

## **LEGAL FRAMEWORKS AND CASE LAWS IN ADDRESSING CLIMATE CHANGE AND EXTREME WEATHER EVENTS IN PAKISTAN**

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### **Abstract**

*One of the most vulnerable countries to climate change, Pakistan experiences frequent, severe weather events – such as flooding, droughts, and heat waves. In response, the country has developed statutory frameworks and has been a party to landmark climate litigation around these pressing issues. The function of reducing climate hazards in Pakistan via current key climate-related laws, the Pakistan Climate Change Act of 2017, the National Climate Change Policy of 2012, and the National Disaster Management Act of 2010 are analyzed in this article. It also examines case laws, including Leghari v. Pakistan. In 2015, the Federation of Pakistan established precedence for climate accountability in securing citizens' fundamental rights from the state during climate transformation. Pakistan has advanced in climate governance, but implementing and enforcing its legal frameworks is always challenging. This article emphasizes that Pakistan's judiciary and legal frameworks now play an increasing part in determining the country's climate resilience status and that of future generations.*

**Keywords:** Climate change, Extreme weather events, litigation, Disaster Management Act, Legal frameworks.

### **INTRODUCTION:**

*Constrained by its relatively low carbon footprint compared to other countries worldwide, Pakistan is one of the most vulnerable countries to climate change. Pakistan is located in South Asia, and its closeness to social and economic challenges that face the country as a whole, coupled with a peculiar*

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*geographical disposition, heightens its risk of being affected by the effects of extreme weather conditions. During the period from 2000 to 2019, Pakistan was ranked 8th on the Global Climate Risk Index and repeatedly affected by several disasters such as record-breaking floods to significant heat waves, prolonged droughts, glacial lake outburst floods (GLOFs) due to which, Pakistan's resilience is strained (Eckstein, Künzel, Schäfer, & Wings, 2019). This climate volatility has further exacerbated existing socio-economic vulnerabilities, especially in weak rural areas that depend entirely on agriculture and water resources.*

*These climate-related changes have immense implications. About 19% of Pakistan's Gross Domestic Product (GDP) and approx. 39% of its labor force is directly dependent on agriculture ("Pakistan Bureau of Statistics," 2021a), which is extremely sensitive to temperature and precipitation patterns. Moreover, Pakistan is an arid to semi-arid country heavily reliant on glacial melt and seasonal monsoons, which stresses its water resources. The northern areas of rapid glacier retreat threaten water supplies for millions, and along with water supplies is the threat of more frequent GLOF events that have already become more frequent in recent years. For instance, melting rates are unprecedented in some of the world's largest glacier regions, such as Karakoram and Hindu Kush, which have caused catastrophic flood events (K Hewitt, 2014) in nearby communities.*

*The pressing challenges require Pakistan to develop a series of legal and policy frameworks for climate adaptation and mitigation. These efforts are underpinned by the National Climate Change Policy (NCCP) introduced in 2012, which provides strategies for managing climate change impacts in different sectors such as energy, agriculture, water, and health (NCCP, 2012). This was built upon by the Pakistan Climate Change Act of 2017, which set up institutional architecture, including the Pakistan Climate Change Authority and Pakistan Climate Change Council, to coordinate and implement climate policies across federal provinces. Although these frameworks provide a basis, Pakistan's climate resilience strategy has been hampered by implementation obstacles, including institutional constraints, inadequate resource allocation, and coordination challenges between the federal and provincial authorities.*

*Additionally, Pakistan's judiciary has increasingly become a field for climate activism as climate change is understood to be a fundamental human rights issue. In the case of Leghari v. Federation of Pakistan, the Lahore High*

Court declared the denial of the right to life and dignity of citizens involved in not implementing the National Climate Change Policy (Lahore High Court, *Leghari v. Federation of Pakistan*, W.P. No. 25501/2015). Besides creating the Climate Change Commission, this milestone also began a legal precedent, requiring judiciary oversight into climate policies and seeing the government as answerable to environmental protection.

