

Non-Traditional Security Threats in Pakistan from 2008 to 2024: An Analysis

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ABSTRACT:

This study examines non-traditional security threats in Pakistan between 2008 and 2024, with a focus on environmental, food, water, health, cyber, demographic, and energy security threats. While traditional security threats such as wars and terrorism are significant, this study highlights the growing importance of non-traditional threats caused by rapid socioeconomic developments, climate change, and advances in technology. Over the last decade and a half, Pakistan has faced significant challenges in managing these risks, which frequently conflict with and increase one another. Environmental degradation, water shortages, food insecurity, public health issues, and rising energy demand are all major concerns that threaten the country's long-term stability. Cyber-attacks, encouraged by the rise of the internet, have become an important concern, threatening both government systems and private data. Demographic changes, such as rapid growth in population, development, and migration, impose additional strain on existing assets and increase the risk of crises. The paper examines the implications of these challenges for Pakistan's national security and offers ideas for resolving them through coordinated policies and regional cooperation.

KEY WORDS:

Food Security, Water Scarcity, Cyber Security, Demography, Energy Crisis

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Cite this Article:

Mumtaz, T., Naeem, S. (2024). Non-Traditional Security Threats in Pakistan from 2008 to 2024: An Analysis. *The Regional Tribune*, 3(1), 407-417.
<https://doi.org/10.63062/trt/V24.075>

Introduction

After the end of the decades-long Cold War, there were substantial changes to the state-centric international security framework that had been established to protect states' political independence and territorial integrity following World War II. Rapid technology breakthroughs and geopolitical struggle in an increasingly multipolar globe provide a growing threat to the post-Cold War global security scene. Hunger and a shortage of clean drinking water now claim more lives than violent battles. Annually, 1.4 million people die worldwide due to a lack of access to clean water for drinking, sanitary facilities, and proper hygiene (Zahoor, 2024). Since 1957, advancements in space-based technology have created new opportunities for the peaceful use of space. Non-traditional risks come from an array of natural causes and harm a state's population and key institutions. In this regard, satellites are critical in dealing with such threats. Pakistan is resolved to improve its national infrastructure through the peaceful use of space technology, and it is prepared to confront and mitigate new non-traditional challenges to national security (Malik & Arif, 2019).

War, on the other hand, killed 238,000 people. Pakistan is currently experiencing its biggest poly-crisis since 1971, which has been worsened by the COVID-19 epidemic, extreme climate change events, economic and political turmoil, and global political upheaval typified by strong competition. In 2023, Pakistan's economy decreased by 0.6%, inflation increased to 29.2%, the nation's total public debt stock reached 82.3% of GDP, and poverty rose to 39.4%, throwing an extra twelve million Pakistanis into poverty (Zahoor, [2024](#)). Thirty-three thousand individuals were impacted by the 2022 floods, which resulted in economic losses of almost fifteen billion US dollars. Its traditional forces, nuclear arsenal, and use of non-state entities as force multipliers have all been articulated by analysts. More recently, there has been a change from the military's exclusive focus on territorial security to NTSTs, which cover all dangers to human security or a nation's residents' well-being (DEVASHER, [2017](#)).

Environmental security, food and water security, health security, cyber security, demographic security, and energy security are a few of these concerns. In reality, the core of the issues facing Pakistan lies in these unconventional threats. Understanding these dangers will help us better comprehend Pakistan's future course and potential challenges to our security beyond the country's conventional military and terrorist threats.

Literature Review

Non-traditional security risks have a detrimental effect on the advancement of humanity in developing nations such as Pakistan. Employing information collected from 2016 to 2020, According to the study, non-traditional security risks, including cybercrime, terrorism, and catastrophic events, drastically lower Pakistan's HDI (Gasura et al., [2023](#)). This investigation examines how non-traditional security threats affect the country's Human Development Index. In Pakistan, the effects of climate change are becoming increasingly obvious worldwide. Some of the difficulties it faces are severe storms, a shortage of water, and displacement of people. These challenges can exacerbate the security issues already plaguing the area (Hassan et al., [2024](#)). The purpose of this research is to examine climate change as an unconventional security threat to Pakistan.

