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Judicial Role in Advancing SDG 6: 25 Years of Climate and Water Rights Litigation in Pakistan

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Abstract

This paper examines the judicial role in advancing Sustainable Development Goal (SDG) 6, which guarantees access to clean water and sanitation, through climate and water rights litigation in Pakistan over the past twenty-five years. Pakistan, being highly vulnerable to climate-induced water scarcity and environmental degradation, has witnessed a progressive judicial response that has increasingly linked constitutional rights to environmental protection and sustainable resource management. The Supreme Court and High Courts have expanded the scope of fundamental rights, particularly the right to life and dignity under Article 9 of the Constitution, to include access to clean water and a healthy environment. Through landmark judgments, the judiciary has not only enforced environmental standards but also held state authorities accountable for sustainable water governance. This study adopts a doctrinal and case-law analysis to trace the evolution of judicial reasoning, highlighting how courts have aligned constitutional interpretation with Pakistan's international obligations under the SDGs. By situating Pakistan's experience within broader debates on climate justice and environmental constitutionalism, the paper demonstrates how judicial activism has become a critical driver of sustainable development. The findings suggest that Pakistan's judiciary has played a pioneering role in operationalizing SDG 6, though challenges of enforcement and institutional capacity remain significant.

Keywords: *Judicial Activism, Sustainable Development Goal 6 (SDG 6), Climate Justice, Right to Water, Environmental Constitutionalism, Pakistan*

1. Introduction

Pakistan's Water security is at the core of climate risk, development opportunities and fundamental rights in Pakistan. In 2022, unprecedented monsoon flooding impacted approximately 33 million individuals, resulting in damage and losses of the order of US \$30 billion, highlighting the immediate conversion of climate shocks into

water and sanitation crises that have threatened health, livelihoods and recoveries (Mirza & Dixit, 2025). International indices consistently place Pakistan among the most climate-vulnerable countries, with exposure to floods, droughts and glacial hazards that amplify water stress (Eckstein et al., 2021). These realities make Sustainable Development Goal 6—clean water and sanitation for all—not only a development target but a constitutional and human rights imperative.

Over the last quarter-century, Pakistani courts have helped define that imperative. In *Shehla Zia v. WAPDA* the Supreme Court read the right to a healthy environment into Articles 9 and 14 of the Constitution, extending the scope of “life” to encompass environmental quality (Hameed et al., 2025). Two decades later the Lahore High Court’s *Asghar Leghari v. Federation of Pakistan* treated government inaction on climate policy as a violation of fundamental rights, created an implementation commission and linked climate adaptation to water, food and energy security (Ohdedar, 2021). Together these cases moved clean water and a healthy environment from policy aspiration to justiciable right.

Judicial oversight has also reached concrete water governance problems. The Supreme Court exercised suo-motu jurisdiction to interrogate groundwater extraction by bottled-water firms and compelled executives to appear in court, catalyzing regulatory and cost-recovery debates on the use of public aquifers (Shabbir et al., 2024). In Sindh the Court commissioned an inquiry into unsafe drinking water and dysfunctional sanitation, producing granular directives for provincial authorities and regulators (Khuhro et al., 2024a). These interventions illustrate how courts can convert diffuse administrative failures into enforceable duties.

This article evaluates the judiciary’s role in advancing SDG 6 through climate and water rights litigation in Pakistan from 1999 to 2024. It situates landmark rulings within empirical accounts of Pakistan’s water and WASH challenges and engages global guidance on SDG 6 implementation. UN-Water’s synthesis stresses that weak planning, finance and governance are binding constraints worldwide (Connor, 2015), while national diagnostics document persistent service gaps, contamination risks and inequities that litigation alone cannot solve (Mansuri et al., 2018). Building on this evidence, we ask when courts accelerate progress on SDG 6, when they expose institutional bottlenecks and how their remedies interact with executive capacity, federalism and regulatory design.

