

Climate change: non- traditional security threats for Pakistan

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Abstract: This research study investigates climate change as a non-conventional security threat for Pakistan. Extreme weather events, water shortage, and population displacement are just a few of the difficulties Pakistan is facing as the effects of climate change become more pronounced worldwide. These difficulties could make the region's current security problems worse. As a complex global issue with substantial security ramifications, climate change is now more widely acknowledged to go far beyond environmental issues. The non-traditional security risks that climate change poses to Pakistan through a case study that focuses on that nation. Pakistan is particularly vulnerable to the negative effects of climate change due to its diverse topography, populace, and socioeconomic vulnerabilities. It emphasizes the relevance of adjusting to changing climatic circumstances to guarantee a more resilient and secure future for Pakistan and the wider region. It also emphasizes the importance of regional and international collaboration in mitigating climate change's impact on security.

Keywords: Pakistan, Climate Change, Non-Conventional, Security, Mitigating

INTRODUCTION

Pakistan faces a number of challenges that directly affect the general public, including energy constraint, concerns regarding internal security, food scarcity, and financial issues. A comprehensive security policy is necessary to tackle the diverse range of issues that the nation encounters. The conventional approach to state security has not taken into account critical industries like healthcare, education, and physical infrastructure, making it inadequate to solve these problems. Pakistan's societal values are currently at a breaking point because of terrible policies both inside and outside the country, as well as inadequate governance institutions. The nation is experiencing significant levels of human instability and uncertainty as a result of ill-considered policies and a lack of democratic values. In South Asia, particularly in Pakistan, the security of the populace and the government is of utmost importance to all concerned parties. But doing so will require putting democratic ideals into reality and creating wise policies (Khan, 2021).

Pakistan is presently facing challenges that highlight how insufficient the previous security framework is to address them. Pakistan needs to come up with unique answers to deal with each of these problems. Policy development must be guided by human security patterns. South Asia is particularly exposed to non-traditional security threats. Particularly vulnerable are the weaker nations in the area, including Bangladesh, Nepal, the Maldives, and Sri Lanka. Natural disasters that these states suffer include floods, cyclones, rising sea

levels, temperature increases, and an environmental refugee issue that has persisted since 2001. Human activity is the main source of global climate change. Together with humans, other living things affected by this climate change include biodiversity, forests, and marine life (Gasura, 2023).

THEORETICALLY FRAMEWORK

Copenhagen school of security theory, International relations scholar Barry Buzan's 1983 book *People, States, and Fear: The National Security Problem in International Relations* is credited with founding the Copenhagen School of Security Studies, an academic movement. The Copenhagen School highlights the non-military aspects of security in particular, departing from standard security studies. Theorists connected to the school include Buzan, Ole Waever, and Jaap de Wilde. The Copenhagen Peace Research Institute employed a large number of the school's members, which is how the institution received its name. The scholarly Copenhagen School of Security Studies teaches security studies using a critical approach. This pertains to the post-pastoralism movement in international relations (IR), which gained prominence as a field of study following the conclusion of the Cold War. In 1983, IR theorist Barry Buzan published *People, States, and Fear: The National Security Problem in International Relations*, which became the cornerstone of the school's academic ideology. The school is connected to two distinguished scholars. The constructivist ontology is used by the Copenhagen School of International Relations to interpret threats to nations or concerns about national security as socially constructed problems. The phrase "Copenhagen School" was first used by Professor Bill McSweeney, a University of Dublin peace studies specialist and one of the primary opponents of the movement. Securitization is a key component of the Copenhagen School; it is the process through which common domestic political issues are brought to the national political arena and have an influence on governments (i.e., when something becomes an issue of national security). Security is quite individualized since it is a social construct. This notion serves as the foundation for a large portion of the Copenhagen School's viewpoint on security and related matters (Arrigo, 2016).

