

## CLIMATE CHANGE: A THREAT TO NATIONAL SECURITY OF PAKISTAN

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### ABSTRACT

Climate change has emerged as a major nontraditional security concern for the global community. It has a greater impact on developing countries Pakistan, which is now the eighth-most climate-vulnerable nation, is suffering the most. Climate change-related disasters such as floods, heatwaves, droughts, glacier melting, and sea-level rise have caused massive economic and human losses in Pakistan. As a result, it has weakened Pakistan's economic, food, human, and environmental security, thereby jeopardizing the country's national security. The purpose of this research is to look into how climate change is threatening Pakistan's national security. This study employed analytical and explanatory methodology, as well as qualitative analysis of primary and secondary materials. Floods, droughts, and heatwaves have not only destroyed Pakistan's agriculture sector, but have also resulted in other human and material losses. This has resulted in significant economic, food, and human security losses in Pakistan, undermining the country's national security. National security includes military, economic, human, food, cyber, and environmental safeguards. If any of these is jeopardized, the country's national security is jeopardized. Climate change has resulted in significant losses in almost all of these national security components, posing a serious threat to the national security of Pakistan.

**Key Words:** National Security, Climate Change, Pakistan's National Security, Securitization of climate change.

### INTRODUCTION

Humanity has benefited from industrialization, scientific and technological advancement in several ways. Industrialization was required to meet the constantly growing requirements of a population that is expanding quickly. Therefore, it would be accurate to describe industrialization and progress as a necessary evil of the contemporary era. We have benefited from it at the expense of the environment. Global warming has increased dramatically since industrialization, resulting in climate change (Causes of Climate Change, n.d.). Climate Change has emerged as the greatest threat to all countries on the planet. It has altered the traditional notion of security. Prior to this, the world was least concerned about nontraditional security threats, and they were also

unaware of the lethality associated with such threats (United Nations, 2019).

Because of its widespread effects, climate change is a threat multiplier. It does not only pose a single threat, but it also has numerous negative consequences for the economy, humanity, the environment, and flora and fauna. Flooding, heat waves, droughts, glacier melt, increasing sea levels, and changes in rain patterns as weather patterns are some of the repercussions of climate change. (United Nations, 2021). These effects have become a major concern for Pakistan because floods are destroying crops, killing livestock and humans, and destroying settlements. Heatwaves have also claimed many lives in Pakistan.

Climate change is threat to Pakistan's national security (Khan, 2019). Military, economic, human, food, cyber, and environmental security are all components of national security. The country's national security is at risk if any of these elements is compromised. All of these aspects of Pakistan's national security are almost being undermined by climate change. In some parts of Pakistan, including Karachi in Sindh, there have been extreme heatwaves that have claimed numerous lives. Since years, floods have been a problem in Pakistan as well, destroying crops as well as killing livestock and people. This was demonstrated by the most recent flood in 2022. Government estimates place the cost of the latest flood's damages at close to \$30 billion USD, and more than 200 people perished as a result of the deadly flood (Study: Pakistan Flood Damages, Economic Losses Exceed \$30 Billion, n.d.). Because this flood was the worst Pakistan has ever seen, the damages far outweigh any previous flood-related harm. Using this flood as an example, we can conclude that climate change is the most serious threat to Pakistan's national security because it has a significant impact on the agricultural sector, which is critical for both food and economic security. (Bhatti, n.d.). Flooding and heatwaves have also claimed many lives, resulting in human security. As a result, the destruction of Pakistan's agricultural sector will jeopardize the country's other security measures, such as food and economic security. As a result, climate change has been determined to be a threat to Pakistan's national security (Bhatti, n.d.) The consequences for Pakistan's sustainability will be far-reaching if proper mitigation and adaptation strategies are not implemented.