2. Background and Context

2.1 Pakistan’s Water Crisis in Perspective

Water stress in Pakistan is both structural and chronic. Although the country is located in a river basin historically fed by Himalayan glaciers and monsoons, rapid population growth, inefficient irrigation, urbanization and climate variability have created acute scarcity. The per capita availability of renewable freshwater has declined from about 5,260 cubic meters in 1951 to less than 1,000 cubic meters today, placing Pakistan among water-scarce nations (Asif, 2013). This decline is not only quantitative but also qualitative. Water contamination from industrial discharge, untreated sewage and agricultural runoff has left nearly 80 percent of water in the Indus Basin unsafe for drinking (Fida et al., 2023). In rural areas, women and children are disproportionately burdened with collecting water, while urban informal settlements face irregular supply and deteriorating infrastructure.

The Indus Basin Irrigation System (IBIS), the largest contiguous irrigation network in the world, channels more than 90 percent of available water into agriculture (Peña-Arancibia, 2020). Yet its efficiency is estimated at less than 40 percent due to seepage, outdated infrastructure and inequitable distribution. Farmers at the tail end of canals often receive little or no water during peak seasons, aggravating rural inequality and fueling local disputes. These challenges underscore the multidimensional character of Pakistan's water crisis, which simultaneously involves scarcity, contamination, mismanagement and inequity.

2.2 Climate Change and Water Vulnerability

Pakistan's water crisis cannot be understood without considering climate change. The country's dependence on glacier-fed rivers makes it acutely sensitive to shifts in temperature and precipitation. The Intergovernmental Panel on Climate Change (IPCC) warns that the Hindu Kush–Karakoram–Himalaya region will experience accelerated glacial retreat and irregular monsoons, amplifying the risk of both floods and droughts (S. A. Ali & Parvin, 2025). Floods such as those in 2010 and 2022 demonstrate how climate extremes devastate water infrastructure, displace millions and overwhelm institutions. Conversely, droughts in Sindh and Balochistan reveal the slow-onset dimension of climate impacts, often neglected in emergency response frameworks.

These vulnerabilities feed directly into the challenges of implementing SDG 6, which emphasizes universal access to safe water and sanitation. Climate extremes not only damage water supply infrastructure but also contaminate groundwater and surface sources, exacerbating health risks. Children are particularly exposed, with waterborne diseases contributing to high rates of stunting and mortality (Zahid, 2018). As climate change accelerates, ensuring safe and equitable access to water requires integrating resilience into legal, institutional and governance frameworks.

2.3 The Constitutional Foundation

The right to water or a healthy environment is not clearly stated in the Constitution of Pakistan, 1973. The interpretation of environmental entitlements into fundamental rights, however, has been bridged by judicial interpretation. Articles 9 (right to life), Article 14 (dignity of man) and Article 38 (promotion of social and economic well-being) have been understood to mean that a state should have the duty to enable access to clean water. This act of interpretation belongs to a larger movement called environmental constitutionalism that acknowledges environmental protection as a key to the enjoyment of basic rights (Kelleher, 2023).

The use of constitutional provisions by the courts has enabled litigants to formulate water grievances as rights-based grievances as opposed to simply policy grievances. This would improve justiciability and would place the governance of the environment and water into the context of state responsibility. In addition, the right to water has been strengthened with reference to international law in which courts have referred to the obligations of Pakistan under the International Covenant on Economic, Social and Cultural Rights (ICESCR). The application of international duties by the judiciary has harmonized the local jurisprudence with the international trends in the law of the environment and human rights

2.4 The Role of Public Interest Litigation

Another unique aspect of the judicial involvement of water rights in Pakistan is a mechanism called public interest litigation (PIL). Courts have since the 1980s softened their traditional standing provisions to permit

citizens, NGOs and lawyers to present collective grievances at higher courts. Communities living in water scarcity, pollution or unsafe sanitation conditions have been empowered through this procedural innovation to access justice even when individually weak or marginalized. The PIL framework has also enabled the judiciary to target systemic problems like groundwater regulation or waste management with broad orders which bind executive agencies.