Humans on Earth suffer much from conventional and non-conventional security. This is also occurring in Pakistan, a third-world nation; it has been severely affected by microbiological diseases such as dengue, polio, malaria, HIV/AIDS, and, most recently, the coronavirus (Alma & Iqbal, 2022). The primary goals of this study are to investigate the origins of microbial illnesses and assess the effects of their emergence in Pakistan. The modern age is becoming a more dangerous and dangerous place for humans to live. Pakistan is facing significant non-traditional risks to its security along with traditional military challenges and nuclear threats (Ayaz & Aftab, [2020](#)). The subtleties of non-traditional security threats to Pakistan are investigated in this work, along with their effects on the stability of the country. Asia is currently facing a greater variety of safety worries than it has ever faced, many of which extend outside the traditional boundaries of security (Acharya et al., [2006](#)). This study examines the intricate and varied non-traditional security risks that face Asia, such as environmental deterioration, economic instability, terrorism, and health security.

Since the end of the Cold War, non-military challenges have posed a growing threat to national security. The focus has shifted to issues including international criminal activity, drug trafficking, irregular migration, infectious diseases, resource scarcity, climate change, and natural disasters (Anthony, [2015](#)). It examines how well international strategies and international partnerships work to lessen these dangers. With implementation to strategy, this investigation provides a worldwide perspective for anyone pursuing education or working in the safety field. It focuses on non-traditional threats in a landscape that includes, among numerous others, violent gangs, terrorism, natural disasters, and extremism (Masys, [2016](#)). The study emphasizes the necessity of multidisciplinary methods, worldwide collaboration, and resilience plans to handle complicated global threats. The international discussion includes non-traditional security issues, such as terrorism, climate change, and pandemic diseases. Many contend that a government based on sovereign states is no longer sufficient, and they are calling for and

developing new strategies to handle dangers that cross national borders (Hameiri & Jones, [2015](#)). It offers a critical analysis of the changing environment for non-traditional security.

One may identify the roots of the nation's domestic security issues both internally and externally. Pakistan's security is threatened by India and Afghanistan, its two closest neighbours, either conventionally or externally. Furthermore, because of their shifting interests in the global order, superpowers like the US and Russia are additionally a threat to Pakistan's stability (Malik, [2024](#)). Pakistan's security necessitates a complex approach that takes into account domestic weaknesses and foreign threats and utilizes globalization for both geopolitical diplomacy and economic growth. Due to the increasing significance of non-traditional dangers endangering government and human safety, the idea of safety has experienced a significant metamorphosis. Pakistan's response to non-traditional security issues has been insufficient (Mansoor & Mukhtar, [2021](#)). This study indicates that a comprehensive, people-centred strategy that prioritizes equitable growth and human safety is necessary to effectively handle developing non-traditional security concerns.

Material and Methods

This study employs a qualitative research design to explore the impact of non-traditional security threats on Pakistan's socio-economic landscape from 2008 to 2024, given the complex and multidimensional nature of security challenges. An analytical approach is used to assess the extent and nature of non-traditional security threats in Pakistan. The research relies on secondary sources, including government reports, policy documents, books, research articles and newspapers.

Results and Discussion

The state-centric global security infrastructure that arose after WWII to protect states' territorial integrity and political independence suffered substantial changes following the Cold War's end. The post-Cold War global security landscape is being challenged by geopolitical competition in an increasingly multipolar globe, as well as rapid technical breakthroughs. Non-traditional security risks are important challenges for Pakistan. These issues are a particularly significant impediment to the country's progress (Javid & Magsi, [2022](#)). Pakistan is facing numerous issues, including energy constraints, internal security concerns, food shortages, and financial crises, all of which have a direct impact on the general people. A comprehensive security paradigm is required to address the nation's diversified set of threats (Ali et al., [2023](#)).

The following are Pakistan's non-traditional security threats:

Risks to Environmental Security

Pakistani people's economic prosperity and individual growth are severely hampered by the degradation of the environment. According to estimates, air pollution, water pollution, and contaminants in the soil cost the global economy the amount of \$25.1 billion in 2016 (8.96 percent GDP equivalent (Aslam et al., [2021](#)). Anyone could argue that Pakistan's degradation of the environment issue is caused by sources that are natural as well as human-made.