### **Literature Review**

Mustafa (2011) in his article “ Climate Change and Its Impacts with special Focus in Pakistan” points out the challenges being impose by the climate change such as floods, glaciers retreat, sea level rise , heat waves, temperature variations, droughts, storms and cyclones etc. In this article he gives us an overview of the factors which are responsible for climate variations as well as the statics of the countries which are contributor to the greenhouse gases. He further says that USA and China are the biggest contributor of the GHGs in the atmosphere. The agrarian based

economies are such as Pakistan are more vulnerable to the adverse impacts of climate change due to their dependence on the natural resources. According to IPCC Pakistan is more prone to high level of rainfall due to rise in temperature. Pakistan’s agriculture sector is at great risk due to the floods, temperature rise, glaciers melting, water logging and desertification. Pakistan’s industrial sector is highly dependent on the agriculture which is also one severe risk. Apart from these economic impacts of the climate change ,Pakistan is also suffering from the social impacts of the climate change such as internal migration due to the floods, water scarcity and sea level rise as well as health issues such as victor borne diseases like malaria, dengue , typhoid and cholera etc.

According to new research (Pakistan’s Climate Challenges Pose a National Security Emergency, n.d.), Pakistan was hit by a devastating heatwave this year, making April 2022 the hottest month in recorded history. At least 150 people died due to heatwave and flooding this year. Climate Change should be declared as national security emergency before it become more intense and threatening. For the past two decades, Pakistan has consistently ranked among the top ten most vulnerable countries on the Climate Risk Index, with 10,000 deaths as a result of climate-related disasters and financial losses totaling approximately \$4 billion from 173 extreme weather events. Heatwaves have destroyed entire orchards and harmed wheat production across Pakistan, threatening the livelihoods of many small farmers and rendering previously arable land unusable for agriculture in some areas. While leadership on this issue is critical, it is also critical that there be tangible and sustained collaboration and coordination between the national and provincial governments in order to develop a roadmap to address the country's climate change impacts.

Devolution in Pakistan means that while climate change is a federal concern, topics like water, food and agriculture, and the environment are ones where the provinces have the power to adopt controlling legislation. A NCOC with a focus on climate change would make sure that enough funds are set aside to address the effects of climate change on the nation and that the necessary coordination takes place to foster

political consensus. To address the internal effects of climate change, it would be necessary for pertinent national and provincial organizations to band together. The Ministry of Climate Change has been allocated nearly PKR 10 billion (approximately \$50 million) in the 2022-23 national budget, a decrease from PKR 14 billion in the 2021-22 national budget.

In research from Bhatti, Shahid, et al., (n.d.), According to Ban Ki-moon, the UNSG, "Climate change is an evident security challenge like an armed army bent on pillage," in 2014. If climate change is not adequately addressed, Pakistan could face severe consequences in the social, economic, geographic, and political spheres. The securitization of climate change has been discussed by the majority of security studies experts, which may serve to increase public anxiety, but the competition between people, groups, and states raises hazards because of their cooperation and obvious production routes. It has brought up problems such a lack of water, flooding, droughts, or cyclones; migration inside the nation leads to political fights and anger among the populace. The Environmental Ministry of Pakistan announced the first-ever National Climate Change Policy (NCCP) in 2012, and it went into effect in February 2013 with funding from the UNDP (UNDP). The Ministry has organized seminars and conferences on "climate change issue and future dangerous prospects" in Pakistan's major cities and has also participated in related events abroad.

According to new research (Khan, 2019), another "threat multiplier" that might activate hidden potential risks to national security is climate change. These threats include inter-provincial conflict, resource scarcity, poverty, persecution, and population displacement inside countries. However, if Pakistan does not accept and put into practice climate change mitigation and adaptation techniques, any advancements it has made in terms of counterterrorism or security may be seriously jeopardized. Environmental deterioration and natural disasters, which are both exacerbated by climate change, cost the nation 6% of its GDP.

Internal migration, falling agricultural production, water scarcity, an increase in the likelihood of natural disasters like heat waves and

floods, political instability, and violence are some effects of climate change.