Climate Change

Climate change poses a new threat to the security of the environment worldwide. Global warming, which is caused by the atmosphere's production of harmful chemicals including CFC, CO₂, nitrous oxide, and methane, is the cause of these climate shifts. These greenhouse gases have a detrimental effect on biodiversity, ecosystems, and marine life in addition to endangering human health. In addition to many other catastrophic environmental changes, the average global temperature is rising, the sea level is rising, glaciers and ice sheets are melting, rainfall patterns are shifting, droughts are occurring, and biodiversity is disappearing. The current situation of the climate is one of the biggest security threats to every state and every region. It is thought to pose a secondary risk to national security. Climate change and environmental degradation have a negative influence on Earth's atmosphere, biodiversity, and human well-being. Climate change has a major impact on trends in the world's population (Javid, 2022).

According to the Center for Research and Security Studies, the terrible floods that injured or ruined more than 2.2 million dwellings in 2022 and affected 33 million people, killing almost 1,700 individuals. After the floods devastated most of the water infrastructure in the affected regions, over 5.4 million people including 2.5 million children were left with no choice but to rely on polluted water from ponds and wells. According to The World Bank report says that, these changes challenge human security in south Asia. The total damage for FY22 is 4.8% of GDP, and the money required for recovery and reconstruction is anticipated to be substantial—1.6 times that which is allotted for national development expenditures in FY23. A anticipated 3.7–4.0 percentage point increase in the nation's poverty rate would result in 8.4–9.1 million additional people living in poverty, according to the Post Disaster Need Assessment. Multidimensional poverty is expected to rise by 5.9 percentage points, translating into an additional 1.9 million households living in non-financial poverty (Khan, 2019).

- A result of glacier retreat, melting ice sheets are occurring, particularly in Pakistan, Bhutan, India, and Nepal. But not in Bangladesh or India, there is a slight increase in the scarcity of water in Pakistan and Sri Lanka, declining coral reefs, particularly in India, the Maldives, and Sri Lanka an increasing amount of air pollution is found in Bangladesh, Bhutan, India, Pakistan, and Nepal. In Sri Lanka, Nepal, Bhutan, India, and other countries, deforestation is quickly growing. Bangladesh, India, Pakistan, Sri Lanka, and the Maldives have all seen an increase in the destruction of marine life.
- The economy is estimated to have suffered losses of at least \$1 billion due to environmental degradation. As a result, changes in the climate have an impact on both local economies and regional demographics. Immigrant trends are rapidly expanding, leading to urbanization and industrialization, as well as instability and management problems in governments.

Non- Traditional Security

The Non-traditional security threats that endanger people's survival and well-being and are primarily caused by non-military means include concerns about climate change, resource scarcity, infectious diseases, natural disasters, irregular migration, food shortages, people smuggling, drug trafficking, and transnational crime. Since these dangers sometimes have a worldwide scope, they are difficult to address alone and call for significant political, economic, and social responses in addition to the deployment of armed action for humanitarian causes. The primary focus of Pakistan's official institutions has remained maintaining a stable state of law and order despite a cloud of previously unknown internal and external dangers. Pakistan, akin to other countries in South Asia, has encountered an array of non-traditional security challenges that have adversely affected its advancement, progress, financial steadiness, and political equilibrium. Pakistan seems to be among the most vulnerable nations in terms of environmental degradation, especially considering the detrimental consequences of climate change on global trade. Non-traditional security threats are bad for human development in developing countries like Pakistan (Javaid, 2015).