This article explores Pakistan's legal journey regarding climate change and extreme weather events. It examines key legislation, policy framework, and case law to examine the challenges and progress made by Pakistan in responding to the growing climate crisis. In an era of increasing climate impacts, Pakistan's intent to build resilience through legal reform and judicial engagement is more critical than ever to protect its socio-economic stability and vulnerable communities.

### **CLIMATE CHANGE AND EXTREME WEATHER IN PAKISTAN**

In the last few years, Pakistan has increasingly had to contend with severe consequences of climate change, including devastating impacts on its people, infrastructure, and economy. Unusually high monsoon rainfall triggered super floods in 2010, which were among the most catastrophic. Flooding affected over 20 million people, swept across one-fifth of the country, killed about 2,000 people, and displaced millions. The economic implication of this disaster was and remains enormous spending; according to estimates, over \$10 billion contributed to loss due to the destruction of infrastructure, homes, and farmlands (Shahid, 2012). As fertile lands, livestock, and crops were submerged, the agricultural sector, which employs 38.8% of Pakistan's workforce and generates almost 19% of the nation's GDP, was incredibly hit ("Pakistan Bureau of Statistics," 2021b). The 2010 floods revealed Pakistan's vulnerability to climate-driven extreme weather events and have brought a more decisive impetus for new legal frameworks and policies to ensure effective management of disaster risks and enhance climate resilience.

In 2015, Karachi faced a tragic heat wave – more than 1,200 people were killed, and many more were affected by severe heat-related illness. In June 2015, Pakistan saw one of the deadliest in its history as heat wave hit during the month of Ramadan when the majority of the population fasted. To make things worse, there were also electricity shortages and poor urban infrastructure, with many residents without air conditioning or sufficient hydration (Habeeb, Vargo, & Stone, 2015). The event also highlights the unprecedented rise of heat waves in Pakistan, with global warming and amendments in climatic patterns behind

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*them. Because Karachi's infrastructure isn't set up to deal with extreme temperatures, the city's urban layout, with limited green spaces and lousy ventilation, intensifies the city's risk of heat. A single heat wave in 2015 was a watershed moment, demonstrating the importance of urban planning reforms and climate adaptation in Pakistan's major cities (Batool, Muhammad, & Zia, 2017).*

*The 2010 floods and the 2015 heat wave are part of a trend in which extreme weather events are worsening in Pakistan. These events are related to significant scale shifts in patterns of climate globally, and Pakistan's climate profile is specifically affected by many factors, including rising temperatures, irregular monsoon rains, and Himalayan and Karakoram glacial melt (Kenneth Hewitt, 2017). The Global Climate Risk Index (2019) reported that Pakistan was the 8th most affected country due to extreme weather events from 2000 to 2019 (Eckstein et al., 2019). As a result of these elevated vulnerabilities, there has been an uptake in Pakistan's recognition of the need for comprehensive legal and policy measures aimed at both climate mitigation and adaptation. Most mitigation efforts focus on cutting greenhouse gas emissions and encouraging renewable energy. At the same time, some adaptation measures can be achieved by protecting vulnerable communities and building resiliency for the near-term impact of climate-related disasters.*

*However, these challenges have also been recognized by the Pakistani government, and in response to that, in 2012, the government put forward the National Climate Change Policy (NCCP) 2012 and the Pakistan Climate Change Act 2017, which cover efforts to make Pakistan more climate resilient (Ministry of Climate Change, 2012). The NCCP provides a strategic framework encompassing several climate change dimensions, such as water, agriculture, disaster management, and health. The 2017 Climate Change Act takes things further by establishing the Pakistan Climate Change Authority, tasked to implement climate policies and coordinate adaptation and mitigation efforts at federal and provincial levels. Nevertheless, these policies are at a very early stage of implementation. Pakistan's resource limitations, governance challenges, and absence of coordinated response mechanisms at the local level (Ahmad, 2018) prevent the country from developing the capacity to address climate impacts.*

