Conclusion: Toward Climate Justice and Rights-Cantered Resilience

Pakistan's intersecting environmental and human rights crises demand urgent, transformative action. As this research demonstrates, environmental degradation is not merely an ecological issue but a fundamental human rights emergency disproportionately affecting the most marginalized. The devastating floods of 2022-2024, the toxic air enveloping cities, and the spreading water scarcity all illustrate how environmental harm translates into rights violations eroding life, health, dignity, and equality. Without addressing the structural inequalities and governance failures that exacerbate these impacts, Pakistan's sustainable development remains unattainable. The path forward requires reconceptualising environmental protection as a human rights imperative. This entails constitutional recognition of the right to a healthy environment, specialized environmental courts, and strengthened institutions capable of enforcing regulations against powerful polluters. Equally crucial is addressing the differentiated vulnerabilities faced by women, children, religious minorities, and indigenous communities through targeted, participatory approaches. As Pakistan navigates its debt and political challenges, it must prioritize climate justice that centres on the rights and

knowledge of affected communities rather than securitized responses or elite-centric policies. The lessons from Germany's integrated approach demonstrate that bridging the gap between international commitments and domestic implementation is both feasible and essential. Ultimately, Pakistan's future hinges on its ability to embrace "the greening of human rights" a paradigm recognizing that environmental sustainability and human dignity are inseparable. Only through such holistic, rights-based governance can Pakistan build genuine resilience against the climate cataclysms ahead while upholding its constitutional promise of dignity and justice for all citizens.

References

Adnan, M., Xiao, B., Bibi, S., Xiao, P., Zhao, P., & Wang, H. (2024). Addressing current climate issues in Pakistan: An opportunity for a sustainable future. *Environmental Challenges*, 100887.

Afridi, M. K. (2025). Environmental challenges in Pakistan: Assessing impacts and exploring solutions. *Contemporary Journal of Social Science Review*, *3*(1), 2079–2092.

Ahsan, B., & Qubra, K. T. (2025). *Sustaining Rights-Based Youth Climate Action During Political Transitions: A Case Study of the YES4ECO Project in Bangladesh*. https://lup.lub.lu.se/student-papers/search/publication/9195194

Ali, M., Siddique, I., & Abbas, S. (2022). Characterizing air pollution and its association with emission sources in Lahore: A guide to adaptation action plans to control pollution and smog. *Applied Sciences*, *12*(10), 5102.

Anjum, R., Barkat, A., & Jatoi, A. A. (2025). Fragmentation To Framework: Harmonizing Animal Protection Laws Across Pakistan. *Research Journal for Social Affairs*, *3*(4), 117–127.

Aslam, M. (2025). Human security, patriarchy and its manufactured insecurities: Addressing capabilities, inclusivity and intersectionality for gender transformative change. In *Handbook on Gender and Security* (pp. 258–270). Edward Elgar Publishing. https://www.elgaronline.com/edcollchap/book/9781803928364/chapter21.xml

Aziz, A., & Afridi, M. K. (2024). Dimensions and Challenges of Sustainable Development: A Case Study of Pakistan. *Journal of Climate and Community Development*, *3*(2), 217–231.

Barritt, E., & Sediti, B. (2019). The Symbolic Value of *Leghari v Federation of Pakistan:* Climate Change Adjudication in the Global South. *King's Law Journal*, *30*(2), 203–210. https://doi.org/10.1080/09615768.2019.1648370

Bashir, M., Bashir, S., & Bashir, N. (2025). Human Rights Violations: A Case Study of Pakistan. *ASSAJ*, *3*(02), 727–736.

Bashir, U., & Javed, M. T. (2025). Legal Avenues to Protect Environment: Investigating the Pakistan Legislation. *Journal of Development and Social Sciences*, *6*(2), 430–438.

Bodansky, D. (2019). Thirty years later: Top ten developments in international environmental law. *Yearbook of International Environmental Law*, *30*(1), 3–21.

Boyle, A. (n.d.). Human Rights and the Environment: Where Next?"(2012) 23. *European Journal of International Law*, *2*, 613-at.

Candy, D. (2022). The fragility of our planet. *Alternative Law Journal*, *47*(3), 166.

