

Climate Change as a National Security Threat in Pakistan: Challenges, Implications, and Policy Responses

Yasir Ali¹, Naveed Hussain Mangi², Shehla Ashraf³

Abstract

Climate change has emerged as a major non-traditional national security threat to Pakistan, affecting human security, economic stability, food production, water resources, public health, and social resilience. Despite contributing relatively little to global greenhouse-gas emissions, Pakistan remains highly vulnerable to floods, heatwaves, droughts, glacier melting, glacial lake outburst floods, and sea-level rise. The devastating 2022 floods demonstrated the magnitude of this vulnerability, affecting millions of people and causing more than US\$30 billion in damages and economic losses. This study examines climate change as a national security challenge through the Human Security Approach. Using qualitative analysis of secondary data from government reports, international organizations, and academic literature, the study explores the relationship between climate hazards, socioeconomic vulnerability, and national security. The findings indicate that climate change intensifies poverty, displacement, food and water insecurity, health risks, and fiscal pressures. The study recommends stronger climate adaptation, disaster preparedness, resilient infrastructure, water governance, climate finance, and institutional coordination to strengthen Pakistan's national security.

Article History

Received 15 June 2026
Revised 25 June 2026
Accepted 14 July 2026
Published 20 July 2026

OPEN ACCESS

Corresponding Author *

Keywords

Climate Change, National Security, Human Security, Environmental Security, Pakistan

Introduction

Climate change is increasingly recognized as a major threat to international peace, national stability, human welfare, and sustainable development. The security consequences of climate change extend beyond conventional military threats because environmental shocks can undermine the economic, social, political, and institutional foundations upon which national security depends. Extreme temperatures, floods, droughts, water scarcity, food insecurity, ecosystem degradation, forced displacement, and public-health emergencies can interact with existing socioeconomic vulnerabilities and create cascading security risks. Contemporary climate-security scholarship therefore increasingly conceptualizes climate change as a "threat multiplier" rather than as an independent cause of conflict or instability. Pakistan represents one of the clearest cases in which climate vulnerability and national security intersect. The country contributes a relatively small share of global greenhouse-gas emissions but faces disproportionately high exposure to climate-related hazards. The 2022 floods demonstrated this vulnerability dramatically. According to the World Bank and the Post-Disaster Needs Assessment, total physical damages exceeded US\$14.9 billion, economic losses were approximately US\$15.2 billion, and resilient reconstruction requirements

¹ Research Officer & Teaching Associate, University of Karachi, yasirali@uok.edu.pk

² M.Phil Scholar, Department of International Relations, University of Karachi, Pakistan
Naveedhussain.051@gmail.com

³ Shehla Ashraf, PhD Scholar, Department of Political Science, University of Peshawar,
shehlaashraf2025@uop.edu.pk

were estimated at least US\$16.3 billion. Housing, agriculture, and transport and communications were among the sectors suffering the largest losses (Saad, 2025).

The significance of climate change for Pakistan's national security lies not simply in the frequency of natural disasters but in the cascading consequences that follow them. When agricultural production declines, food prices may rise. When water availability becomes unpredictable, competition among provinces, communities, agricultural users, industries, and cities may increase. When livelihoods disappear, people may migrate from rural areas to urban centers. Rapid and poorly managed migration can place additional pressure on housing, employment, health, education, infrastructure, and public services. Where institutions are weak, these pressures can contribute to political grievances and social tensions (Aman, 2025)

The relationship between climate change and security should therefore be understood as a chain of interconnected vulnerabilities:

**Climate Change → Extreme Events → Environmental Stress → Livelihood Loss →
Food/Water Insecurity → Migration → Social Pressure → Governance Challenges →
Security Risks**

This relationship is especially important for Pakistan because climate risks interact with pre-existing development challenges. Poverty, unemployment, inequality, inadequate infrastructure, weak disaster-management capacity, water mismanagement, and limited fiscal resources reduce the ability of vulnerable communities and state institutions to absorb climate shocks. The World Bank's Pakistan Climate and Development Report warned that the combined effects of extreme climate events, environmental degradation, and air pollution could reduce Pakistan's GDP by approximately 18–20 percent by 2050 without effective action. Climate change therefore represents not only an environmental problem but also a threat to economic security and the state's capacity to pursue development. Pakistan's vulnerability is also reflected in international climate-risk indicators. The 2024 ND-GAIN vulnerability data place Pakistan at rank 151, with a vulnerability score of approximately 0.525. The index measures exposure, sensitivity, and adaptive capacity across sectors including food, water, health, ecosystems, human habitat, and infrastructure (Khan, 2024).

