

Parliamentary Response to Climate Change: Evaluating the Contribution of Pakistan's Senate to Environmental Governance

Saqib Ali¹, Dr. Imtiaz Ahmad², Abdul Waheed³

¹ Visiting Lecturer Department of Mass Communication University of Jhang

^{2,3} Visiting Lecturer Department of Pakistan Studies University of Jhang

DOI: <https://doi.org/10.63163/jpehss.v3i1.197>

Abstract

Through profound effects on areas like agriculture, water resources, biodiversity, and socioeconomic development, climate change challenges Pakistan with an immediate and serious issue. This study assesses how the Senate of Pakistan advances climate governance through its oversight and legislating responsibilities. The study, which has its roots in institutional theory, looks at how the Senate influences executive accountability and the creation and execution of climate policy. The research paper evaluates how well the Senate handles climate adaptation and mitigation concerns through analysis of primary and secondary resources, such as Senate Hansards, debates, legislation, and monetary oversight mechanisms. The outcomes demonstrate the Senate's fluctuating responses to climate change throughout time as well as its crucial role in guaranteeing government accountability in addressing the nation's growing environmental problems.

Keywords: Climate Change, Environmental Governance, Pakistan's Senate, Legislative Oversight, Climate Policy

Introduction

Pakistan is particularly vulnerable to rising temperatures and unpredictable weather patterns, such as more frequent floods and droughts, due to its geographical location and primarily arid climate (Ali, 2020). Likewise, Pakistan's rivers, which are mainly generated by the Himalayan glaciers, are at risk due to global warming, which directly threatens water security (Rasul, 2012). Additionally, the coastal regions, particularly the Indus Delta, are experiencing saline water assault, destruction, and increased cyclonic activity, which exacerbates the country's climate-related issues (Khan 2020). Unlike these obstacles, climate adaptation options exist, such as the Indus Delta's wind power generation, which might improve resilience and promote sustainable livelihoods (Nasir & Majeed, 2018). By drafting legislation, monitoring the execution of policies, and ensuring executive accountability, the Senate of Pakistan plays an essential function in addressing these climate change issues. A major legislative milestone, the Pakistan Climate Change Act of 2017 established the Climate Change Council and Climate Change Authority, both of which have been tasked with coordinating national efforts to mitigate and adapt to climate change (Zafar, 2020). Furthermore, the Senate Standing Committee on Climate Change guarantees that the government executes its international commitments, including those indicated in the Paris Agreement, and offers a forum for continuous assessment of climate policies (Khan & Bukhari, 2021).

Theoretical Framework and Methodology

The study's theoretical foundation is institutional theory, which focuses on how formal institutions—like Pakistan's Senate—develop, implement, and uphold climate policy. According to the notion, organizations establish structures and regulations that codify procedures and guarantee stability and compliance over the long run (Scott, 2014). With legislation like the Pakistan Climate Change Act of 2017, the Senate's legislative power is

essential to institutionalizing climate action in the framework of climate governance. Additionally, by keeping an eye on how policies are being implemented and evaluating how the government is responding to climate-related concerns, the Senate Standing Committee on Climate Change guarantees accountability. The Senate's role in Pakistani climate governance is examined in this paper using both qualitative and quantitative methodologies. Hansard records, summaries, and Senate reports were among the primary sources of information collected through the Senate of Pakistan's official website. Peer-reviewed books and articles discussing the Senate's role in drafting and enforcing climate policy served as the source of secondary data. The frequency and patterns of Senate discussions on climate change concerns between 2018 and 2024 were examined using statistical approaches, while parliamentary questions, resolutions, and debates pertaining to climate change were examined using content analysis.