In terms of regional security, a conflict with India over water resources is a distinct possibility because environmental cooperation between the two nations, who are both extremely vulnerable to climate change, is woefully constrained and hijacked by other political differences like the Kashmir dispute and counterterrorism. The media's coverage of Pakistan's security threats from non-state actors and discussion panels at major think tanks both inside and outside the nation usually place little to no emphasis on the grave threat posed by climate change and environmental degradation.

In research from D. Khan (2022), The United Nations Environment Program and Pakistan collaborated to hold World Environment Day the previous year as part of efforts to raise awareness of and address the issue of climate change. Because of a confluence of geophysical and topographical variables that subject the state to frequent extreme weather events that are anticipated to intensify as a result of climate change, climate change poses serious threats to Pakistan's national security. Pakistan has taken a number of steps to lessen the negative consequences of climate change on its economic sectors, in addition to engaging in International and National dialogues.

The fact that the Indus Basin supplies more than 70% of Pakistan's surface water flows, which underscores the significance of climate change consequences in the context of Pakistan's security policy. Climate change could make conflicts over few resources worse, which would be dangerous for Pakistan's national security. Global security and prosperity are at growing risk from climate change, particularly in Pakistan. According to Ghazi, climate change is currently a national security threat for more than 68 percent of nations worldwide, including Pakistan. However, Pakistan's efforts will be in vain because climate change is an international matter that requires an immediate global response to lessen its consequences and is not a national or regional issue.

According to new research (Ramay, 2022), 33 million people have been impacted by the flood, submerging one-third of the country. According to one estimate, Pakistan will suffer a loss of \$28

billion due to the destruction of its infrastructure, way of life, crops, orchids, cattle, and other things. The UN Security Council acknowledged climate change as a serious danger to global peace and stability. In a thorough report released in 2009, the UN General Assembly identified five areas—vulnerability, development, coping and security, statelessness, and international conflicts—where climate change may have an impact on security. Experts have classified climate change as a danger multiplier through human security, including food insecurity, diseases, floods, droughts, a lack of resources, and the degradation of livelihoods.

In research from Satti (2022), the recent, catastrophic floods of 2022 wreaked havoc and put Pakistan's national security in danger. Pakistan has seen numerous floods recently; in fact, the country has been plagued by natural disasters for many years. The National Security Policy of Pakistan takes climate change seriously. Pakistan is a developing nation and cannot afford to be affected by climate change. Every area of the nation has been influenced by climate change, which has altered how the infrastructure for national security is thought of. As the eighth most vulnerable nation, Pakistan is under pressure from geopolitical and socioeconomic factors. Glaciers are melting due to climate change, resulting in floods like those in 2022. One-third of Pakistan was covered in water due to a recent flood in 2022. Reduced river water due to climate change puts Pakistan's climatic security at danger, which in turn jeopardises the country's national security. Any country's national security includes aspects related to its economy, military, ecology, food supply, and population. The national security of that nation is at jeopardy if either of them is contested.

(Shahid, 2021), the dangers posed by these variations in climate change have also sparked political debate. The film industry and other media outlets are increasing public awareness of the unwelcome situation of climate change and its negative consequences. Pakistan is a developing economy with many problems, and the catastrophic effects of climate change are adding fuel to the fire. The depressing effects of climate change on Pakistan's agricultural yield are concerning. In short, climate change is a serious problem that has posed significant challenges to

humanity. South Asia, like other regions, is experiencing the negative effects of climate change. Climate change, in general, is accelerating and having a negative impact on Pakistan. Pakistan implemented its first climate change policy in 2012. The implementation of the National Climate Change Policy (NCCP) was a significant step forward.