The Non-traditional security risks such as terrorism, natural disasters, and cybercrime significantly reduce Pakistan's HDI. Pakistan ranks lower on the Human Development Index (HDI) than other countries with comparable non-traditional security issues, such as Bangladesh and India. In order to promote human development, non-traditional security risks must be addressed immediately by policymakers and practitioners. Pakistan faces several non-traditional security concerns that impede its progress and development, similar to those faced by numerous other developing nations. These hazards include pandemics, terrorism, cybercrime, and climate change, to name a few. Non-traditional security concerns have become more significant in recent years because they provide significant barriers to the growth and progress of a nation. Climate change represents one of the most significant non-traditional security threats to developing countries like Pakistan. Pakistan's economy relies heavily on agriculture, which could be negatively impacted by climate change. Pakistan is one of the countries that would be most affected by climate change. The country is susceptible to many natural calamities, such as droughts and floods, which have a significant impact on the lives and communities of peoples all over Pakistan (Alam, 2021).

Threats for Pakistan

Pakistan's large population and quick growth rate have a negative impact on the environment, the economy, and society. Basic public services are threatened by an increasing population, which leads to a shortage of food, clean water, and space for homes and infrastructure. It also hastens the process of urbanization, placing pressure on the state and society at large. The non-traditional challenges ideally require trans-border regional collaboration techniques, even though our hostile environment exacerbates the situation. These non-traditional issues may have negative impacts on the country's security, stability, and peace in the near future. One of the biggest threats to human survival both now and in the future is climate change, as it directly impacts human security. Pakistan is the nation most affected by climate change, even though it is among the least responsible for its causes. Climate change and variations in precipitation patterns exacerbate food shortages and have an effect on agricultural output as well. Food shortage is going to be one of the main problems the states have to deal with in the future. The depletion of fresh water

supplies is a major reason why many scholars predict that interstate "water-wars" may occur in the near future (Liaqat, 2023).

Agriculture non-security threats

The sustained growth of the agriculture industry is critical to Pakistan's rural development and food security. It has a major impact on employment and foreign exchange earnings. Growth in this industry is therefore connected to the economy overall in a number of ways, as it also provides industrial raw materials. Agriculture is important to the country's economy since it contributes 22.7 percent of GDP, employs 37.4% of the labor force, manages the rural terrain, and provides an environmental buffer for improved and climate-resilient ecosystems and production. About 15% of Pakistan's rice crop and 40% of its cotton crop were impacted by the floods. Pakistan's ability to feed its people may be impacted by the damage to crops and lower harvests in Sindh province, which provides around 25% of the country's agricultural output. In the event of crop and animal losses, families who are already dealing with poverty may become even more so. Per the post-disaster needs assessment released in October 2022, there could be a 5.9 percentage point increase in poverty. This implies that an additional 1.9 million households may be vulnerable to destitution (Abbas, 2022).

Food non-security threat

The Nine million extra people are at risk of becoming impoverished in addition to the 33 million people affected by the devastating floods, according to the UNDP, the agency that works for UN development. The state of food security for people impacted by the storm keeps growing worse. The World Food Program (WFP) and the Intergovernmental Panel on Climate Change (IPCC) estimate that by early 2023, an additional 1.1 million people are likely to move from an Integrated Food Security Phase Classification Phase 3 (crisis) to Phase 4 (emergency), bringing the total number of people in IPCC Phase 4 to 5.1 million. The country may be experiencing severe food shortages. As the during the 2022 monsoon season, landslides, devastating floods, and excessive rainfall affected millions of people. 15% of the country's population was affected by the floods, which devastated all four provinces

Water non- security threats

In Pakistan, approximately 3.85 million acres of land are unfit for cultivation in Punjab alone due to a lack of irrigation water. If these were planted with crops, they may contribute to ensuring that the country's growing population has access to enough food. Since 2010, when the record low water levels in the Indus Basin occurred, Punjab and bordering provinces have fought several times. The provinces consistently attribute the conflict to the uneven distribution of constrained river flows. Rivers in Pakistan mostly rely on the melt water from glaciers. Global warming is causing glaciers to melt more quickly than usual, endangering the country's main supply of water. Inconsistent Rainfall Unpredictable rainfall can have an effect on agriculture and water supplies due to shifting precipitation patterns and an increase in the frequency of extreme weather events (Abbas, 2023).