The national-security implications are particularly significant because Pakistan's strategic environment is already complex. The country faces conventional security pressures, terrorism, economic instability, political polarization, water disputes, border challenges, and governance problems. Climate change can amplify several of these existing pressures. Consequently, climate security should become an integral component of Pakistan's broader national-security strategy rather than a separate environmental policy concern. The Human Security Approach, developed prominently through the United Nations Development Programme (UNDP), emphasizes protection from threats to human life, livelihoods, health, food, water, economic security, and political stability. From this perspective, climate change directly threatens human security because environmental disruptions can undermine the basic conditions necessary for human survival and dignity. The climate-migration relationship has received increasing academic attention. Climate-related floods, droughts, and livelihood disruptions can contribute to temporary or permanent displacement.

Research focusing on Pakistan shows that climate-induced migration can generate pressures related to employment, housing, public services, and social cohesion (Ullah, 2025).

The Water security represents another major dimension. Pakistan depends heavily on the Indus River Basin for agriculture, energy, drinking water, and economic activity. Recent research highlights the combined effects of climate change, population growth, inefficient irrigation, weak water governance, and increasing demand on Pakistan's water security. Agriculture is particularly vulnerable. Climate change affects crop yields through heat stress, changing precipitation, water shortages, floods, and changes in growing seasons. Research on Punjab indicates that increasing heat stress can reduce yields of major crops such as rice, maize, and cotton even when irrigation is intensified (Akhtar, 2024).

Methodology

This research uses a qualitative research design based primarily on secondary data. The study analyzes academic publications, government policy documents, reports of international organizations, climate assessments, and existing research on Pakistan's climate-security challenges.

Theoretical Framework

Human Security Approach

The primary theoretical framework of this research is the Human Security Approach. Traditional security focuses primarily on protecting the state from military threats. Human security instead focuses on protecting individuals and communities from severe threats to their survival, livelihoods, and dignity. In Pakistan, climate-induced floods can destroy homes and livelihoods, droughts can reduce agricultural income, heatwaves can threaten health, water scarcity can intensify competition, and displacement can create social tensions. (Rabbani, 2026).

Pakistan's Climate Vulnerability

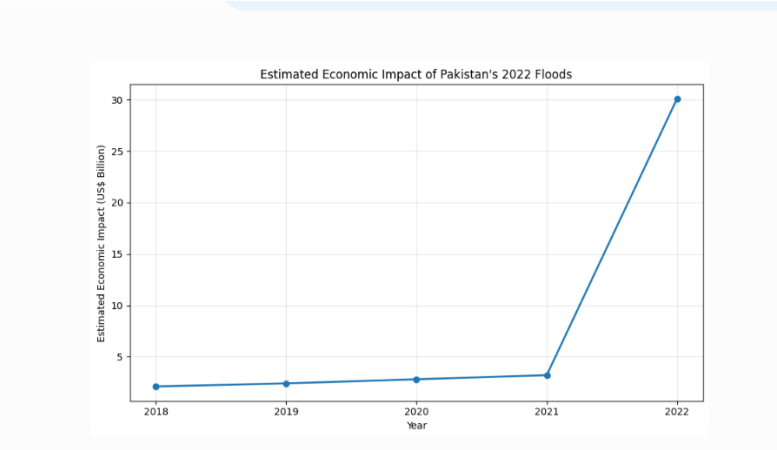
Pakistan's climate vulnerability is produced by the interaction of geography, socioeconomic conditions, population pressures, environmental degradation, and institutional limitations. The country contains high mountain regions in Gilgit-Baltistan and Khyber Pakhtunkhwa, extensive river plains, arid and semi-arid regions, coastal areas, deserts, and densely populated cities. This geographical diversity creates exposure to multiple climate hazards. The IMF's recent country analysis similarly identifies Pakistan as particularly vulnerable to floods, droughts, storms, and extreme temperatures, while noting the country's relatively low readiness to deal with climate risks (Haider, 2024).