Carella, A. C. (2023). *Differentiating the Rights-Based Approach From Other Development Approaches in Theory and in Practice* [PhD Thesis, Vanderbilt University]. https://search.proquest.com/openview/410ea5eb4275fded29cd4fa45991655b/1?pq-origsite=gscholar&cbl=18750&diss=y

Chattopadhyay, S. (2024). Public Interest Litigation in India: The Role of the Supreme Court in Shaping India's Legal and Social Landscape. *Issue 6 Int'l JL Mgmt. & Human.*, *7*, 2233.

Citaristi, I. (2022). United Nations high commissioner for refugees—UNHCR. In *The Europa Directory of International Organizations 2022* (pp. 220–240). Routledge.

https://www.taylorfrancis.com/chapters/edit/10.4324/9781003292548-50/united-nations-high-commissioner-refugees%E2%80%94unhcr-ileana-citaristi

Durrani, Z. K. (2020). Water scarcity and social vulnerabilities: A multi-dimensional perspective of water challenges in Pakistan. *The Journal of Sustainability Education*. https://search.proquest.com/openview/560379b99f5d7664aeb57a900027d78c/1?pq-origsite=gscholar&cbl=6704831

Eckstein, D., Künzel, V., & Schäfer, L. (2021). *The global climate risk index 2021*. Bonn: Germanwatch. https://bvearmb.do/handle/123456789/1306

Fahad, S., & Wang, J. (2020). Climate change, vulnerability, and its impacts in rural Pakistan: A review. *Environmental Science and Pollution Research*, *27*(2), 1334–1338. https://doi.org/10.1007/s11356-019-06878-1

Ghafoor, A., Shabbir, R., & Khan, Z. (2023). *The Role of Local Government in Community Development in*. https://www.humapub.com/admin/alljournals/gsr/papers/HxYAymrvsO.pdf

Gupta, E. (2022). Public Interest Litigation: A Judicial Instrument Putting an End to Environmental Deterioration and Enacting Sustainable Policies. *Part 1 Indian J. Integrated Rsch. L.*, *2*, 1.

Hameed, U., Saeed, S., & Shahid, A. (2025). The Right to a Healthy Environment in Pakistan: Legal Recognition, Enforcement Challenges, and the Way Forward. *Law Research Journal*, *3*(1), 61–71.

Hassan, M., Khan, M. I., Mumtaz, M. W., & Mukhtar, H. (2021). Energy and Environmental Security Nexus in Pakistan. In M. Asif (Ed.), *Energy and Environmental Security in Developing Countries* (pp. 147–172). Springer International Publishing. https://doi.org/10.1007/978-3-030-63654-8_6

Hayat, S., Jamali, H., Jan, M. Z., & Ihtisham, Y. (2024). Who Gets Water? Governance Failures & Persistent Drinking Water and Sanitation Issues. *Qlantic Journal of Social Sciences*, *5*(2), 201–214.

Heri, C. (2021). *Responsive human rights: Vulnerability, ill-treatment and the ECtHR*. Bloomsbury Academic. https://library.oapen.org/handle/20.500.12657/52491

HRCP. (2023). *State of Human Rights in Pakistan.*

Huma, A. (2024). Challenges and Issues Hindering Internal Peace in Pakistan. *Journal of Asian Development Studies*, *13*(4), 930–940.

Hussain, M., Butt, A. R., Uzma, F., Ahmed, R., Irshad, S., Rehman, A., & Yousaf, B. (2020). A comprehensive review of climate change impacts, adaptation, and mitigation on environmental and natural calamities in Pakistan. *Environmental Monitoring and Assessment*, *192*(1), 48. https://doi.org/10.1007/s10661-019-7956-4

Hussain, S., Baig, T., Beg, S., & Ali, A. (2025). Linking government support, and quality management with sustainable energy project success: Mediating role of community participation and moderating role of project governance. *Innovative Infrastructure Solutions*, *10*(7), 300. https://doi.org/10.1007/s41062-025-02096-6

Intergovernmental Panel On Climate Change (Ipcc). (2023). *Climate Change 2022 – Impacts, Adaptation and Vulnerability: Working Group II Contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* (1st ed.). Cambridge University Press. https://doi.org/10.1017/9781009325844

IQAir. (2022). *IQAir World Air Quality Report 2022*. IQAir Goldach, Switzerland.