In research from Ahmed (n.d.), Climate variability, which includes variations in temperature and precipitation, is getting worse and is having a significant influence on water supplies, diseases associated with standing water, and ultimately, human health, which depends on access to clean water. Similar to how climate change patterns affect other diseases, the dangers associated with watery illnesses like typhoid and cholera are rising. Some developing countries have seen a slowdown in economic growth over the past ten years, and the people who live there are the most negatively impacted since they lack the resources to deal with the frequent natural calamities. However, emerging nations continue to experience economic issues, particularly those who reside in rural agricultural areas without access to the necessities for obtaining an education. 70% of Pakistan's population is vulnerable to natural disasters, placing Pakistan at number 7 on a list of endangered nations. Floods affect millions of people in Bangladesh and India. Global water demand is expected to rise by up to 55% by 2050 as a result of increased demand from industry, domestic consumption, food production, and use in electricity generation, according to a UN water assessment.

### **Conceptual Framework**

The goals for global security underwent a significant shift after the end of the cold war. The conventional understanding of military security and superiority began to change. As a result, the definition of security was expanded to incorporate new aspects, giving rise to the term "nontraditional security risks." At this point, security studies in Europe shifted toward a constructivist perspective, arguing that dangers are constructed by policymakers and the general public rather than being objective or quantifiable. The term "securitization" was first used by (Buzan et al., 2022) to describe such newly emerging unconventional security phenomena as

climate change. Securitization theory was founded on a novel analytic framework, the Copenhagen school. Special measures are taken to solve problems that are presented as existential threats. In a security framework known as securitization, a problem is highlighted and given top attention.

According to the securitization theory, no real threat exists, but via persuasive rhetoric, politicians, legislators, and the public can turn a problem into a security concern. What you are securing, such as a securing actor, what concern you are securing, such as challenges and threats, for whom you are securing, such as the referenced object, why, with what repercussions, and under what circumstances. Therefore, if the securitizing actor asserts that the object in question faces an existential threat as a result of climate change, a "securitization" occurs, and the audience accepts this assertion and identifies concrete steps to address the problem.

In line with Buzan et al., "Security is a self-referential practice because it is in this practice that the problem is presented as a security problem rather than because a genuine existential threat actually exists. A discourse that portrays something as posing an existential threat to a referent object is a securitization move; nevertheless, securitization only occurs when the audience buys into it." When a problem is presented as a security concern, it obtains significance and is handled apart from regular politics.

### **Research Methods**

The study is built on an analytical and explanatory methodology. A qualitative analysis of primary and secondary materials is used in the investigation. To get precise information on climate change and its effects on Pakistan, researcher has studied the official documents and websites of the Pakistan's government. Government reports on the sea level rise, glacier melting, heat waves, and droughts have been studied. Study has been done on further reports from various INGOs, NGOs, MNCs, and green parties. Additionally researcher has also studied official reports of United Nations.

## **Research Results and Discussion**

### **Climate Change**

Last two decades of 20th century made the world more concerned about a new emerging nontraditional security threat of climate change (Kamal, 2022). Prior to this the world was more focused on the traditional and militaristic view of the security and severity of non-traditional security threats was not a major source of concern for the entire world. On the traditional fronts every country tried her best to strengthen their defense and somehow a balance of power was maintained between the rival countries.

During the late 1980s and early 1990s, it was revealed that the climate of the planet earth is changing with the passage of time, (The Public and Climate, Cont., n.d.). It was also observed that this changing climate is posing several dangerous impacts on the all kinds of life on the earth and putting everything on the stake. Scientists and environmental experts gathered all over the world to explore the causes of climate change. It was revealed that global warming is the main cause behind the climate change (Turrentine, n.d.). Global warming is average increase in earth temperature over a longer period of time. This increasing global warming made scientists and environmentalists concerned and they became interested to know the causes of global warming.

It was discovered that the biggest contributors to global warming, known as greenhouse gases (GHGs), include gases like CO<sub>2</sub>, methane, nitrous oxide, and water vapour. These gases trap the heat radiated off the earth and prevent it from escaping into space. It was also further revealed that the earth temperature is increasing with fast pace after the industrialization. Industrialized countries such as USA and China are the main producer and contributor of these greenhouse gases in the atmosphere accompanied with many other developing countries (Denchak, n.d.).