Literature Review

The literature on parliamentary functions in climate governance emphasizes how crucial legislatures are to addressing and preparing for the issues caused by climate change. The background and extent of the Senate of Pakistan's contribution to environmental governance has been clarified by the important research highlighted in this review. Wehner (2010) argues that parliament serve as essential mechanisms for oversight in addressing national concerns, such as climate change, and emphasizes the role of parliamentary institutions in fiscal oversight. According to the study, efficient financial oversight guarantees focused funding for adaptation and mitigation projects, which is especially important for developing nations like Pakistan. The legal foundations for climate governance in underdeveloped nations are examined by Schmidt and Fleig (2018). They draw attention to the ways that national climate policy, especially in vulnerable areas, can be influenced by legislative discussions and legislation. According to their findings, climate adaptability can be strengthened by active legislative engagement.

Carter and Jacobs (2014) examine how political institutions and environmental governance interact, highlighting how upper parliamentary chambers like senates influence legislation pertaining to the environment. They contend that senates are in a unique position to handle long-term sustainability issues because of their deliberative nature. In their study of climate debates in parliamentary settings, Wagner and Ylä-Anttila (2020) emphasize how the existence of legislative committees with a climate focus improves policy outcomes. Their research emphasizes how crucial organized institutional systems are to ensuring sustainable climate change legislation.

Haque et al. (2019) examine South Asian climate governance to offer a regional viewpoint. They contend that a lack of political will and institutional ability in nations like Pakistan restricts parliamentary scrutiny, which has an impact on how climate policies are implemented. This result supports the necessity for Pakistan's Senate to be more involved. Examining Pakistan's climate policy, Zafar (2021) emphasizes the Senate's involvement in discussing and passing important environmental laws. They emphasize how crucial committee assessments and parliamentary investigations are to holding the executive branch responsible for climate adaptation and mitigation strategies.

The article "Empowering the Senate: Enhancing Executive Oversight and Accountability in Pakistan" (Ahmad, 2024) explores the Senate's function in fostering democratic government and holding the executive branch responsible. In order to address issues including limited capacity, political division, and inadequate legislative independence, the report emphasizes the significance of standing committees and institutional reforms. In order to improve the Senate's oversight function, Ahmad highlights the necessity of capacity building, bipartisan cooperation, and procedural autonomy. The paper advances knowledge on how legislative bodies might improve accountability in emerging democracies like Pakistan by referencing international best practices.

Climate Change and Legislation in Pakistan

Pakistan's climate change legislation have evolved to strike a balance between international responsibilities and domestic objective. The 1997 Pakistan Environmental Protection Act (PEPA), which placed a strong emphasis on pollution prevention and conservation, laid the groundwork for environmental governance (Pakistan Environmental Protection Act, 1997). The National Climate Change Policy (NCCP), which was introduced in 2012 and was Pakistan's first comprehensive policy addressing climate adaptation and mitigation across important sectors like water, agriculture, and energy, further enhanced this framework (National Climate Change Policy, 2012).

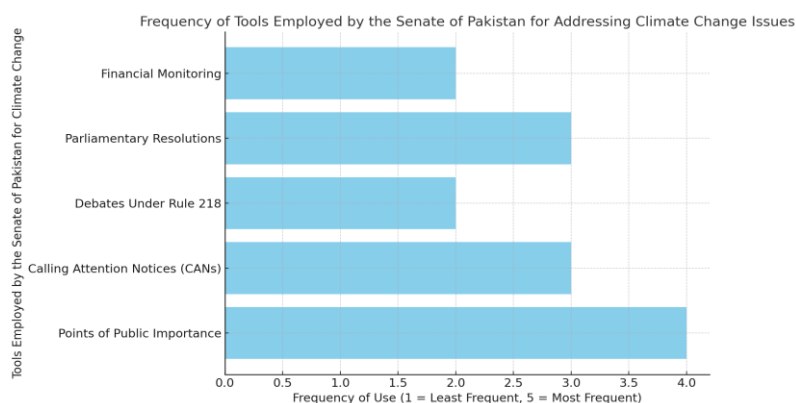
The Climate Change Act of 2017 marked a major turning point by establishing organizations such as the Pakistan Climate Change Authority and the Pakistan Climate Change Council to coordinate and carry out climate policy. In order to link this legislation with national and provincial initiatives to address climate concerns, the Senate Standing Committee on Climate Change was instrumental in its evaluation and formulation (Pakistan Climate Change legislation, 2017). Furthermore, through the establishment of the National Disaster Management Authority (NDMA), which focuses on disaster risk reduction—a crucial component of constructing climate resilience—the National Disaster Management Act of 2010 indirectly aided with climate adaptation (National Disaster Management Act, 2010).