This model is not without criticism. Some scholars argue that judicial activism risks overstepping separation of powers and produces unenforceable judgments. Others note that courts often lack the technical expertise required to design water management systems. Yet, in the absence of strong administrative capacity, PIL has become one of the most effective tools to address environmental governance failures. By framing water disputes as matters of fundamental rights, the judiciary has provided a forum for accountability and reform that might otherwise be unavailable.

2.5 Linking to Sustainable Development Goals

The adoption of the SDGs in 2015 provided Pakistani courts with a new normative vocabulary. While SDG 6 specifically targets clean water and sanitation, related goals on climate action (SDG 13), health (SDG 3) and reduced inequalities (SDG 10) intersect with water governance. Courts have occasionally referenced these goals in their reasoning, thereby linking domestic rights to international development commitments. This alignment enhances the legitimacy of judicial interventions and situates Pakistan within the global movement toward sustainable development.

However, the practical impact of judicial engagement with the SDGs depends on implementation. Court orders can mandate new commissions, reporting obligations or regulatory reforms, but translating these directives into sustained improvements requires political will and bureaucratic follow-through. This tension between judicial innovation and institutional inertia is a recurring theme in Pakistan's water litigation and will be examined in subsequent sections of this paper.

3. Judicial Evolution of Water Rights in Pakistan

3.1 Early Recognition: The Shehla Zia Precedent

The judicial journey toward recognizing water as a constitutional right in Pakistan began indirectly with *Ms. Shehla Zia v. WAPDA* (1994) (Hussain et al., 2024). The Supreme Court, faced with a petition against the installation of a grid station near a residential area, held that the constitutional guarantee of life under Article 9 includes the right to a clean and healthy environment. Although the case did not directly concern water, it established a doctrinal foundation: environmental quality was inseparable from the right to life. This reasoning later allowed litigants and judges to extend the same principle to the domain of water quality, sanitation, and equitable distribution.

The *Shehla Zia* judgment reflected an early judicial willingness to interpret fundamental rights expansively, well before water rights entered mainstream constitutional debate. It also marked the adoption of a precautionary approach, placing responsibility on public authorities to prevent environmental harm. The court's language suggested that where administrative inertia threatened life or dignity, judicial intervention was both legitimate and necessary.

3.2 Expansion in the 2000s: Linking Water to Dignity and Health

By the early 2000s, Pakistan's courts began explicitly addressing water access and contamination as matters of constitutional rights. The Lahore High Court in *Human Rights Case No. 12185/2005* dealt with water pollution caused by industrial effluents in Kasur. The court held that the right to life encompassed access to unpolluted water, noting that waterborne diseases disproportionately harmed marginalized communities (May & Daly, 2023). Similarly, the Sindh High Court in *Residents of Karachi v. Sindh Environmental Protection Agency* emphasized the link between water quality and human dignity, compelling authorities to regulate industrial discharge into Karachi's water supply channels (Khuhro et al., 2024b).

This period signaled the judiciary's transition from general environmental protection to more concrete engagement with water governance. Courts invoked Articles 9 and 14 together, treating water contamination not only as a health risk but also as a violation of human dignity. These rulings underscored the indivisibility of environmental and socio-economic rights.

3.3 The Climate Turn: Asghar Leghari v. Federation of Pakistan

A transformative moment arrived with *Asghar Leghari v. Federation of Pakistan* (2015). The petitioner, a farmer, argued that government inaction in implementing the National Climate Change Policy violated fundamental rights. Justice Syed Mansoor Ali Shah of the Lahore High Court agreed, declaring that climate adaptation was a constitutional duty (Mahaseth & Goyal, 2021). Crucially, the judgment identified water, food, and energy security as interlinked pillars of the right to life, thereby embedding water within the broader climate justice framework.

The court established a Climate Change Commission to monitor executive compliance, demonstrating a shift from declaratory judgments to active supervision. This approach elevated judicial engagement from reactive dispute resolution to proactive governance. Although critics questioned the feasibility of judicially managed commissions, the case marked the first time a Pakistani court explicitly connected climate inaction with violations of the constitutional right to water.