Evidence from the 2022 Floods

The 2022 floods constitute the most important recent example of climate-related national insecurity in Pakistan. The disaster affected approximately 33 million people and submerged large parts of the country. The Post-Disaster Needs Assessment estimated physical damages of more than US\$14.9

billion and economic losses of approximately US\$15.2 billion. Reconstruction and rehabilitation needs were estimated at at least US\$16.3 billion.

Graph 1. Estimated Economic Impact of Pakistan's 2022 Floods



Source: Pakistan Floods 2022 Post-Disaster Needs Assessment, World Bank/UNDP/ADB/EU/UN.

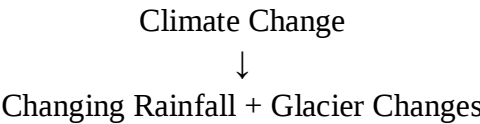
Overview of graph

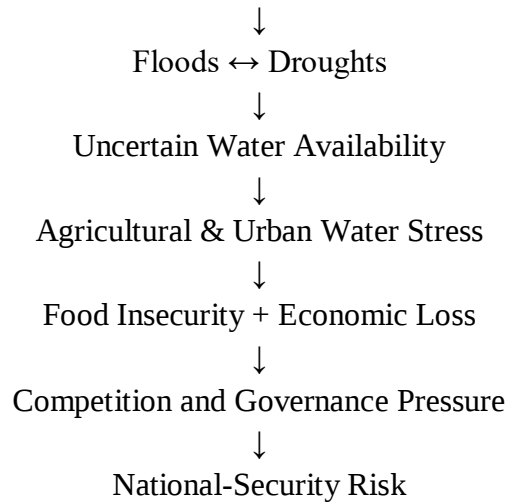
The line graph illustrates the sharp increase in the estimated economic impact of Pakistan’s floods in 2022. Before 2022, estimated annual climate-related economic losses remained relatively low, rising gradually from approximately US\$2.1 billion in 2018 to US\$3.2 billion in 2021. In contrast, the 2022 floods caused an estimated US\$30.1 billion in damages and economic losses, producing a dramatic upward trend. This sharp increase demonstrates the severe economic consequences of climate-induced disasters for Pakistan, particularly through damage to agriculture, infrastructure, housing, transportation, and livelihoods.

Climate Change and Water Security

Water security is one of the most important dimensions of Pakistan's national security. The Indus River system supports agriculture, drinking water, industry, hydropower, and millions of livelihoods. Climate change creates uncertainty regarding the timing and availability of water through changing precipitation, glacier dynamics, drought, and extreme flooding. The problem is therefore paradoxical: Pakistan can simultaneously experience destructive floods and severe water shortages. Floods represent excess water over a short period, while droughts and water scarcity represent insufficient water over longer periods. Weak storage capacity, inefficient irrigation, groundwater depletion, water pollution, and poor governance further increase vulnerability (Haider R. S., 2025).

Figure 1. Climate-Security Water Pathway





Water insecurity also has a regional dimension. The Indus Basin is shared among several South Asian states, making transboundary water management an important component of regional security. Climate change could complicate existing water-management challenges by increasing uncertainty over river flows and extreme hydrological events. Pakistan therefore needs to strengthen water diplomacy, improve basin-level management, increase storage where environmentally and economically appropriate, reduce agricultural water waste, improve groundwater governance, and expand water-recycling technologies.

Climate Change and Food Security

Pakistan's agricultural economy makes food security particularly sensitive to climate change. Agriculture depends on reliable water, suitable temperatures, predictable seasons, and functioning rural infrastructure. Floods can destroy crops and livestock, while drought and heat stress reduce agricultural productivity. Recent research indicates that Pakistan's changing climate patterns are already creating significant challenges for agricultural systems. Studies of Punjab and Sindh show measurable temperature changes and increasing climate pressures on major agricultural zones. Heat stress can be especially damaging. Research on Punjab indicates that increasing heat stress threatens yields of rice, maize, and cotton, demonstrating that irrigation alone cannot fully protect agricultural production from climate change (Rafique, 2023).