Extreme Weather Events non- security threats

Pakistan is vulnerable to extreme weather events such as floods, heat waves, and cyclones. These events can cause massive displacement, loss of life, and infrastructure damage. The frequency and intensity of these events are expected to increase with climate change, posing challenges for disaster management and humanitarian efforts.

Sea Level Rise non- security threats

Coastal areas of Pakistan, particularly around Karachi, are at risk due to rising sea levels. This can result in saltwater intrusion, affecting agriculture and freshwater sources. Additionally, densely populated urban areas are vulnerable to storm surges, potentially leading to mass displacements and strained resources for relocation and rehabilitation. Changes in temperature and precipitation patterns can influence the spread of vector-borne diseases such as malaria and dengue fever. Extreme heat events can also pose health risks, especially for vulnerable populations. The strain on healthcare systems due to climate-related health issues can contribute to social instability (Zaheer, 2023).

Economic Impacts non- security threats

The economic impact of climate change, including damage to infrastructure, reduced agricultural productivity, and increased healthcare costs, can strain the country's resources. This economic strain may lead to social unrest and migration, both within the country and potentially across borders. Climate-induced impacts, such as water scarcity and extreme weather events, can force people to migrate internally. This movement can lead to competition for resources, increased pressure on urban areas, and potential social conflicts. Water scarcity and management of Transboundary Rivers like the Indus can create tensions between Pakistan and its neighbors, particularly India. Disputes over shared water resources can escalate and become sources of regional instability (Henjum, 2017).

Migration non- security threats

The rural population, which largely depends on agriculture for a living, is forced to relocate to metropolitan regions in pursuit of employment and a greater standard of living due to food shortages and other challenges. Major cities like Karachi and Hyderabad already have a shortage of resources in terms of fresh water supplies, jobs for youth, and energy sources. Consequently, there is a greater chance of rural-urban violence across Sindh province since the people living in these cities perceive rural migrants as a threat. The floods of 2022 have caused at least 7.9 million people to be displaced. In Sindh province, there were about 88,000 internally displaced persons as of March 2023, down from 6.5 million at the start of September. Due to rural flooding and a lack of infrastructure, a large number of people are compelled to migrate to metropolitan areas in search of work and safety (Sawas,2020).

Dr. Najam Khurshid, a climate and water management expert deems the situation to further exacerbate over time.

- Food costs will rise in the event of a drop in production. Due to the rising cost of living, many residents are pushed into poverty and must turn to crime to make ends meet. He proceeded to state that the impoverished individuals evacuated by floods have no alternative but to move to unofficial settlements.
- In Karachi and Lahore, where the population is expected to triple by 2030, we have a ticking time bomb on our hands due to the increasing rural-urban migration. An increase in crime in the city has also led to conflicts between different ethnic groups. Physical structures including homes and sheds, as well as fodder, standing crops, and grain storage.
- animal deaths and fatalities; farm machinery and other tools and equipment used on a daily basis; social infrastructure, including drinking water sources, schools, hospitals, and sanitary buildings; communication infrastructure, including roads and bridges; and productive infrastructure, including canal networks and wells.

SUGGESTIONS:

- Integrated Water Management the Develop and implement comprehensive water management strategies to address water scarcity. This includes efficient use of water resources, investment in water infrastructure, and cooperation with neighboring countries on transboundary water issues.
- Climate-Resilient Agriculture to promote climate-smart agricultural practices, including the use of drought-resistant crops, improved irrigation techniques, and

sustainable farming methods. Invest in research and technology to enhance agricultural productivity in the face of changing climate conditions.