Climate Change

As the world at large, climate change has become a significant unconventional security concern. Developing nations are more affected, with Pakistan currently the ninth most climate-vulnerable country suffering the most. Pakistan has suffered enormous economic and human damages as a result of disasters linked to climate change, such as floods, heat waves, droughts, glacier melting, and sea level rise. Consequently, it has undermined Pakistan's food, economic, human, and environmental security, putting the nation's security at risk. Nearly all of these elements of

national security have suffered greatly as a result of the impact of climate change, which poses a major threat to Pakistan's national security (Aslam et al., [2024](#)).

Water Scarcity

Seeing that liquid water covers two-thirds of the earth's surface; it is obvious that water is one of the key components that sustain life on the planet. It is just as vital for socioeconomic development as it is for the survival of life. The essential component that makes life possible and God's unique gift is water. Fresh water had to be diverted from agriculture for different, more pressing reasons due to the world's clean water shortage and worries about food security caused by the buzzing billions of people (Khosro & Ansari, [2015](#)).

Air and Water Pollution

These days, environmental issues around the globe have significant effects on how human societies grow. Pakistan is among the nations most impacted by a variety of environmental problems that impact both the economy and public health. Pollution of the air and water are both very complicated problems, and it can be extremely challenging to determine their precise levels. The main causes of pollution issues in Pakistan involve soil contamination, wastewater from industry emissions, pollution of the air, water surface pollution, and human urbanization (Ullah et al., [2022](#)).

Deforestation

The destruction of forests is the reduction or elimination of trees as a consequence of woodlands being eliminated for various reasons, such as ranches or agriculture. Only some see the permanent conversion of forests to a different habitat as deforestation. Deforestation activities affect the flux of carbon in the soil, vegetation, and atmosphere. Approximately 30% of the Earth's surface is covered by wood. Forests influence the global temperature by biological, chemical, and physical mechanisms that regulate the hydrological cycle, temperature stability, and the composition of the atmosphere. From 2000 to 2010, 13 million hectares of forest vanished naturally or experienced various transformations, compared to 16 million hectares per year in the preceding decade (Ali et al., [2014](#)).

Soil Erosion

Within Soil, erosion is a significant and increasing issue in the mountains of Nepal that affects the expansion of agricultural & water resources. The current common soil loss equation (RUSLE) model and geographic information systems approaches were used in tandem to evaluate the possibility of soil loss in the Rawal and Ghabbir watersheds, which are situated in the Pothwar region's high and medium rainfall zones. The lack of plant cover and the quick growth of urbanization have made the Rawal basin more vulnerable to soil erosion (Ashraf et al., [2017](#)).

Food & Water Security Threats

A Scarcity of Food

In addition to referring to a lack of food, food insecurity also describes people's incapacity to buy enough food to last them through the day. Additionally, women, children, and rural households are especially impacted by malnutrition, which exacerbates socioeconomic disparities and raises the number of food-insecure households. Since stunting and death in children younger than five are caused by eating inadequacies, a lack of food is the main issue facing emerging nations. According to the results of the logistic regression analysis, 38% of households nationwide suffered from calorie deficit, with 40.5% of those in rural areas and 36.7% of those in towns and cities. (Hameed et al., 2020).

The 2018 National Nutrition Survey found that underweight is 28.9%, stunting is 40.2%, and wasting is 17.7% among youngsters. The 2019 Global Food Security Index (GFSI), which ranks Pakistan 78th out of 113 states

in terms of food availability, quality, and safety, provides additional insight into the situation of food security (Mansoor & Mukhtar, [2021](#)). Thirty-eight per cent of Pakistan's population is projected to experience a shortage of food over the period of ten years from 2021 to 2021, according to the US Department of Agriculture Agriculture's International Food Security Assessment. (Amir et al., 2023).