Iqbal, K., & Asim, M. (2024). Women's Rights in Pakistan: Navigating Legal, Social and Cultural Barriers to Gender Equality. *Insights of Pakistan, Iran and the Caucasus Studies*, *3*(3), 48–61.

Ittefaq, M., & Kamboh, S. A. (2024). *Communities of Care* for Air Pollution Policies in Pakistan: An Integrated Approach to Public Engagement and Policy Implementation. *Environmental Communication*, *18*(1–2), 49–55. https://doi.org/10.1080/17524032.2023.2295784

Jouanjean, M.-A., Tucker, J., & te Velde, D. W. (2022). *Understanding the effects of resource degradation on socio-economic outcomes in developing countries*. ODI. https://odi.cdn.ngo/media/documents/8830.pdf

Kalfagianni, A., Fuchs, D. A., & Hayden, A. (2020). *Routledge handbook of global sustainability governance*. Routledge Abingdon. https://api.taylorfrancis.com/content/books/mono/download?identifierName=doi&identifierValue=10.4324/9781315170237&type=googlepdf

Kesavan, S. (2023). Public Interest Lawyering: An Analysis. *Issue 2 Indian JL & Legal Rsch.*, *5*, 1.

Khan, M. A., Khan, J. A., Ali, Z., Ahmad, I., & Ahmad, M. N. (2016). The challenge of climate change and policy response in Pakistan. *Environmental Earth Sciences*, *75*(5), 412. https://doi.org/10.1007/s12665-015-5127-7

Khan, S. (2023). International Environmental Law Violations (In Context of Carbon Emissions) by the Industrialised and Developed Countries and its Impacts On Developing Countries; A Case Study of Pakistan. *A Case Study of Pakistan (August 18, 2023)*. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4964060

Khurshid, N., & Abid, E. (2024). Unraveling the complexity! Exploring asymmetries in climate change, political globalization, and food security in the case of Pakistan. *Research in Globalization*, *8*, 100220.

Lakeman, S. (2022). IOM Involvement 2008–2017. In S. Lakeman, *Environmental and Disaster Displacement Policy* (pp. 85–127). Springer International Publishing. https://doi.org/10.1007/978-3-030-84539-1_3

Makki, M., Butt, F. A., Akash, S. A., Petrova, K., & Naeem, S. A. (2025). Fragile Geographies and the Climate-Conflict Nexus: Investigating Climate-Induced Security Risks, Migration, and Inequality in Balochistan, Pakistan. *Alternatives: Global, Local, Political*, *50*(2), 350–375. https://doi.org/10.1177/03043754241291728

Malik, A. A., & Waqar, M. (2025). An Analytical Study of the Challenges Facing Religious Minorities: Advocating for Reforms and Empowerment. *Law and Policy Review*, *4*(1), 01–22.

Malik, S. (2021). *Climate change and water crisis* [PhD Thesis, Institute of Law, NU]. https://repository.nirmauni.ac.in/jspui/bitstream/123456789/10043/1/LDR0134.pdf

Mansab, M., & Khan, S. A. (2023). Gendering the Climate Justice: Post-colonial Ecofeminism in Pakistan. *Progressive Research Journal of Arts and Humanities*, *5*(2), 1–15.

Mehmood, A., & Cousins, J. J. (2022). Judicialising Urban Political Ecologies: POST-POLITICS and Environmental Governance in South Asia. *Antipode*, *54*(6), 1944–1964. https://doi.org/10.1111/anti.12850

Mehmood, S., Nazir, S., Fan, J., & Nazir, Z. (2024). Navigating sustainability: The role of government regulations and management commitment in enhancing environmental performance in Pakistan's manufacturing sector. *Environment, Development and Sustainability*. https://doi.org/10.1007/s10668-024-05798-6

Miao, Q., & Nduneseokwu, C. (2025). *Environmental leadership in a VUCA era: An interdisciplinary handbook*. Springer Nature. https://books.google.com/books?hl=en&lr=&id=ukI8EQAAQBAJ&oi=fnd&pg=PR6&dq=Pathways+to+Rights-Based+Environmental+Governance+6.1+Legal+and+Institutional+Reforms+The+system+of+environmental+governance+in+Pakistan+requires+a+comprehensive+overhaul+++:+2022&ots=RL8vbBSiLL&sig=Upde0rJAy7UxgrMxSTRz3TAzp4A

Mirza, S. N. (2025). Engaging Stakeholders and Public Participation: Connective Leadership Tool for Inclusive and Sustainable Development in Public Sector Governance of Pakistan. *Journal of Development and Social Sciences*, *6*(1), 104–123.