- **Early Warning Systems and Disaster Preparedness**, the Strengthen early warning systems for extreme weather events to improve disaster preparedness and response. This includes investing in technology and infrastructure for timely evacuation, relief efforts, and post-disaster recovery.
- **Renewable Energy Development to Increase the share of renewable energy sources** in the energy mix to reduce reliance on fossil fuels. This not only mitigates climate change but also enhances energy security. Invest in solar, wind, and hydropower projects for sustainable and clean energy generation.
- **Urban Planning and Infrastructure Resilience**, Implement climate-resilient urban planning practices to address the risks of sea-level rise and extreme weather events. This includes upgrading infrastructure to withstand climate impacts and developing sustainable, climate-smart cities.
- **Healthcare Infrastructure and Capacity Building to the Strengthen healthcare infrastructure** to cope with climate-related health challenges. This involves training healthcare professionals, developing disease surveillance systems, and ensuring the availability of medical resources to respond to climate-induced health risks.
- **Community Engagement and Education to Increase public awareness** about climate change and its impacts. Educate communities on sustainable practices, water conservation, and disaster preparedness. Engage local communities in climate adaptation and mitigation efforts to build resilience at the grassroots level.
- **Cross-Sectoral Coordination to Foster collaboration** among government agencies, non-governmental organizations, the private sector, and local communities. Climate change responses should be integrated across various sectors, including agriculture, water management, health, and disaster management.
- **Investment in Research and Innovation to Support research initiatives** to better understand the local impacts of climate change and develop innovative solutions. Encourage the adoption of climate-resilient technologies and practices through incentives and policy support.
- **International Collaboration to the Collaborate with the international community** to share knowledge, technology, and best practices. Engage in regional cooperation on shared environmental challenges, including transboundary water management, to foster stability and reduce the risk of conflicts.
- **Urban areas can reduce the probability of climate displacement** by strengthening resistance to climate impacts and promoting better outcomes for those who relocate. The following recommendations, which are based on the study's findings, are made to improve Pakistan and address unconventional security threats.
- **Establish effective countermeasures for cybercrime:** The government needs to make investments in cyber security infrastructure and design a plan to combat cyber threats in order to guarantee that cybercrime is dealt with legally.
- **Promote sustainable development:** In order to address the problem of environmental degradation, the government needs to put eco-friendly laws into place and promote sustainable economic growth.
- **The government should prioritize providing its citizens with access to high-quality healthcare and education, especially in rural areas.** This can be achieved by investing in these fields. Invest in infrastructure development: Public funds must be allocated to infrastructure development in order to promote economic expansion and improve the standard of life for all citizens.

CONCLUSION

The climate change as a non-traditional security threat for Pakistan underscores the urgency and complexity of addressing environmental challenges in the 21st century. The findings reveal that Pakistan faces multifaceted risks, ranging from water scarcity and extreme weather events to food insecurity and displacement, all exacerbated by the impacts of climate change. The interconnection of these challenges not only poses a direct threat to the well-being of the population but also has broader implications for regional stability and security. According to the study, addressing climate resilience requires an all-encompassing

and flexible strategy that includes international cooperation, technology advancements, and legislative changes. Due to Pakistan's climate change susceptibility, building resilience, reducing hazards, and ensuring sustainable development would require strategic planning and quick action. The implementation of climate-smart farming practices, the promotion of renewable energy sources, and transboundary water management are critical stages in this endeavor. The importance of global cooperation to address climate change as a shared challenge. Pakistan's efforts should be complemented by international support, financial assistance, and knowledge exchange to enhance the country's capacity to manage with the impacts of climate change. Strengthening regional and international partnerships will contribute not only to Pakistan's security but also to the broader goal of fostering a resilient and sustainable world. Expanding on the implications of climate change on Pakistan's non-traditional security landscape, it is evident that the environmental challenges outlined in this study are deeply intertwined with socio-economic factors. The vulnerability of marginalized communities, particularly in rural areas, is exacerbated, making them disproportionately affected by the adverse impacts of climate change. Recognizing the intersectionality of climate change and social inequality is essential for formulating policies that not only address environmental concerns but also promote social justice and inclusivity. Climate change on various sectors of the economy, The agricultural sector, which is a backbone of Pakistan's economy, faces substantial risks due to changing precipitation patterns and increased frequency of extreme weather events. This not only jeopardizes food security but also poses economic threats, as a significant portion of the population relies on agriculture for their livelihoods. The conclusion is clear: without sustainable practices and adaptive measures, the impacts of climate change will have profound and far-reaching consequences on the country's economic stability. The findings underscore the importance of a forward-looking and dynamic policy framework. Climate change is a dynamic phenomenon, and policies must be flexible and adaptive to keep pace with evolving environmental conditions. Continuous monitoring, regular reassessment of vulnerabilities, and the incorporation of new scientific insights into policy formulation are imperative. Integrating climate resilience into national development plans and policies will ensure a more holistic and effective response to the challenges posed by climate change.