## **LEGAL FRAMEWORKS IN PAKISTAN**

### **PAKISTAN CLIMATE CHANGE ACT (2017)**

*This is one of the most crucial legislative instruments for dealing with the challenges of climate change. Its landmark law set up the Pakistan Climate Change Council and the Pakistan Climate Change Authority, which are required to coordinate, monitor, and implement government policies and programs on climate change matters ("Government of Pakistan," 2017). A central feature of the Act is the requirement that it must provide for the development of detailed adaptation and mitigation plans in the crucial areas of renewable energy development, sustainable land use, and disaster risk reduction, for instance. Pakistan's commitments under international climate agreements, including the Paris Agreement, have a legal basis in the Climate Change Act. It aims to enable the government to formulate policies that align with reducing greenhouse gases and reinforcing national climate resilience. Besides, the Act addresses how to engage with other stakeholders in a framework that encourages a joint effort through legislative and practical initiatives to counter climate impacts (Ahmad, 2018).*

### **NATIONAL CLIMATE CHANGE POLICY (2012)**

*Even before the Climate Change Act was enacted, Pakistan introduced the National Climate Change Policy (NCCP) in 2012, now the foundational strategy for climate change response. The focus of adaptation efforts in water resources, energy, and agriculture are areas of high vulnerability to climate risks. Pakistan is highly vulnerable to extreme weather events like floods and drought, so policy stresses that building climate resilience through sectoral adaptation strategies is critical (Ministry of Climate Change, 2012). The NCCP presents strategic criteria for reducing carbon emissions, developing renewable energy, and strengthening conservation in agriculture and forest management. The policy also includes a community-based adaptation component as a significant policy component, especially for the remote regions that are affected the most by climate change (Batoool et al., 2017).*

### **ENVIRONMENTAL PROTECTION ACT (1997)**

*Although not explicitly targeted at climate change, the Pakistan Environmental Protection Act (PEPA), 1997, is critically important in regulating environmental degradation and promoting development sustainability. It requires Environmental Impact Assessments (EIAs) to be made and offers mechanisms for dealing with polluters. It also functions as a regulation tool to regulate activities that contribute to emissions of greenhouse gases or pollutants causing environmental deterioration, including those*

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*causing further climate change (Shahid, 2012).*

### **NATIONAL DISASTER MANAGEMENT ACT (2010)**

*To address the growing number of extreme weather events, the National Disaster Management Act was promulgated to fix a body of law on disaster preparedness, risk reduction, and response. The National Disaster Management Authority (NDMA) was envisioned, along with its provincial counterparts, to manage disaster risk effectively. As the law is pertinent, especially in terms of climate change, it is intended to safeguard vulnerable communities from the natural disasters that are related to climate change impacts ("Government of Pakistan," 2010).*

### **KEY CASE LAW ON CLIMATE CHANGE AND ENVIRONMENTAL PROTECTION**

*But Pakistan's judiciary has also been proactively addressing environmental and climate issues, setting important legal precedents through landmark cases concerning environmental rights.*

### **LEGHARI V. FEDERATION OF PAKISTAN (2015)**

*Leghari vs. the Federation of Pakistan is one of Pakistan's most significant climate-related cases. Farmer Asghar Leghari took the government to court for failing to enact the National Climate Change Policy and Framework for the Implementation of Climate Change Policy (2014-2030). In favor of Leghari, the Lahore High Court found that the government's inaction on climate change was a violation of fundamental human rights (the right to life [Article 9] and right to a healthy environment [Article 14]) as provided in the Constitution of Pakistan (Khan, 2016). A Climate Change Commission is the measure in a groundbreaking move for a court that will oversee how the government will implement its obligations under climate. This is a groundbreaking ruling in Pakistan's climate jurisprudence in that it states the state's duty to protect its citizens from the grave harms that result from climate change. However, what is crucial about the decision is that it held the government to account for its climate commitments, as it instilled in the judiciary the sense of being a defender of the citizens' rights in the face of climate challenges (Leghari v. Federation of Pakistan, 2015, W.P. No. 25501/201). The Climate Change Commission oversees the government's implementation of its climate obligations. This ruling emphasized the state's duty to protect its citizens from the adverse impacts of climate change, marking a pivotal moment in Pakistan's climate jurisprudence. The court's decision held the government accountable for its environmental*