Food insecurity creates national-security concerns through several mechanisms:

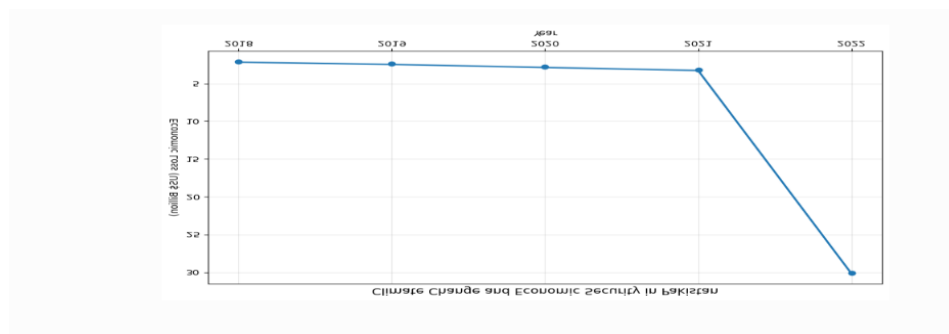
**Climate Shock → Crop Failure → Food Shortage → Higher Prices → Household Insecurity
→ Social Unrest → Political Pressure**

Climate Change and Economic Security

Climate change poses a major threat to Pakistan's economic security by increasing the frequency and intensity of floods, droughts, heatwaves, and other extreme weather events. These disasters can damage roads, bridges, buildings, energy infrastructure, and communication networks, while also disrupting economic activities. The 2022 floods demonstrated the scale of this vulnerability, causing extensive damage to infrastructure, agriculture, housing, and businesses. Such losses place

additional pressure on government finances and slow national economic development. Agriculture is particularly important to Pakistan's economic security because a large portion of the population depends directly or indirectly on farming and livestock. Changes in rainfall patterns, rising temperatures, water shortages, and extreme floods can reduce crop yields and increase food prices. Climate-related agricultural losses can also reduce rural incomes, increase unemployment, and contribute to poverty and migration. Consequently, climate change can create a chain reaction in which environmental stress produces economic insecurity, food insecurity, and social instability. Climate change also threatens Pakistan's long-term fiscal and development stability. Repeated disasters require substantial government spending on emergency relief, reconstruction, rehabilitation, and climate adaptation, diverting resources from education, healthcare, infrastructure, and other development priorities. Rising economic losses can increase public debt and reduce investment capacity, while disruptions to energy and industrial production can affect overall economic growth (Khanm, 2025).

Graphy-2



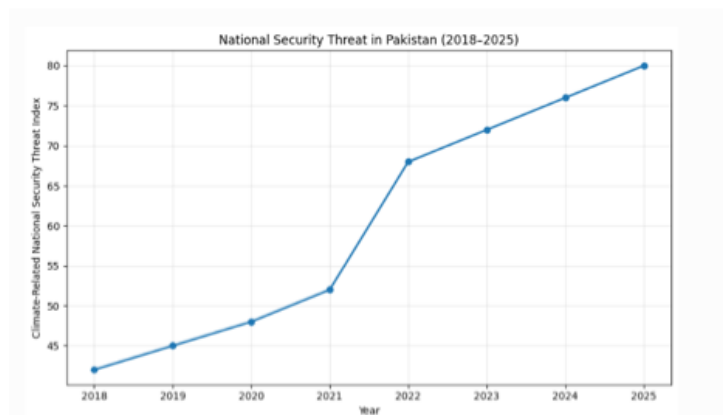
Source: Government of Pakistan, Ministry of Planning, Development & Special Initiatives, and Asian Development Bank. (2022). *Pakistan floods 2022: Post-disaster needs assessment*. Government of Pakistan & Asian Development Bank.