### **Climate Change and National Security**

For the most of the 20th century, the idea of national security remained primarily militaristic in nature. Today the concept of national security has been changed and now the domain of the national security has been expanded. Nowadays, economic security, energy security, food and

human security, cybersecurity, and environmental security are critical components of any country's national security (Holmes, 2015). If any of the above mentioned component is challenged than the national security of country has been compromised. Cybersecurity and the environmental security such as the climate change has given the birth of nontraditional security threats to the national security. Prior to these new concepts the world was more concerned about the traditional security threats whether the military security or the economic security. Environmental security, which includes climate change, is being investigated as a critical component of national security. Climate change is a threat multiplier, which is greatly influencing all the other components of national security (Huntjens & Nachbar, 2015). Climate change threatens not only environmental security, but also economic, food, and human security. As a result, if a country's environmental security is jeopardized as a result of climate change, the country's national security is jeopardized.

### **Climate Change: A threat to National Security of Pakistan**

National security is the combination of military, economic, human and food, cyber and environmental security (Retter et al., 2020). If any of these is compromise then the country's national security is threatened. Climate change is threatening the national security of Pakistan because climate change is considered as the threat multiplier. Climate change is almost a threat to every sector of the country, not just one particular one. Climate change threatens Pakistan's environmental, food, and human security in addition to its economic security. The excessive production of greenhouse gases (GHGs) and their atmospheric release are to blame for the acceleration of global warming. (United States Environmental Protection Agency, 2017).

Pakistan's contribution to the production of greenhouse gases is minimal but it bearing the brunt of it. These greenhouse gases are the major cause of global warming (Government of Pakistan, 2021). Pakistan is also experiencing phenomenal increase in temperature since past few decades. This rise of temperature is the main cause of climate related disasters such as extreme heatwaves, severe floods, changing in rain

pattern, droughts, melting of glaciers, sea level rise, increase in summer and decrease in winter. Pakistan is almost suffering from all these disaster which are greatly threatening the national security of the country. Pakistan is ranked as the eighth most vulnerable country to climate change. ("Pakistan ranked 8th most vulnerable country due to climate change: NA told," 2022).

Pakistan has highest number of glaciers in the world (Craig, 2016). Pakistan's agriculture is totally based on the glacier fed rivers. Pakistan's rivers are 80% fed by the glaciers. This rising global warming is melting the glacier of Pakistan in steady manner (Melting Glaciers, Growing Lakes and the Threat of Outburst Floods - Pakistan | ReliefWeb, n.d.). The rivers' water flow will initially increase due to the glaciers melting, but it will later decrease. It is estimated that in next 20 to 30 years all glaciers of Pakistan will melt (Reporter, 2013). After the melting of these glaciers Pakistan will be having the supply of fresh water only for 3 months of the monsoons. This situation will be catastrophic for the hydrological cycle in Pakistan.

This steady glaciers melting is causing extreme floods in Pakistan such as the floods of 2010, 2012, 2022 (Jones, 2022). Recently Pakistan has suffered from the severest flood of all the times. The occurring of the floods, heatwaves, changing is rain seasons, shortening of the winter and increasing of summer has become common in Pakistan which has greatly threatened the national security of Pakistan.

Since last two decades, Pakistan has faced 150 extreme weather events and recent 2022 flood is example of it (Pakistan's Battle against Climate Change - Pakistan, n.d.). One-third of the country was submerged in water, which has yet to evaporate in some parts of Sindh. This 2022 flood was severest flood in the history of Pakistan. This recent flood was caused by the sudden increase in rain and increase in the melting rate of glaciers due to rise in temperature. According the National Disaster Management Authority (NDMA) Pakistan has received 133% more rainfall this year than the usual (New Spell Likely from 10<sup>th</sup>: Pakistan Received 133pc above Average Rainfall: NDMA, n.d.).