Despite a focus on renewable energy and disaster management, the National Climate Change Policy of 2021 revised previous plans to address new concerns such urban pollution and water scarcity (National Climate Change Policy, 2021). Pakistan's legislative development has also been influenced by its adherence to international climate agreements, especially the Paris Agreement. In keeping with international efforts to tackle climate change, Pakistan revised its Nationally Determined Contributions (NDCs) in 2021, establishing aggressive goals to cut greenhouse gas emissions (Pakistan's Nationally Determined Contributions, 2021).

Year	Legislation/Policy	Key Features	Role of Senate
1997	Pakistan Environmental Protection Act	Established frameworks for environmental protection, pollution control, and conservation.	Oversight through Senate committees.
2010	National Disaster Management Act	Established the National Disaster Management Authority (NDMA) for disaster risk reduction.	Senate review of NDMA performance during climate-induced disasters.
2012	National Climate Change Policy	Addressed climate adaptation and mitigation in sectors like water, agriculture, and energy.	Senate supported policy formulation and alignment with provincial efforts.
2017	Climate Change Act	Established Pakistan Climate Change Council and Authority, formalized climate governance.	Senate Standing Committee on Climate Change reviewed and shaped the legislation.
2021	National Climate Change Policy (Updated)	Emphasized renewable energy, urban pollution, and disaster risk management.	Senate monitored policy implementation and adherence to goals.
2021	Nationally Determined Contributions (NDCs)	Committed to a 15% reduction in GHG emissions by 2030 under the Paris Agreement.	Senate ensured compliance with international commitments.

Table 1: Key Climate Change Legislation in Pakistan (Senate of Pakistan website)**Senate Oversight Role for Climate Accountability in Pakistan**

In order to ensure governmental oversight of climate change policies and their execution, the Senate of Pakistan is essential. To force the executive to address urgent climate-related issues, it uses a variety of oversight tools, such as legislative resolutions, calling attention notices (CANs), points of public importance, debates under Rule 218 and financial oversight. Senators use points of public interest as a forum to draw attention to regional problems that have national implications. Senator Sherry Rehman expressed concerns about water scarcity and called for federal involvement in resolving this pressing issue, while Senator Sana Jamali stressed the necessity of federal intervention to preserve the Juniper Forest in Ziarat, even though environmental responsibilities have been delegated to the provinces (Senate of Pakistan, 2018). CANs are intended to quickly highlight climatic calamities, like urban smog and the health dangers it causes. In order to make the administration to publicly disclose its mitigation strategies, Senator Sherry Rehman filed a CAN in 2018 to address the persisting smog crisis in Lahore and Faisalabad (Senate of Pakistan, 2018). Senators have the chance to critically assess the government's climate governance performance via parliamentary debates conducted in accordance with Rule 218. In a debate on the ecological effects of climate change, for instance, Senator Mir Kabeer Ahmed Muhammad Shahi called for better national coordination and addressed the disparities between the federal and provincial responses (Senate of Pakistan, 2018). Furthermore, parliamentary resolutions put moral pressure on the administration to take action because they represent the Senate's collective will even though they are not legally obligatory. Resolutions that call for the federal government to step up its efforts to manage water in the light of climate change have frequently received support from both parties. The Senate is also essential to financial supervision since it guarantees responsibility and openness in spending on climate-related projects. The reallocation of Employees' Old-Age Benefits Institution (EOBI) funds to the Ministry of Climate Change sparked concerns from Senator Mian Raza Rabbani during the 2018–2019 legislative year. Rabbani questioned how the funds were being used for environmental conservation (Senate of Pakistan, 2018). The Senate's ability to guarantee accountability, responsiveness, and transparency in climate governance is demonstrated by these procedures, reaffirming its position as a crucial institution for tackling Pakistan's mounting climate change concerns.