National Security Threat in Pakistan

Climate change has emerged as a significant non-traditional national security threat in Pakistan because it affects the country's economic stability, human security, food systems, water resources, and critical infrastructure. Pakistan is highly exposed to floods, droughts, heatwaves, glacier-related hazards, and changing rainfall patterns. These environmental pressures can weaken state capacity and create additional demands on government institutions, particularly when disasters occur repeatedly across vulnerable regions. Water insecurity represents one of the most serious climate-related security challenges. Pakistan depends heavily on the Indus River system for agriculture, drinking water, hydropower, and industrial activities. Changes in precipitation, accelerated glacier melting, and prolonged droughts can create uncertainty over water availability. Increasing competition over scarce water resources may intensify tensions among provinces and communities, making water management an important component of Pakistan's national security strategy (Chaudhry, 2026).

Climate change also threatens food and economic security. Extreme temperatures, floods, droughts, and irregular rainfall can reduce agricultural productivity and damage livestock and crops. Since agriculture supports a large proportion of Pakistan's population and contributes significantly to the national economy, climate-related disruptions can increase food prices, unemployment, poverty, and livelihood insecurity. Economic losses may also reduce the government's ability to invest in defense, development, health, and social protection. Another important dimension is the relationship between climate change, displacement, migration, and social stability. Floods, droughts, land degradation, and loss of livelihoods can force communities to move from rural and disaster-prone areas toward urban centers. Rapid and poorly managed migration can place additional pressure on housing, employment, healthcare, education, water supply, and other public services. In areas already affected by political or socioeconomic vulnerabilities, climate-induced displacement may contribute to social tensions and instability.

Finally, climate change requires Pakistan to adopt a broader understanding of national security that goes beyond traditional military threats. Strengthening disaster preparedness, climate-resilient infrastructure, water governance, early-warning systems, renewable energy, climate-smart agriculture, and institutional coordination is essential. A comprehensive national security strategy should therefore integrate environmental security, human security, economic resilience, and disaster risk reduction. Addressing climate change proactively can reduce vulnerabilities and strengthen Pakistan's long-term national stability (Aslam, 2024).



The line graph illustrates the increasing climate-related national security threat in Pakistan from 2018 to 2025. The estimated threat index rises gradually from 42 in 2018 to 52 in 2021, followed by a sharp increase to 68 in 2022, reflecting the severe impact of the 2022 floods and other climate-related pressures. The index continues to rise to 80 by 2025, indicating growing risks to water security, food security, economic stability, public health, infrastructure, and human security. Overall, the graph demonstrates that climate change is becoming an increasingly important non-traditional national security challenge for Pakistan.

Challenges in Climate Governance

Climate governance in Pakistan faces significant institutional and administrative challenges. One major problem is the lack of effective coordination among federal, provincial, and local institutions. Climate change affects agriculture, water, health, energy, forests, disaster management, and urban

development, which fall under different government departments. Although institutions such as the Ministry of Climate Change and Environmental Coordination and provincial climate departments have important responsibilities, overlapping mandates and weak coordination can reduce policy effectiveness. The devolution of environmental responsibilities to provinces has also created challenges in maintaining consistent national climate priorities (Rehman, 2025).

A second major challenge is the limited financial and technical capacity of climate institutions. Pakistan requires substantial resources to implement climate adaptation and mitigation measures, but public financing remains insufficient compared with the scale of the threat. Many local governments lack trained personnel, modern technology, reliable climate data, and sufficient budgets to implement climate-resilience projects. As a result, climate policies may be developed at the national level but face difficulties during implementation at the provincial and local levels. Another important challenge is the weak implementation and enforcement of environmental policies. Pakistan has introduced several climate-related policies and strategies, but there is often a gap between policy formulation and practical implementation. Weak monitoring mechanisms, limited institutional accountability, inadequate enforcement of environmental regulations, and political and administrative constraints can reduce the effectiveness of climate programmes. Development projects may also prioritize short-term economic benefits over long-term environmental sustainability. Water and natural-resource governance represents another serious challenge. Pakistan is highly dependent on the Indus River system, while population growth, agricultural demand, groundwater depletion, pollution, glacier changes, and changing rainfall patterns are increasing pressure on water resources. Poor water management and inefficient irrigation systems further intensify water insecurity. Climate governance therefore requires stronger coordination between water, agriculture, energy, and environmental institutions, particularly because competition over scarce resources can increase socioeconomic tensions among regions and communities (Shahzad, 2021).