3.4 Institutionalizing Oversight: Commissions and Suo Motu Cases

The Supreme Court and provincial High Courts have since relied on commissions and suo motu jurisdiction to address systemic water problems. In 2017, the Supreme Court appointed a commission to investigate unsafe drinking water and sanitation in Sindh. Its report revealed widespread contamination, malfunctioning treatment plants, and poor regulatory enforcement (M. Ahmad et al., 2021). The Court issued binding directives, requiring the provincial government to implement remedial measures and to report periodically.

Similarly, the Supreme Court's 2018 suo motu action against bottled water companies addressed unregulated groundwater extraction. The Court summoned corporate executives, ordered cost-recovery measures, and emphasized the public nature of aquifers (S. Ali, 2022). This marked a significant expansion of judicial activism into the regulation of private sector water use, highlighting the role of courts in balancing economic activity with resource sustainability.

3.5 Critical Reflections

The judicial history of water rights in Pakistan serves as an example of a trajectory between the abstract acknowledgment of environmental rights in the 1990s and the implementation of water rights linked to climate in the 2020s. Courts have gradually extended the constitutional interpretation of life and dignity to cover right to safe, adequate, and fair water. They have invoked international law, the discourse of sustainable development and public interest litigation as reasons to intervene.

However, this trajectory is not without limitations. Judicial instructions are usually not implemented, because provincial and federal agencies are capacity- or politic-wise unable or unwilling to do so. Additionally, there is a view that judicial commissions erode the distinction of powers and result in systems of governance devoid of democratic accountability. Nevertheless, the activism of the judiciary has continued to place water and climate questions on the national agenda, entrenching them into constitutional and developmental paradigms

4. Comparative Insights: Judicial Approaches to Water Rights

4.1 India: Expansive Judicial Activism

The Indian Supreme Court has long exercised an activist role in environmental and water rights jurisprudence, often influencing its Pakistani counterpart. In *Subhash Kumar v. State of Bihar* (1991), the Court held that the right to life under Article 21 of the Indian Constitution includes the right to pollution-free water (Kar, 2023). Subsequent cases, such as *A.P. Pollution Control Board v. Prof. Nayudu* (1999), reinforced this interpretation by explicitly linking access to clean water with constitutional rights (Fatima, 2021). The Indian judiciary's reliance on public interest litigation has produced sweeping rulings, sometimes criticized for overreach, but nevertheless instrumental in embedding water rights into constitutional doctrine. Scholars note that this jurisprudence has created a "rights-based ecology," where courts use human rights discourse to fill regulatory gaps (Cullet et al., 2024).

The Indian experience provides valuable comparative lessons for Pakistan. Both countries share similar constitutional provisions and socio-economic contexts, yet India's higher judicial assertiveness has resulted in more elaborate jurisprudence on water rights. Pakistani courts have cited Indian precedents selectively, especially when expanding constitutional interpretations of life and dignity. The contrast highlights the potential and risks of strong judicial activism in contexts of weak administrative governance.

4.2 South Africa: Explicit Constitutional Recognition

South Africa represents a distinct model, where the right to water is expressly enshrined in the 1996 Constitution under Section 27 (Ndeunyema, 2021). This explicit recognition provides courts with a stronger normative foundation than in Pakistan or India, where judicial creativity fills textual gaps. Landmark cases such as *Mazibuko v. City of Johannesburg* (2009) tested the scope of this right, with the Constitutional Court holding that while the State has a duty to progressively realize access to sufficient water, it retains discretion in policy design (Kati, 2023). The judgment emphasized reasonableness rather than absolute entitlement, balancing rights with resource constraints.

The South African model demonstrates the advantages of textual clarity but also the limitations of judicial enforcement in resource-scarce settings. Scholars argue that the *Mazibuko* case reflects the court's caution in

avoiding overreach, contrasting with South Asian courts' more activist stance (Qumbu, 2021). For Pakistan, the lesson lies in combining judicial recognition with realistic governance frameworks to ensure enforceability.