**Figure 1.** Frequency of Tools employed by the Senators in the House regarding climate Change (Senate of Pakistan Website)

With "Points of Public Importance" being the most used tool and "Debates Under Rule 218" coming in second, the graph illustrates the Senate of Pakistan's varied approach to climate governance. Other tools that are used moderately include "Parliamentary Resolutions" and "Financial Monitoring," while "Calling Attention Notices" are used less frequently.

Issue	Tool Used	Senator	Parliamentary Year
Preservation of Juniper Forest, Balochistan	Point of public importance	Sana Jamali	2018-2019
Smog in Urban Areas (Punjab)	Calling Attention Notice	Sherry Rehman	2018-2019
Water Scarcity & National Water Council Representation	Debate (Rule 218)	Sherry Rehman	2018-2019
EObI Fund Transfer to Climate Change Ministry	Budgetary Oversight	Mian Raza Rabbani	2018-2019
Vehicular Smoke Emissions	Point of Public Importance	Asad Ali Khan Junejo	2019-2020
Implementation of Green Environment Policy	Resolution	Fawzia Arshad	2023-2024

Table 2: Key Climate Change Issues Addressed by Accountability Tools (Senate of Pakistan Website)

The data shows that the Senate's attentiveness to climate change problems varies significantly. Climate change was a major issue during the 2018–2019 legislative year, and senators used a variety of resources, including Rule 218 debates, CANs, and points of public interest, to hold the administration responsible. However, a dramatic decline happened in 2020-2022, where there was minimal engagement from the Senate on climate-related topics. This may represent changed national goals or political forces that detract from environmental governance. In 2023–2024, there is a little increase in accountability, with an emphasis on urban pollution and the Green Environment Policy's implementation. This re-engagement implies a fresh understanding of Pakistan's escalating environmental problems.

Major Climate Change Issues Addressed in the Senate of Pakistan Through Question Hour

Through actively monitoring and influencing important environmental policies and climate change efforts, the Senate of Pakistan has played a crucial role in holding the government responsible for its handling of climate-related issues. The Senate ensures the successful implementation of environmental measures that are essential for Pakistan's climate resilience through a combination of direct inquiry, policy examination, and monitoring of national and international climate commitments.

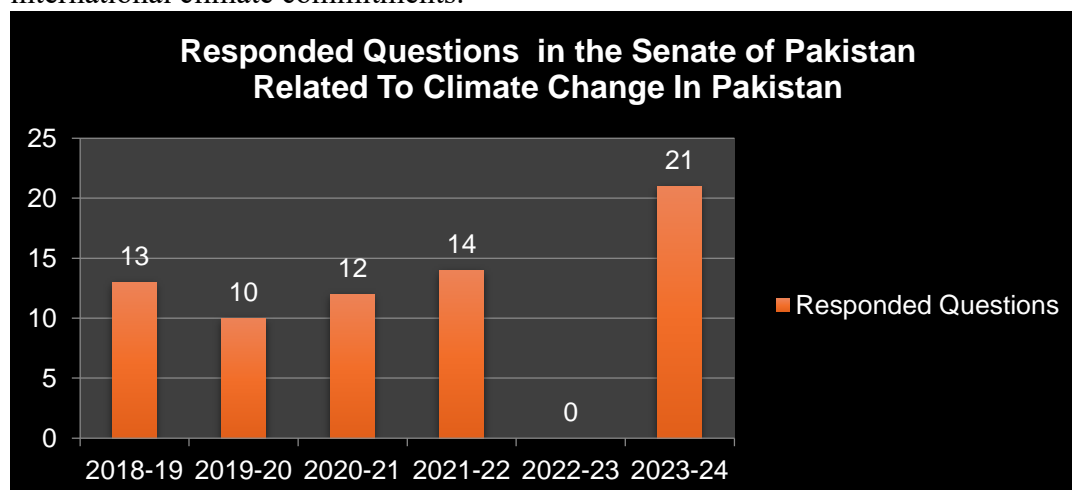


Figure 2: Responded Questions in the Senate of Pakistan related to Climate Change in Pakistan (Senate of Pakistan Website)