On the global stage, it is evident that climate change transcends national borders. Shared resources, such as water bodies and ecosystems, necessitate collaborative efforts among nations to ensure sustainable management. The international community must recognize that climate change is a collective security challenge, and cooperative initiatives should be fostered to facilitate knowledge transfer, technology sharing, and financial support. Pakistan's experience can serve as a case in point, illustrating the need for a coordinated global response that goes beyond geopolitical considerations and prioritizes the well-being of the planet. The case study on climate change as a non-traditional security threat for Pakistan illuminates the intricate web of challenges and opportunities that the country faces in the coming years. It is a call to action for policymakers, researchers, and communities to work collaboratively towards sustainable solutions. Through the embracing innovation, fostering inclusivity, and prioritizing international cooperation, we can transform the threat of climate change into an opportunity for positive change, not only for Pakistan but for the entire world. The time to act is now, and the path forward requires a united and concerted effort from all stakeholders. One of the crucial aspects that this case study brings to light is the role of education and awareness in building resilience. A well-informed populace is better equipped to adapt to changing circumstances and contribute to sustainable practices. Educational initiatives that integrate climate change awareness into curricula can empower future generations to be environmental stewards and advocates for sustainable development. Moreover, public awareness campaigns can play a pivotal role in fostering a sense of responsibility among citizens, encouraging sustainable practices in their daily lives, and promoting a collective commitment to mitigating climate change. The immediate impacts on water resources, agriculture, and extreme weather events, climate change has the potential to exacerbate existing geopolitical tensions. Transboundary issues related to water resources, for example, can strain relationships with neighboring countries. Collaborative frameworks for water management, such as those promoted by international organizations, offer a blueprint for peaceful and equitable solutions. Recognizing the interconnectedness of environmental and geopolitical stability, diplomatic efforts should be intensified to ensure that climate change is not a source of conflict but rather a catalyst for cooperation.

The economic dimension of climate change adaptation cannot be overstated. While initial investments in climate resilience may seem substantial, the long-term economic benefits far outweigh the costs. The development and adoption of green technologies, renewable energy sources, and sustainable agricultural practices can not only mitigate the impacts of climate change but also stimulate economic growth. International financial institutions and donor nations play a pivotal role in supporting developing countries like Pakistan in their transition towards a low-carbon and climate-resilient economy. Furthermore, the conclusion must stress the importance of local governance and community involvement in climate change adaptation. Communities are often the first responders to climate-related challenges, and their knowledge and experience are invaluable. Implementing policies that empower local communities, especially vulnerable populations, to actively participate in decision-making processes can enhance the effectiveness of climate change adaptation strategies. This bottom-up approach ensures that solutions are context-specific, culturally relevant, and sustainable in the long run.

The climate change as a non-traditional security threat for Pakistan urges a comprehensive, multidimensional response that goes beyond traditional security paradigms. It underscores the need for a holistic approach that integrates environmental, social, economic, and diplomatic considerations. The challenges posed by climate change are formidable, but they also present opportunities for innovation, collaboration, and positive transformation. As Pakistan navigates this complex terrain, the international community must stand together to address the shared challenge of climate change and work towards a resilient, sustainable, and secure future for all.

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