4.3 Latin America: Judicial Innovation and Social Mobilization

Courts have led the way in efforts to base water governance on rights in Latin America, especially in Colombia and Costa Rica. Rivers and ecosystems have also been recognized as legal persons and water rights have been extended to environmental entities by the Colombian Constitutional Court (Gómez-Betancur et al., 2022). Community rights have been established in Costa Rica through litigation against water resource privatization and contamination (Rodríguez et al., 2022). A characteristic feature of Latin American courts is the integration of doctrinal creativity with close interaction with civil society movements, such that pronouncement by the court is seen as a component of the overall social mobilization of environmental justice.

This experience also shows how courts may transcend individual rights and reinterpret water as a universal ecological and cultural right. Although there are few cases when international norms were mentioned in Pakistani courts, they are yet to adopt the ecological personhood doctrines. However, the Latin American movement identifies ways in which jurisprudence can be extended beyond a human-centered approach to an ecosystem-centered approach.

4.4 Lessons for Pakistan

The comparative analysis reveals that the Pakistani judiciary has taken a hybrid path: it has borrowed the interpretive methods and approaches of India with its activist model of judiciary but has at times also exhibited the anxieties held by South Africa regarding the viability of an institution. The Pakistani courts have up to now shunned radical experimentations in doctrine, i.e. giving rivers legal personhood, as is the case in Latin America. This restrained growth represents the effort of the judiciary to weigh the creative use of the constitution against political validity.

The institutional context also comes out in the comparative record. South Africa has constitutional text to base judicial decisions on, as opposed to judges in India and Pakistan who depend on interpretive activism. Latin America provides a good example of judicial innovation being successful when it is combined with robust civil society participation. In the case of Pakistan, the way ahead could involve institutionalizing judicial successes by entrenching them into legislative and administrative systems so that court-recognized rights become institutionalized into water governance on the ground.

5: Policy and Institutional Implications

The trajectory of judicial interventions on water rights in Pakistan has had profound implications for public policy and institutional arrangements. By reading water rights into the constitutional guarantees of life and dignity, the superior courts have effectively expanded the scope of state responsibility. This activism has not only advanced the discourse on sustainable water governance but also compelled government institutions to adopt policies that align with constitutional protections and international commitments under the Sustainable Development Goals (SDGs), particularly SDG 6.

5.1 Judicial Activism and Policy Formation

Judicial pronouncements have often served as the foundation for policy directions where executive action was either absent or insufficient. For instance, the Supreme Court's suo motu actions in cases concerning water pollution and unsafe drinking water obliged provincial governments to establish regulatory mechanisms and initiate water treatment projects. Courts have thus functioned as a catalyst for environmental and developmental policies, bridging the gap between constitutional mandates and administrative inertia. However, the dependence on judicial directives raises concerns about the sustainability of such interventions, particularly in the absence of systematic follow-up by legislative or executive bodies (I. Ahmad et al., 2025).

5.2 Institutional Capacities and Implementation Challenges

While courts have succeeded in defining the contours of water rights, institutional weaknesses hinder their implementation. Pakistan's water governance structure remains fragmented, divided across federal, provincial, and local levels, with overlapping jurisdictions and limited coordination (Saddiqa et al., 2022). Agencies such as the Pakistan Council of Research in Water Resources (PCRWR) and provincial Environmental Protection Agencies (EPAs) often lack adequate resources and autonomy, reducing their ability to comply with judicial directives (Nawaz Khan & Mukhtar, 2024). Furthermore, there is no proper monitoring in place and therefore, enforcement of court orders is not consistent, creating a consistently large disparity between declarations and results in the courts.

5.3 Democratic Legitimacy and Separation of Powers

The presence of judicial action in policy areas is also subject to concerns over democratic legitimacy and power balances. Opponents believe that the courts are going into the policy-making business and that they may be encroaching upon the prerogatives of elected officials (Zaheer et al., 2025). However, in contexts where legislative inertia or executive inaction jeopardizes fundamental rights, judicial activism may be justified as a necessary corrective measure. In Pakistan, the judiciary's role in advancing water rights reflects both the limitations of political institutions and the urgency of addressing environmental challenges. The challenge lies in ensuring that such interventions complement rather than substitute democratic governance.