A shortage of Water

Considering that water fills two-thirds of the earth's surface, it is obvious that water is one of the key components that sustain life on the planet. It's just as crucial for social and economic growth as it is for the survival of life. The essential component of existence and God's unique gift is freshwater. The worldwide ecology changes daily as a result of human beings' extreme indulgence and exploitation of nature. Consequently, the water supplies are steadily running out. Fresh water had to be diverted from farming for various essential reasons due to the world's fresh water scarcity and food security concerns caused by the flocking billions of people. Because the amount of water accessible for every possible use has dropped, the nation is facing the biggest water scarcity crisis in many years. (Khosro & Ansari, [2015](#)).

Undernutrition

Undernutrition is a public health issue, and its effects go far beyond what most people realize. Because of the impact it has on the capacity of individuals for productivity, it can be identified as one of the main barriers to national growth. Nobody can afford to have an elevated rate of malnutrition, especially in a developing nation like Pakistan. The prevalence of malnutrition has actually risen over the last ten years, making it an unreported problem in the nation. Some of the potential reasons include a high rate of hunger, illiteracy, a lack of knowledge about diets, insufficient cleanliness, and a neglected significance for nutrition. (Tanweer et al., [2015](#)).

Hunger

Because of poverty, conflict, terrorism, natural disasters, and pandemics, humanity has endured severe food shortages throughout history, which have affected many countries. The incapacity of a single person or collection of individuals to eat enough food for a prolonged period of time is known as hunger. Pakistan and other emerging countries are the main victims of this unsustainable predicament (Munir, 2019).

Disruptions to Agriculture

The issue of producing more food must be addressed in a nation like Pakistan, where the stability of one's supply of food is crucial for the impoverished. According to estimates, agricultural output must increase by at least 40% until 2025 in order to meet the overtime needs of the expected 33% increase in population. It is very challenging for Pakistan's agriculture to meet the nation's nutritional requirements due to the country's expanding population, unpredictable weather, and low crop yields (Khan et al., [2022](#)).

Health Security Threats

Epidemics COVID-19

The goal of this study is to look into how the coronavirus, sometimes referred to as COVID-19, has affected the economy. Since its beginning in China, it has killed many people and forced thousands of others to live in isolation as a result of viral diseases. Furthermore, it causes global economic disruptions in addition to causing severe suffering for people. Similar situations occur all around the world, such as curfews and lockdowns of varying intensities that kill off markets and workplaces. It prevents income age and incurs unusual costs for governments in the context of global epidemic control and overall well-being. Its consequences on the economy are, therefore, far more upsetting and disruptive (Chishti et al., [2020](#)).

Diseases Spread by Water

Water pollution may affect us if we drink or bathe in a polluted stream, as happens when we use municipal water or if we eat crops that have been irrigated with polluted water, fish, or other organisms that live in or eat creatures that have been raised in contaminated water. The following environmental factors influence the incidence of water-borne illnesses: temperature, climate, topography, drainage, stream velocity, soil seepage quality, safe drinking water supply, and proper waste disposal. The most common waterborne diseases in Pakistan include cholera, dracunculiasis, typhoid and paratyphoid at a high temperature, hepatitis A and E, diarrhoea, ulcers, dysentery, jaundice, amoebiasis, and malaria. Between 2 and 2.5 million people suffer from gastroenteritis every year, while over 2.5 billion people lack access to modern sanitary facilities (Perveen, [2022](#)).

Contagious Illnesses

In Pakistan, infectious illnesses like HIV/AIDS, hepatitis B and C, and tuberculosis are the main causes of morbidity and mortality, making public health a serious concern. The nation is at great risk of infectious disease outbreaks due to a number of variables, such as crowded cities, contaminated drinking water, poor sanitation, insufficient immunization rates, and poor socioeconomic situations (Bilal et al., [2022](#)).