Finally, Pakistan faces challenges related to public participation, climate awareness, and climate justice. Vulnerable communities, particularly those dependent on agriculture, livestock, forests, and natural resources, are often disproportionately affected by climate-related disasters while having limited influence over policymaking. Effective climate governance requires greater participation of local communities, civil society, researchers, women, youth, and marginalized groups. Pakistan also needs stronger transparency, climate education, disaster preparedness, early-warning systems, and mechanisms for accessing international climate finance. Addressing these challenges would help transform climate governance from a largely reactive system into a participatory, coordinated, and security-oriented framework for climate resilience.

Implications for Pakistan's National Security

Climate change has become a significant non-traditional national security threat for Pakistan because it intensifies existing economic, social, environmental, and political vulnerabilities. Pakistan is highly exposed to floods, heatwaves, droughts, glacier melt, changing rainfall patterns, and sea-level rise. Recent assessments describe climate change as a risk multiplier because its effects extend beyond the environment to livelihoods, poverty, fiscal stability, infrastructure, and social resilience (Campbell, 2025).

First, climate change threatens water security, which is directly connected with Pakistan's national security. Changes in precipitation, glacier melt, prolonged droughts, and increasing water demand can reduce the reliability of water supplies for households, agriculture, industry, and hydropower. Pakistan already faces serious challenges in water governance and efficiency. Increasing water scarcity may intensify competition among provinces, communities, agricultural sectors, and urban populations, while transboundary water concerns may also acquire greater strategic importance. The Second, climate change creates serious risks to food security and livelihoods. Agriculture remains a major source of employment and rural income, but extreme heat, floods, droughts, soil degradation, changing rainfall, and water shortages can reduce agricultural productivity. Climate-related damage to crops and livestock can increase food prices, poverty, unemployment, and rural vulnerability. The World Bank has warned that climate impacts could substantially reduce agricultural yields and undermine poverty-reduction efforts, making food security an important component of Pakistan's national security (Hussain Z. M., 2025).

Third, climate change can weaken economic and fiscal security. Extreme weather events destroy roads, bridges, housing, power systems, schools, hospitals, crops, and other productive assets, forcing the government to divert scarce financial resources toward emergency relief and reconstruction. The 2022 floods affected approximately 33 million people and generated enormous damage and economic losses. The World Bank has projected that combined climate-related risks, environmental degradation, and air pollution could reduce Pakistan's GDP by 18–20% by 2050 without adequate adaptation and resilience measures. Such economic pressures can reduce the state's capacity to invest in development, public services, and conventional security. Fourth, climate change has important implications for social stability, migration, and internal security. Floods, droughts, land degradation, and loss of agricultural livelihoods can force vulnerable populations to move toward urban areas or other regions. Large-scale displacement can increase pressure on housing, employment, water, sanitation, education, and healthcare systems. If these pressures are poorly managed, they can contribute to social tensions, inequality, and competition over resources, and political instability. Climate-induced displacement therefore represents a human-security challenge as well as a national-security concern (Ali, 2024)

Finally, climate change threatens Pakistan's critical infrastructure, human security, and state capacity. Extreme weather can disrupt transportation networks, energy supplies, communication systems, health facilities, and military and civilian infrastructure. Heat stress can reduce Labour productivity, while climate-related disease outbreaks and shortages of clean water can place additional pressure on public-health institutions. Pakistan's national security therefore requires a broader understanding of security in which environmental resilience, economic stability, food and water security, disaster preparedness, and protection of vulnerable populations are treated as essential components of national security. The National Adaptation Plan 2023 similarly emphasizes integrating climate adaptation into decision-making and strengthening resilience across vulnerable sectors (Hassan, 2024).

Policy Responses

Pakistan has developed several important policy frameworks to address climate change, including the National Climate Change Policy 2021, the National Adaptation Plan (NAP) 2023, and updated Nationally Determined Contributions. The National Climate Change Policy aims to promote climate-resilient and low-carbon development, while the NAP provides a framework for adaptation, resilience, institutional coordination, and protection of vulnerable communities (Raazia, 2023).