5.4 Aligning with SDG 6 and International Obligations

The judicial expansion of water rights has placed Pakistan's domestic governance within the broader framework of international law. By framing access to clean water as part of the right to life, the judiciary has indirectly reinforced Pakistan's commitment to SDG 6 and its obligations under international human rights treaties (Sheikh et al., 2022). Yet, the translation of judicial recognition into measurable progress on SDG targets requires institutional reforms, adequate funding, and participatory governance. Without these, judicial declarations risk remaining symbolic rather than transformative.

5.5 Policy Recommendations

The analysis of judicial interventions underscores the need for systemic reforms. First, Pakistan must strengthen institutional capacities by ensuring adequate resources and technical expertise for agencies tasked with water governance. Second, there is a need for better inter-agency coordination to avoid duplication and improve compliance with judicial directives. Third, the judiciary would need to establish systematic follow up measures

to evaluate how its decisions are being enforced, perhaps by special environmental benches or commissions. Finally, a greater engagement with civil society and local communities is vital to ensure that judicially recognized rights are translated into mass realities.

6: Conclusion

In the last two and a half decades, the Pakistani judicial system has slowly but surely changed the status of the right to water into a constitutional right. The courts have not just widened the scope of fundamental rights but have also created new pathways to environmental constitutionalism through a series of interventions that have linked the right to life and dignity with access to clean and safe water. This judicial experience shows how the courts in circumstances where the institutions fail to act persist in creating conditions where they can become key players in promoting the cause of sustainable development.

The acknowledgment of water rights demonstrates a more general change in constitutional attribution, in which social and environmental interests are integrated into the juridical order of rights protection. The judiciary has given the citizens a legal platform through which to question state negligence and hold them accountable by extending constitutional guarantees to incorporate environmental aspects into them. Courts have served as a platform through which complaints over the shortage, pollution and poor management of water have been given a voice thus validating the primacy of human dignity in governance.

Simultaneously, this development has demonstrated the structural conflicts between the judicial activism and the capacity to act institutionally. Although the judicial system has managed to influence the debate on water rights, the process of transforming these judicial proclamations into practical water access solutions is still imbalanced. There are still implementation gaps, coordination problems between state agencies and inadequate resources to achieve the water rights on the ground. These issues highlight the importance of judicial action as a way of initiating reform, but not as sufficient by itself to ensure sustainability.

Despite of these shortcomings, judicial involvement has been very important in institutionalizing water rights in the constitutional and developmental system of Pakistan. By placing water rights in the context of the Sustainable Development Goals, the courts have played a facilitating role between what is being done locally and what is being done at the global level. By so doing, they have helped to shape the identity of Pakistan as a state that seeks to make human rights and environmental sustainability part of its governance model.

The experience of the past twenty-five years suggests that the judiciary will remain a significant, though not solitary, actor in the pursuit of water justice. Judicial declarations must be complemented by robust legislative measures, administrative efficiency, and community participation if they are to produce lasting results. The courts have illuminated the path forward, but the responsibility of walking that path rests with political institutions and society at large.

Looking ahead, the judicial role in water rights litigation offers important lessons for Pakistan's broader engagement with sustainable development. It demonstrates the potential of constitutional interpretation to expand rights in innovative ways and to align domestic governance with international norms. Yet it also highlights the need for systemic reforms that move beyond case-by-case adjudication toward comprehensive

policy solutions. In this sense, the judiciary's contribution is best understood not as an endpoint but as a catalyst for deeper institutional and societal transformation.

In conclusion, the evolution of water rights in Pakistan illustrates both the promise and the limits of judicial intervention. Courts have succeeded in placing water at the heart of constitutional rights and sustainable development, but the future of these gains depends on whether institutions and communities can sustain the momentum. The past twenty-five years reveal a judiciary that has acted boldly to protect fundamental rights; the next twenty-five years must ensure that this vision is realized through effective governance, equitable distribution, and enduring access to clean water for all.

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