*commitments and underscored the judiciary's role as a guardian of citizens' rights in the face of climate challenges.*

#### **SHEHLA ZIA V. WAPDA (1994)**

*Shehla Zia v. WAPDA was an initiative conceived long before the present-day discourse on the climate crisis, which helped plant the seeds of enshrining if not inherent, environmental rights in Pakistan. The residents of Islamabad challenged the WAPDA's construction of a grid station by arguing that such construction meant serious health and environmental hazards. In a historic decision, the Supreme Court held that Article 9 of the Constitution — the right to life — necessarily includes the right to a clean and healthy environment (Zia, 1994). This case has acted as a precedent in environmental law regarding protecting climate and the environment. The court recognized the ecological right as a legal basis for the citizens to challenge the projects that threaten their health and environment. It again confirmed that development should be sustainable and protect human rights (Ms. Shehla Zia v. WAPDA, PLD 1994 SC 693).*

#### **RAB NAWAZ V. PROVINCE OF PUNJAB (2021)**

*However, in a more recent case Rab Nawaz vs. The Province of Punjab, the Lahore High Court took an urgent look at the issue of deforestation in the province of Punjab. The court directed the Punjab government to stop all deforestation activity and formulate an afforestation plan to combat the environmental damage caused by rapid urbanization and construction projects. (Rab Nawaz v. Province of Punjab, 2021). This shows how the judiciary advocates for sustainable development practices by ruling in favor of the growing awareness that protecting the environment has everything to do with climate resilience. However, the court has done well by prioritizing afforestation and forest conservation. This is a giant step in promoting an environmentally responsible governance framework to match climate goals (Rab Nawaz v. Province of Punjab. (2021). Lahore High Court).*

*These serve as landmark cases that reflect on the role of the judiciary evolving in Pakistan's climate governance landscape and thereby support a legal framework that protects environmental rights and holds accountability for climate action.*

#### **INTERNATIONAL COMMITMENTS AND PAKISTAN'S ROLE**

*Pakistan has signed up to several major international climate pacts, showing that it remains committed to tackling climate change, a priority worldwide. Amongst these, one of the most important agreements is the "Paris*

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*Agreement," agreed in 2015, which aims to limit the global temperature increase to 'well below' 2 degrees Celsius warmer compared to the pre-industrial level. As a part of this pact, Pakistan has promised to lower its greenhouse gas emissions under its Nationally Determined Contributions (NDCs), which specify particular emissions reduction and adaptation strategies. According to its NDCs, Pakistan has committed to a conditional target of reducing emissions by 20% by 2030, depending upon international assistance ("Government of Pakistan," 2016).*

*To achieve the above global commitments, it marked the "Pakistan Climate Change Act" in 2017 to match its national policies to the international ones. Pakistan also passed this Climate Change Act. This legislation formulates the Pakistan Climate Change Authority, which oversees climate change policies and plans in the country, coordinates intersectoral strategies and activities for fulfilling the commitments of the country's NDCs, and reviews the progress of those commitments (Khan, 2016). According to the Act, various adaptation and mitigation measures should include sustainable development strategies and promotion of renewable energy use. However, even with such frameworks in place, problems in the bureaucratic implementation of climate policies, including bureaucracy, little funds to support the climate strategies, diplomatic incidences, and weak political will (Ahmad, 2018).*