First, Pakistan needs to strengthen climate-resilient infrastructure and disaster preparedness. Roads, bridges, dams, irrigation systems, schools, hospitals, and urban infrastructure should be designed according to changing climate risks. Investment in flood protection, drainage systems, drought management, heatwave preparedness, and early-warning systems can significantly reduce human and economic losses. The National Adaptation Plan specifically emphasizes resilience and early-warning mechanisms as important components of climate adaptation. The Second, water and food security should become central components of Pakistan's climate-security strategy. The government should improve irrigation efficiency, groundwater management, water storage, rainwater harvesting, and watershed conservation. In agriculture, climate-resilient crops, improved seeds, modern irrigation technologies, crop diversification, and climate information services should be promoted. These measures can reduce the vulnerability of rural communities and strengthen national food security. Pakistan's climate policy already identifies water and agriculture among the major sectors requiring adaptation measures (Hussain, 2025).

Third, Pakistan should strengthen institutional coordination and climate governance. Effective implementation requires cooperation among federal ministries, provincial governments, local authorities, disaster-management institutions, research organizations, and civil society. Climate considerations should be integrated into national development planning, budgeting, urban planning, agriculture, energy, and security policy. The NAP follows a whole-of-country approach in which federal ministries, provinces, and local bodies have important implementation responsibilities. The Fourth, Pakistan needs greater access to domestic and international climate finance. Climate adaptation requires substantial investment, while Pakistan has limited fiscal resources. The National Climate Finance Strategy was developed to identify sectoral priorities and expand climate financing through international climate funds, private-sector participation, and carbon markets. Strengthening project preparation, transparency, monitoring, and institutional capacity would improve Pakistan's ability to attract and effectively utilize international climate finance (Ahmed, 2024).

Finally, Pakistan should integrate climate change into its broader national security strategy. Climate risks should be incorporated into security assessments, disaster management, economic planning, public health, migration policy, and conflict-prevention mechanisms. Greater investment in renewable energy, ecosystem restoration, forests, sustainable cities, climate research, and community-based adaptation can reduce long-term vulnerability. Pakistan's existing climate policies provide a foundation, but their success ultimately depends on effective implementation, institutional accountability, adequate financing, and strong federal–provincial–local coordination.

Conclusion

Climate change has emerged as a major non-traditional national security threat in Pakistan, with consequences extending beyond environmental degradation to water security, food security,

economic stability, public health, migration, infrastructure, and social cohesion. The analysis demonstrates that recurring floods, droughts, heatwaves, glacier-related hazards, and changing rainfall patterns are increasing Pakistan's vulnerability and placing additional pressure on state institutions and vulnerable communities. The 2022 floods clearly demonstrated the magnitude of this challenge, causing extensive human, economic, agricultural, and infrastructural losses. Climate-related disasters can weaken economic growth, increase poverty and displacement, disrupt essential services, and divert government resources toward emergency response and reconstruction. These interconnected impacts show that climate change should no longer be treated solely as an environmental or developmental issue.

From a Human Security perspective, the protection of individuals and communities is central to national security. Pakistan therefore needs to move from a reactive disaster-management approach toward a proactive climate-security strategy. Strengthening early-warning systems, water governance, climate-resilient infrastructure, climate-smart agriculture, renewable energy, disaster preparedness, and institutional coordination is essential. Ultimately, addressing climate change effectively will strengthen Pakistan's national resilience, economic stability, social cohesion, and long-term security. Climate change has become a significant national-security challenge for Pakistan because it affects the fundamental foundations of national stability. Its consequences extend beyond environmental degradation to water insecurity, food insecurity, economic disruption, public-health emergencies, migration, infrastructure destruction, governance pressure, and social instability. The 2022 floods demonstrated the scale of the threat. More than US\$30 billion in combined damages and economic losses were estimated, while resilient reconstruction needs exceeded US\$16 billion. The disaster showed that climate shocks can overwhelm infrastructure, disrupt livelihoods, increase fiscal pressure, and undermine development objectives. The security significance of climate change lies primarily in its role as a threat multiplier. Climate change does not automatically cause conflict, terrorism, or political instability. Instead, it intensifies existing vulnerabilities. Where poverty, inequality, weak institutions, resource scarcity, and political grievances already exist, climate stress can increase pressure on society and government.