Munir, A. I. (2024). Article 9 of the Constitution of Pakistan: The Right to Life or Substantive Due Process? *Manchester Journal of Transnational Islamic Law & Practice*, *20*(3).

https://search.ebscohost.com/login.aspx?direct=true&profile=ehost&scope=site&authtype=crawler&jrnl=17423945&AN=181002288&h=otqZ14O2bAjGc2WAg3krCGt3rvBYd9R4fva68J624hOj4OZPfHuh9WBp%2BMhV87VlezosmDPiuyTYmzRKTxo2cQ%3D%3D&crl=c

Naveed, A. (2024). *Nexus of Human Security and Digital Media in Mitigating Environmental Security Challenges: An Analysis of Floods in South Punjab* [PhD Thesis]. Centre for International Peace and Stability, National University of ….

Nusrat, F., & Khan, M. A. A. (n.d.). *Ensuring Environmental Justice (EJ) through Public Interest Litigation (PIL) in Bangladesh*. Retrieved July 5, 2025, from https://www.universepg.com/public/img/storage/journal-pdf/Ensuring%20Environmental%20Justice%20(EJ)%20through%20public%20interest%20litigation%20(PIL)%20in%20Bangladesh.pdf

Peel, J., & Osofsky, H. M. (2020). Climate Change Litigation. *Annual Review of Law and Social Science*, *16*(1), 21–38. https://doi.org/10.1146/annurev-lawsocsci-022420-122936

Qureshi, A. H. (2023). *Law Reforms Around the World: Perspectives from National and International Law*. Taylor & Francis. https://books.google.com/books?hl=en&lr=&id=8bTdEAAAQBAJ&oi=fnd&pg=PP1&dq=All+these+intertwined+reforms,+such+as+constitutional+recognition,+specialised+courts,+harmonisation+of+law,+strengthening+institutions+and+climate+legislation,+would+change+and+reform+the+environmental+governance+system+in+Pakistan.+++:+2022&ots=Fznt0crfuu&sig=y82OaxyEnIgB88SPGtz_Vc33n2s

Raazia, I., Amin, A., & Irfan, S. (2023). Global climate change and human security nexus: A case of Pakistan. *Global Foreign Policies Review*, *6*(6), 39–52.

Raiissa-Zita Mah, N. (n.d.). *Protecting the rights of refugees, from North Africa to Europe. An analysis of legal policies and laws implemented towards refugees effective protection*. Retrieved July 5, 2025, from https://dspace.lib.uom.gr/handle/2159/33038

Rasool, A., Saeed, S., Ahmad, S., Iqbal, A., & Ali, A. (2024). Empowering community participation for sustainable rural water supply: Navigating water scarcity in Karak district Pakistan. *Groundwater for Sustainable Development*, *26*, 101269.

Rauf, A., Muhammad, Y., & Yousaf, A. (2024). Centering marginalized voices: Examining political and social rights in Pakistani elite school textbooks. *International Journal of Social Science\backslash& Entrepreneurship*, *4*(2). https://www.researchgate.net/profile/Yaar-Muhammad/publication/380919166_Centering_Marginalized_Voices_Examining_Political_and_Social_Rights_in_Pakistani_Elite_School_Textbooks/links/6698aaf4cb7fbf12a459d75a/Centering-Marginalized-Voices-Examining-Political-and-Social-Rights-in-Pakistani-Elite-School-Textbooks.pdf

Rizwan, A., Naveed, S., & Ahmed, R. (2024). Building Effective Governance, Inclusive Societies, and Strong Institutions: An Assessment of Citizen Participation in Pakistan. In H. Zafarullah & F. Azmat (Eds.), *Governance and Sustainable Development in South Asia* (pp. 27–48). Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-67616-1_2