*Apart from the Paris Agreement, Pakistan also got involved in the United Nations Framework Convention on Climate Change (UNFCCC) and worked with them to promote climate action. The country has requested financial support from the "Green Climate Fund (GCF)," which provides funding for adaptation and mitigation of developing countries' climate. These initiatives are essential for Pakistan because it is very fragile due to the detrimental effects of climate change, including extreme weather events, floods, and droughts (Eckstein et al., 2019). The GCF is assisting Pakistan in improving its climate resilience — in key sectors such as agriculture, water management, and disaster preparedness. However, the GCF says it is not spending enough on the countries most vulnerable to climate change.*

*Additionally, Pakistan's contribution to international climate agreements is shown by its membership in several regional and international forums, where it has frequently spoken on behalf of developing countries regarding climate funding and technology transfer. This engagement highlights the necessity of efforts to deal with the multiple facets of climate change*

challenges. Many climate agreements to which Pakistan is a party underline that the country recognizes the urgent imperative to tackle climate change. However, this will require serious improvements in governance, resource allocation, and public awareness of the issue.

### **CHALLENGES AND OPPORTUNITIES IMPLEMENTATION AND ENFORCEMENT**

Although a robust legal framework has been created to combat climate change in Pakistan, implementing these legal frameworks is a serious issue. Several factors are behind this issue, from widespread 'corruption' to 'lack of financial resources' to 'lack of political will' to channel the focus on climate action. Although Pakistan's legal structures, including the Pakistan Climate Change Act and the National Climate Change Policy, furnish an all-round strategy for environmental governance (Ahmad, 2018), enforcement and monitoring mechanisms remain insufficient. Several landmark cases, most notably *Leghari v. Federation of Pakistan* in which the judiciary intervened. It is also due to this association of Pakistan: 'Holding the government accountable for its inaction on climate actions.' The judiciary's role as a guardian of fundamental rights, also highlighted in this case, was that the right to life includes the right to live in an environment that is healthy and ecologically balanced. Their court ruling resulted in the establishment of a Climate Change Commission to hold the government accountable for its obligations under climate change (Khan, 2016).

### **PUBLIC AWARENESS AND PARTICIPATION**

While the public is slowly becoming more aware of the laws and policies surrounding climate change, there is limited awareness, and it is primarily prevalent among those directly affected by severe changes brought about by climate change. Then, adopting policies requires raising public consciousness regarding climate issues and enabling the communities to play an active and significant role in environmental decision-making (Batool, Muhammad, and Zia, 2017). Additionally, civil society organizations can critically advocate for environmental rights and encourage the community to participate in climate action. Ensuring that the government reacts to and adopts the local priorities and that communities have a compelling voice in determining priorities will be the key to contributing to a culture of accountability and responsiveness in the local government. Most public engagement initiatives aimed at educating and creating awareness can mobilize communities in referring to sustainable practices or enforcement of climate law (Ahmad, 2018).

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### ROLE OF JUDICIARY IN CLIMATE JUSTICE

*In Pakistan, for example, the judiciary has stepped into the governance gap and ensured that the government fulfills its commitment to climate. It sets the stage for more rights-based climate litigation down the road. Not only has the judiciary recognized the legal rights to a healthy environment, but the courts have also given a precedent to other environmental cases (Ms. Shehla Zia v. WAPDA, PLD 1994 SC 693). In recent years, the judiciary has increasingly perceived climate change and human rights as related issues; this understanding can allow future human rights cases to rely on environmental rights as a broader social justice platform (Khan, 2016). It gives marginalized communities who have borne the brunt of the climate impacts a chance to redress the system through the court.*

### CONCLUSION

*Pakistan's legal landscape around climate change and extreme weather events is evolving, and legislative and judicial work is at play. Leghari v. Federation of Pakistan is a landmark case. The precedents for environmental and climate litigation that could be set through these cases highlight the potential for climate justice in Pakistan. The country has enacted stringent laws seeking to control climate change, but implementation, enforcement, and resource allocation remain challenging. Going forward, Pakistan needs to build legal and institutional capacities to protect its people from the increasingly significant threats resulting from climate change and extreme weather events.*



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