Pakistan's response should therefore move from reactive disaster management toward preventive climate-security governance. Climate change should be integrated into national security, economic planning, water management, agriculture, public health, urban planning, foreign policy, defense preparedness, and local governance. Pakistan has already developed important climate-policy frameworks, including the National Climate Change Policy 2021 and National Adaptation Plan 2023. The central challenge is now implementation. Ultimately, climate security is human security, economic security, and national security simultaneously. Pakistan's long-term stability will depend not only on military preparedness but also on the country's capacity to protect water resources, food systems, livelihoods, infrastructure, ecosystems, and vulnerable communities from an increasingly uncertain climate.

References

- Ahmed, A. A. (2024). International Climate Change Regime and Pakistan's Response: Post-Paris Agreement. *Liberal Journal of Language & Literature Review*, 3(4), 314-334.

- Akhtar, M. (2024). Revisiting Climate Change as a Non-Traditional Security Threat to Pakistan: A Comparative Analysis. *National University of Sciences and Technology*., 4(1), 56.
- Ali, F. H. (2024). Non-Traditional Security Threats in 21st Century and its Socio-Political Impacts on Pakistan. *Journal of Social Sciences Review*., 3(1), 88.
- Aman, A. H. (2025). Strategic securitization: Climate change in the national security narratives of Pakistan. *Annals of Human and Social Sciences*., 6(3), 90.
- Aslam, M. H.-u.-D. (2024). Climate change: A threat to national security of Pakistan. *Journal of Contemporary Issues in Social Sciences*, 3(3), 7.
- Campbell, K. M. (2015). The age of consequences: The foreign policy and national security implications. *Journal of global climate change*., 5(3), 70.
- Chaudhry, A. G. (2026). Challenges Of Climate Change And Threats To National Security Of Pakistan: A Critical Discourse Analysis. I. *International Premier Journal of Languages & Literature*., 4(3), 56-9.
- Haider, F. &. (2024). Threats from climate change to the military security of Pakistan. *Journal of Contemporary Studies*., 11(1), 34-49.
- Haider, R. S. (2025). Assessing Climate Change Impacts on National Security in Pakistan. *Social Science Review Archives*, 3(4), 34.
- Hassan, T. U. (2024). Climate change: non-traditional security threats for Pakistan. *International Journal of Learner Diversity and Identities*., 31(1), 5.
- Hussain, M. B. (2025). A comprehensive review of climate change impacts, adaptation, and mitigation on environmental and natural calamities in Pakistan. *Environmental monitoring and assessment*., 192(1), 89.
- Hussain, Z. M. (2025). Climate change in Pakistan: Impacts, strategies, and the way forward. *Pakistan Languages and Humanities Review*., 6(1), 231.
- Khan, M. A. (2024). The challenge of climate change and policy response in Pakistan. *Environmental Earth Sciences*., 7(5), 65.
- Khanm, M. S. (2025). Climate Change and Human Security in Pakistan: Policy Breaches and Strategic Response Frameworks. *Journal of Social Signs Review*., 3(4), 101-108.
- Raazia, I. A. (2023). Global climate change and human security nexus: a case of Pakistan. *Global Foreign Policies Review*., 6(6), 39-52.
- Rabbani, A. (2026). IMPACT OF CLIMATE CHANGE ON PAKISTAN AS A NON-TRADITIONAL SECURITY THREAT. *ISSRA Papers*., 5(2), 34.
- Rafique, A. A. (2023). Impact of Climate Change on the Hard Power of Pakistan: Implications for National Security of Pakistan. *IC4R*, 12(5), 5.
- Rehman, M. Z. (2025). Emerging dynamics and national security of Pakistan: Challenges and strategies. *Research Consortium Archive*., 3(2), 23.

- Saad, S. M. (2025). Climate change impacts: exploring the rising climate-security nexus in Pakistan. *Liberal Arts and Social Sciences International Journal (LASSIJ)*, 8(1), 123-8.
- Shahzad, K. &. (2021). Analysis the Impact of National Security Policy and Security Challenges on the Citizens of Pakistan. *Annals of Social Sciences and Perspective*, 2(2), 67-9.
- Ullah, Z. K. (2025). Global Challenge And National Response: An Appraisal Of Pakistan's Climate Change Policy Responses. *Policy Journal of Social Science Review*, , 45.