The Senate has played a crucial role in examining industrial operations that lead to the deterioration of air quality in the fight against air pollution, especially from industrial sources. For instance, the Senate investigated the environmental effects of Islamabad's steel manufacturers and the Pakistan Environmental Protection Agency's (Pak-EPA) implementation of the National Environmental Quality Standards (NEQS) through Question

No. 15 in 2018–19 (Government of Pakistan, Senate of Pakistan, 2019). The Senate's role in influencing regulatory processes aimed at lowering industrial pollution—a major concern in urban areas like Lahore and Karachi—is demonstrated by the steps it has taken, such as shutting down non-compliant industries (Mahmood, 2020).

The Senate's oversight of climate policies and international agreements, such as the Paris Agreement, is particularly important given Pakistan's extreme climate change vulnerability. Using tools like Question No. 71, the Senate has tracked the development of national climate programs like the Ten Billion Tree Plantation Campaign and the National Climate Change Policy (Government of Pakistan, Ministry of Climate Change, 2021). In addition, its emphasis on global initiatives like GLOF-II and Recharge Pakistan emphasizes the Senate's strategic role in ensuring the government complies with international climate agreements while simultaneously optimizing the advantages of foreign-funded climate adaptation projects (Shahzad, 2022).

The Senate has been instrumental in monitoring projects that tackle the major climate challenges of water scarcity and glacier melting in Pakistan. Through the examination of programs such as Recharge Pakistan and GLOF-II, the Senate has attempted to ensure that resources are distributed between the federal and provincial governments in an efficient manner and that jurisdictional issues in water management are sufficiently addressed (Ali & Khan, 2021). This oversight is crucial for Pakistan's long-term climate resilience, especially when considering the risks associated with water brought on by climate change (UNDP, 2020).

Reforestation and ecosystem restoration initiatives, which are essential elements of Pakistan's climate plan, are also under the Senate's supervision. The Senate has tracked the Ten Billion Tree Tsunami Program's development through questions such as Questions Nos. 3, 6, and 14, with an emphasis on species variety and geographical differences in tree survival rates (Government of Pakistan, Ministry of Climate Change, 2021). The Senate's role as a watchdog for environmental sustainability is strengthened by ensuring that ecological restoration projects are both financially transparent and geographically specific (WWF-Pakistan, 2022).

The Senate has been actively involved in combating industrial pollution and vehicle emissions in addition to its control of forestry. In order to lessen the carbon footprint of the transportation and industrial sectors, Senate debates have focused on promoting cleaner technologies, such as electric cars and zigzag technology for brick kilns (Mahmood, 2020). This function is essential to Pakistan's mitigation strategy for climate change, which calls for strict emission control measures to fight urban air pollution (UNDP, 2020).

The Senate's environmental oversight has also placed a great deal of emphasis on plastic waste regulation. The Senate has played a key role in pushing for legislative changes that support sustainability, such as the Islamabad Capital Territory's ban on plastic bags. This initiative demonstrates the Senate's proactive approach to addressing pollution at a systemic level and ensuring that plastic waste management is integrated into broader environmental policies (Shahzad, 2022). The Senate has also placed a lot of emphasis on adaptation strategies in agriculture and rural communities, ensuring that funds for climate adaptation are distributed efficiently and that climate change initiatives benefit rural communities (Ali & Khan, 2021).

In order to ensure accountability and openness in the use of foreign aid for climate projects, the Senate also oversees the monitoring of international climate funds. This includes initiatives like GLOF-II and the Green BRT-Karachi that are supported by the Global Environment Facility (GEF) and the Green Climate Fund (GCF) (WWF-Pakistan, 2022). The Senate contributes to ensuring that Pakistan's climate goals are fulfilled and that the advantages of international finance are optimized by supervising these international climate obligations (UNDP, 2020).

The Senate has also made urban resilience a top concern, especially in light of the rise in extreme weather events and urban pollutants. The Senate has pushed for the implementation of environmentally friendly practices and pollution control technologies while giving priority to

air quality monitoring in key cities, including Lahore, Karachi, and Islamabad (Government of Pakistan, Senate of Pakistan, 2019).