Cyber Security Threats

Cyber Security

Pakistan's digital economy is ranked seventh in the world by the UN. During 2005, 6.3% of Pakistanis had access to the internet. Increased accessibility to 3G and 4G networks enabled the internet penetration rate to increase to 17.8% in 2016. Between the years 2012 and 2015, the number of internet users in Pakistan increased by 16 million. Forty-seven percent of those using the internet in 2018 were new users just starting out. According to the Pakistani Communications Authority (PTA), there are 51 million cellphone internet users in Pakistan, representing a 25.32 per cent penetration rate. The worldwide internet market share is 26.46 percent, with 54 million internet users. Pakistan has a tele density of 72.90 percent, which is influenced by 148 million cell phone users. In terms of the rise of mobile payments, the nation of Pakistan currently ranks ninth globally. In Pakistan, 39% of people own a mobile phone. By 2025, Pakistan would hold 60% of the global subscriber market, together with nine other countries. Given Pakistan's widespread and rising use of technology for communications and information, cyberspace has emerged as a new issue of security (Khan et al., [2021](#)).

Pakistan's Cybersecurity Risks

The usage of automated technology, big data, the cloud, & artificial intelligence has grown over the last few decades, rendering life easier for people while also posing new risks and difficulties. Data privacy, security, storage, and online crimes are all impacted by these cyberspace issues. Because computers are used in every aspect of life nowadays, online safety has become more and more important on a global scale. Additionally, over the past 20 years, Pakistan has grown its internet user base to 87 million, with a 39% penetration rate. Because the state has switched from traditional infrastructure to digital systems, it is now more susceptible to cyberattacks. Cybersecurity threats are becoming more prevalent in Pakistan. The reason for this is that Pakistan lacks appropriate cyber security guidelines (Anwar, [2020](#)).

Cybercrime Types in Pakistan

In Pakistan, the following categories of cybercrimes are practised.

Hacking of emails: where hackers can quickly obtain an individual's mailing address and use it maliciously. Because NASA has access to all of Pakistan's email systems, the email hacking has rendered the country's situation more precarious. They look through every email sent by Pakistanis, which is a serious flaw in the government's ability to protect the populace from unauthorized access (Sadiq & Daugélienė, [2019](#)).

Hacking of passwords: The method of restoring the password using data that was previously stored is referred to as credential hacking. Hacker most frequently engages in that behaviour, and Pakistan is a prime target.

Hacking into online banking: Hacking into online banking occurs when a hacker obtains credentials or financial information without authorization or account holder knowledge. Hackers erase the data after stealing the entire record. For the banking industry in Pakistan, stopping it and appropriately securing their data is a significant challenge.

Stalking online: Cyberstalking is when an attacker uses the internet to track a person, monitor every one of his activities, and send him unsolicited emails.

Harming the system: Terrorists utilize system damage to take complete control of a victim's computer or laptop and then erase all of their information or the machine as a whole.

Demographic Security Threats

Growth in Population

One of the main issues facing developing countries is population increase, which hurts economic progress. There are 7.2 billion people on the planet today, nearly twice as many as there were in 1960. With 188.2 million people, Pakistan ranks as the sixth most populated nation in the world. Pakistan's population is growing at a rate of 1.95, nearly twice as fast as the global average. Unplanned population growth puts Pakistan's healthcare system at risk danger, creates a serious scarcity of resources, and increases food insecurity (Huda, [2014](#)).

Urbanization

The process of growth in cities is known as urbanization. Both internationally and in Pakistan, it is rising. Pakistan is urbanizing at the quickest rate in South Asia, with a rate of 3% each year. Both internal and external emigration to Pakistan's unique towns, as well as natural growth, are responsible for the country's inflated urbanization. Pakistan's urbanization necessitates a great deal of attention to governance structure and policies, poverty eradication, and the provision of public health, education, housing, transportation, jobs, and more amenities at a higher level. Urban leadership norms demand social fairness, accountability, efficiency, transparency, and security for all people at all levels (Jabeen et al., [2015](#)).

Migration

Humans have been migrating from the beginning of time with the goal of increasing their socioeconomic standing or securing their existence. Internal migration has not received enough consideration in Pakistani policymaking. As a result, the government is having trouble handling the opportunities and difficulties brought about by internal migration. "Households that relocated from a single region to yet another region or to another country" is a description of migration; migration within a district is not included. Ageing causes a rise in internal migration, although, after a certain point, it tends to start decreasing. Since internal migration is far more common than foreign migration, its contribution to lowering poverty, employment, and socioeconomic progress must be acknowledged (Akram, [2024](#)).