Roaf, V., de Albuquerque, C., & Heller, L. (2018). The Human Rights to Water and Sanitation: Challenges and implications for future priorities. In *Equality in water and sanitation services* (pp. 26–43). Routledge. https://www.taylorfrancis.com/chapters/edit/10.4324/9781315471532-2/human-rights-water-sanitation-virginia-roaf-catarina-de-albuquerque-l%C3%A9o-heller

Samuels, L., Nakstad, B., Roos, N., Bonell, A., Chersich, M., Havenith, G., Luchters, S., Day, L.-T., Hirst, J. E., Singh, T., Elliott-Sale, K., Hetem, R., Part, C., Sawry, S., Le Roux, J., & Kovats, S. (2022). Physiological mechanisms of the impact of heat during pregnancy and the clinical implications: Review of the evidence from an expert group

meeting. *International Journal of Biometeorology*, *66*(8), 1505–1513. https://doi.org/10.1007/s00484-022-02301-6

Sattar, E. (2023). The Political Economy of Water. In M. Ahmad (Ed.), *Water Policy in Pakistan* (Vol. 30, pp. 33–67). Springer International Publishing. https://doi.org/10.1007/978-3-031-36131-9_2

Sawada, Y. (2022). Preferences, behavior, and welfare outcomes against disasters: A review. *Handbook on the Economics of Disasters*, 252–274.

Shah, A. A., Ullah, W., Khan, N. A., Khan, A., Alotaibi, B. A., Alam, E., & Ullah, A. (2025). Health and Livelihood Impacts of Flood Hazards on Internally Displaced Persons in Pakistan. *International Journal of Disaster Risk Reduction*, 105295.

Shahzad, A., & Humza, N. (2024). Conceptualizing Green Governance: Prospects and Challenges for Pakistan. *Journal of Politics and International Studies*, *10*(2), 1–13.

Syed, F. Z., Awan, M. W., & Mumtaz, T. (2024). Environmental governance and policy implementation in Pakistan: Assessing Institutional capacities and challenges. *Journal of Development and Social Sciences*, *5*(2), 407–419.

Syed, F. Z., Qais, U., & Mumtaz, T. (2023). From Centralization to Empowerment: Exploring Decentralized Governance in Pakistan for Sustainable Development. *Journal of Peace, Development and Communication*, *7*(03). https://www.pdfpk.net/ojs/index.php/jpdc/article/view/534

Talha, A., Noor, S., & Mingfei, M. A. (2024). Environmental Rights as Human Rights: A Case Study of Pakistan and Multiple Approaches towards their Recognition. *Pakistan Social Sciences Review*, *8*(4), 82–97.

Tsai, S. L., Ochiai, C., Deng, C. Z., & Tseng, M. H. (2022). A sustainable post-disaster housing development framework for an indigenous Hao-Cha community in Taiwan: Considering culture and livelihood in housing extensions. *International Journal of Disaster Resilience in the Built Environment*, *13*(5), 583–600.

Uddin, A. (2024). Opportunities and challenges in implementing a rights-based approach to community development projects in Pakistan: A social responsibility and human rights perspective. *Bridging Human Rights and Corporate Social Responsibility: Pathways to a Sustainable Global Society*, 255–282.

Ullah, A., & Ali, A. (2024). *Investigating corruption, income inequality, and environmental degradation in Pakistan: A time series analysis*. https://mpra.ub.uni-muenchen.de/id/eprint/121291

Ullah, I., Zeng, X.-M., Hina, S., Syed, S., Ma, X., Iyakaremye, V., Yin, J., & Singh, V. P. (2023). Recent and projected changes in water scarcity and unprecedented drought events over Southern Pakistan. *Frontiers in Earth Science*, *11*, 1113554.

Ullah, W., Dong, H., Shah, A. A., Alotaibi, B. A., Khursid, M., & Nihei, T. (2024). Unseen suffering: Social injustice among women during climate-induced migration in Pakistan. *Climate Risk Management*, *46*, 100663.

World Bank. (2023). *Climate-Smart Development for Pakistan. Washington, DC: World Bank.*

Zaheer, B., Saddique, A. A., Ulla, H. M. H., & Kashif, M. (2025). Violation of Human Rights in Pakistan, Challenges and Progress. *The Critical Review of Social Sciences Studies*, *3*(1), 1864–1878.