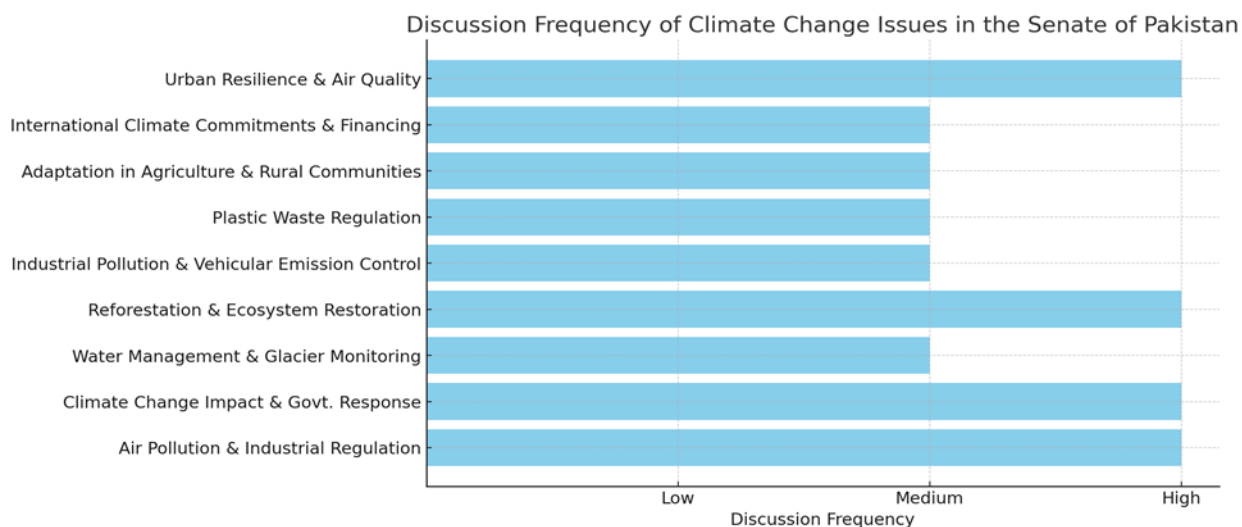


Figure 3. Discussion Frequency of climate Change issues in the Senate of Pakistan (Senate of Pakistan Website)

The Senate's commitment to ensuring that Pakistani cities implement sustainable strategies to lessen the effects of climate change, with a focus on enhancing air quality and lowering pollution levels, is demonstrated by its emphasis on urban resilience.

Conclusion

Through legislation, oversight, and policy advocacy, the Pakistani Senate is essential in combating climate change. Important frameworks such as the Climate Change Act (2017), the Pakistan Environmental Protection Act (1997), and the revised National Climate Change Policy (2021) have benefited from its contributions. The Senate has addressed challenges including urban smog, water scarcity, and air pollution while maintaining adherence to international agreements through the use of instruments like debates, resolutions, and financial supervision. Even if its efforts have had an impact, obstacles including a lack of resources and a lack of consistency in concentration make it less successful. Improving its function in climate governance requires strengthening monitoring systems and encouraging cooperation with executive and provincial entities. The Senate's changing contributions show how capable it is of promoting sustainable environmental legislation and guaranteeing accountability in Pakistan's climate

References

- Ahmad, I. (2024). Empowering the Senate: Enhancing executive oversight and accountability in Pakistan. *International Journal of Contemporary Issues in Social Sciences*, 3(2), 861–872.
- Ali, S., & Khan, R. (2021). Water governance challenges in Pakistan. *Journal of Environmental Studies*.
- Carter, N., & Jacobs, M. (2014). Explaining radical policy change: The case of climate change and energy policy under the British Labour Government 2006–2010. *Public Administration*, 92(1), 125–141. <https://doi.org/10.1111/padm.12046>
- Global Environment Facility. (2020). GLOF-II project: Enhancing climate resilience in Pakistan. Global Environment Facility.
- Global Environment Facility. (2023). GLOF-II: Scaling up Pakistan's Glacial Lake Outburst Flood risk reduction program.
- Government of Pakistan. (2019). National Climate Change Policy. Islamabad: Ministry of Climate Change.