Refugee Crisis

Economic impacts of refugees on the host country include instability and war, as well as possible effects on the economy, society, politics, security, and ecology. It looks at how the Soviet invasion of Afghanistan led to a large-scale influx of Afghan refugees, which had a devastating effect on Pakistan's economy, society, politics, and environment. Pakistan was one of the primary recipients, taking in over three million refugees, which had negative repercussions and effects on its society. According to the project, one of the primary reasons for terrorism, inflation,

child labour, drug trafficking, and several illnesses like poliomyelitis and malaria is the Afghan diaspora (Anwar & Hassan, [2021](#)).

Energy Security Threats

Pakistan has been dealing with a serious energy issue for a number of years, like so a number of other emerging economies. The supply of traditional energy sources is still insufficient to meet the increasing need for energy brought on by urbanization, industry, and population increase. Numerous blackouts brought on by this energy shortage have hampered economic growth, disrupted daily living, and impeded technological advancement. In this regard, implementing alternative energy sources offers a convincing way to deal with Pakistan's energy crisis. Its long-standing intricate problem of Pakistan's energy crisis has seriously hampered the nation's economic development. In 2023, Pakistan experienced a severe energy crisis from May to August. Despite consumption reaching 28,200 megawatts and the power supply being 21,200 megawatts, the electricity shortage grew to 7,000 megawatts (Naeem, 2023).

The Reasons behind the Energy crisis in Pakistan

Insufficient Investment: The lack of investment in the electricity industry is one of the primary roots of Pakistan's energy problem. To fulfil the rising energy demand, the nation has not made significant expenditures in the construction of new power plants or the modernization of existing infrastructure.

Debt in Circles: The dilemma is made worse by the power sector's perpetual debt issue. This happens when users or government agencies fail to pay power-producing companies on schedule, which leaves them short on money for maintenance and fuel. Consequently, the method of producing energy is disturbed.

Excessive Dependence on Fossil Fuels: Energy and fossil fuels, mainly gasoline, account for a large portion of Pakistan's energy mix. The energy sector is susceptible to price swings and supply interruptions because it relies on costly and limited resources.

Inefficient Energy Use: Inefficient energy-use habits in homes, businesses, and industries are a contributing factor in the situation. Increased energy consumption is the outcome of a lack of conservation efforts and energy-efficient devices.

Interference in Politics: Frequent political intervention in the energy sector has resulted in inefficiencies, mismanagement, and a lack of transparency, exacerbating the issue.

Conclusion

From 2008 to 2024, Pakistan faced a growing number of non-traditional security threats, such as environmental degradation, food and water insecurity, health issues, cyber threats, demographic pressures, and energy shortages, all of which had a significant impact on the country's stability and development. Climate change has increased environmental concerns, while water scarcity and food instability endanger livelihoods and public health. Rapid population increase and urbanization put additional strain on resources, leading to social and economic instability. Furthermore, cyber threats have emerged as a significant risk, threatening vital systems and national security. Energy insecurity, paired with insufficient leadership and reliance on imports, threatens to stifle economic progress. Addressing these connected risks requires comprehensive and integrated policies that prioritize sustainable development, resource management, infrastructure strengthening, and regional cooperation in order to boost resilience and safeguard Pakistan's future.

Recommendations

- ▶ To address environmental concerns, implement projects that promote sustainable water management, regeneration, and resilience to disasters.

- ▶ Improve water conservation measures, invest in effective irrigation systems, and encourage sustainable farming practices to maintain food and water security.
- ▶ To address health security concerns, invest in healthcare infrastructure, prioritize preventative care, and improve public health education.
- ▶ Create strong cybersecurity policies, invest in digital infrastructure, and run training programs to protect vital systems and data.
- ▶ Diversify energy sources by investing in renewables (solar, wind, and hydropower) and promoting energy efficiency in all sectors.
- ▶ To address population challenges and rising urbanization, implement good urban planning, increase family planning programs, and promote educational access.

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