- Government of Pakistan. (2021). Green Climate Fund and Global Environment Facility Projects Overview. Islamabad: Ministry of Climate Change.
- Government of Pakistan, Ministry of Climate Change. (2021). Ten Billion Tree Tsunami Program Annual Report. Islamabad: Government of Pakistan.
- Government of Pakistan, Senate of Pakistan. (2019). Senate questions and answers on industrial pollution. Islamabad: Government of Pakistan.
- Green Climate Fund. (2020). GLOF-II project: International climate financing for Pakistan. Green Climate Fund.
- Haque, M. N., Rahman, S., & Habib, M. (2019). Climate governance in South Asia: Role of institutions and challenges. *Asian Journal of Political Science*, 27(3), 224–240. <https://doi.org/10.1080/02185377.2019.1623504>
- Mahmood, A., Khan, B., & Iqbal, Z. (2020). The role of legislative bodies in environmental governance. *Environmental Policy and Law*.
- Ministry of Climate Change, Pakistan. (2018). Annual Performance Report. Islamabad: Ministry of Climate Change.
- Ministry of Climate Change, Pakistan. (2021). National Climate Change Policy (2021). Government of Pakistan.
- Ministry of Climate Change, Pakistan. (2022). Ten Billion Tree Tsunami Programme: Progress report. Islamabad: Ministry of Climate Change.
- Pakistan Environmental Protection Agency. (2018). National Environmental Quality Standards (NEQS) enforcement report. Islamabad: Pakistan Environmental Protection Agency.
- Pakistan Environmental Protection Agency. (2021). National Environmental Quality Standards Compliance Report. Islamabad: Pakistan Environmental Protection Agency.
- Schmidt, T. S., & Fleig, A. K. (2018). Global patterns of national climate policies and institutions. *Wiley Interdisciplinary Reviews: Climate Change*, 9(1), e486. <https://doi.org/10.1002/wcc.486>
- Senate of Pakistan. (2018–2019). Question No. 15: Environmental impact of steel factories in Islamabad. Retrieved from [Senate of Pakistan website].
- Senate of Pakistan. (2019). Question No. 71: National Climate Change Policy and Ten Billion Tree Plantation Campaign progress. Retrieved from [Senate of Pakistan website].
- Senate of Pakistan. (2021). Question No. 170: Allocation of climate adaptation funds for rural communities. Retrieved from [Senate of Pakistan website].
- Senate of Pakistan. (2021). Plastic waste regulation and plastic bag ban in Islamabad. Retrieved from [Senate of Pakistan website].
- Senate of Pakistan. (2023). Proceedings of the Senate on Climate Change, 2023–2024. Islamabad: Senate of Pakistan.
- Shahzad, F., Ahmed, N., & Bukhari, T. (2022). Pakistan's compliance with international climate agreements. *Climate Change Policy Review*.
- UNDP. (2020). Pakistan Climate Change Adaptation Report. United Nations Development Programme.
- Wagner, P., & Ylä-Anttila, T. (2020). Can climate change debates produce consensus? Parliamentary action and cross-party cooperation in climate politics. *Environmental Politics*, 29(7), 1184–1202. <https://doi.org/10.1080/09644016.2020.1788358>
- Wehner, J. (2010). Legislatures and the budget process: The myth of fiscal control. Palgrave Macmillan.
- World Bank. (2022). Recharge Pakistan: Enhancing climate resilience through water resource management. Washington, D.C.: The World Bank.
- WWF-Pakistan. (2022). Assessment of the Ten Billion Tree Tsunami Program. Lahore: WWF-Pakistan.
- Zafar, S., Khan, A., & Iqbal, M. (2021). Parliamentary engagement in climate governance: Insights from Pakistan. *Pakistan Journal of Environmental Studies*, 8(2), 45–58