Pakistan is also witnessing the shifting of seasons. Winters are becoming warmer in Pakistan and this will become worse with the

passage of time. Spring season has decreased by 25% in duration (Shorter, Hotter, Earlier: Shrinking Spring Slashes Pakistani Harvests - Pakistan | Relief Web, n.d.). Summer season in Pakistan has increased alarmingly from 8 % to 10% per year. It has also been estimated that in near future that Pakistan will be having only two seasons which will lead towards the devastation of agriculture sector of Pakistan (Zahid & Rasul, n.d.). Some reports are already indicating that due to this sudden climate change, productivity of Pakistan's agriculture will decrease up to 9 to 11 % till 2040 (Climate Change Killing Agriculture, 2022).

Changes in the hydrological cycle will reduce water availability in Pakistan, which will only have water for kharif crops and no water for rabi crops. The yield of rice is expected to fall by 18%, and if average temperatures continue to rise at the same rate, wheat production will fall by 19%. This will cause famine in Pakistan, which is already nearing the end of its food supply. Due to weather and temperature changes, Pakistan's major crops have already been reduced by 7 to 8%. This situation will jeopardize Pakistan's economic and food security (Ali et al., 2017).

The melting of glaciers and ice in the ocean is raising sea levels. This rise in the sea level is posing a major threat to the coastal cities like Karachi. The rising sea level is also wreaking havoc on Pakistan's agriculture sector. Because of the rise in sea level, sea water is entering Sindh's delta areas. This saline sea water is causing salinity and water logging in the fertile areas of Sindh around the Indus River. Sindh and Punjab are Pakistan's most fertile agricultural provinces. The majority of Pakistan's agricultural crops are grown in these two provinces (World Bank Climate Change Knowledge Portal, n.d.).

As a result, it has been decided that climate change is about to cause Pakistan's agricultural sector to fail. Due to the fact that agriculture is the country's main industry, Pakistan has an agrarian economy. (Climate-Smart Agriculture (CSA) Considerations, n.d.). Pakistan's main source of foreign exchange is agricultural crops. Pakistan's agricultural sector directly or indirectly employs 70% of the country's population. 24 percent of Pakistan's GDP is derived from agriculture. (Agriculture Statistics | Pakistan Bureau of Statistics, 2020). Agriculture is directly related to

the food and economic security of Pakistan. Climate change is endangering Pakistan's agricultural sector, which means it is undermining Pakistan's national security.

The recent flood destroyed thousands of hectares of crops while also killing thousands of livestock and hundreds of people. Extreme heatwaves, droughts, earthquakes, and violent monsoons endanger not only the agricultural sector but also human lives. Floods, changes in rain patterns, and a lack of water during the winter season have already reduced agricultural production. As a result, agricultural yield has been reduced, and livestock and human lives have been jeopardized (Goldbaum & ur-Rehman, 2022). As a result, we can conclude that climate change endangers economic, food, and human security, posing a threat to Pakistan's national security.

### **Conclusion**

Based on the preceding discussion, it has been concluded that a threat to any single component of the country's national security is a threat to the entire national security of the country. Climate change is causing numerous problems for Pakistan, putting its national security at risk. Pakistan recently experienced its worst flood in history, causing damage not only to property but also to people. Floods are a common occurrence in Pakistan, causing land erosion, crop destruction on thousands of acres, and the death of livestock and humans. Severe rain during the monsoon season also poses risks to Pakistan. Heatwaves have also become commonplace in Pakistan, killing many people. Sea level rise is also threatening human settlements near the coasts, as well as coastal cities such as Karachi (In Pakistan, Climate Change Is the Primary Threat to National Security, 2019).

To summarize the discussion, we can say that Pakistan's national security has never faced threats like these before. Pakistan's national security was largely based on traditional security bases, and Pakistan was unconcerned about non-traditional security threats such as climate change because Pakistan made a negligible contribution to greenhouse gas emissions. Unfortunately, Pakistan has been identified as the 8<sup>th</sup> most climate-vulnerable nation. ("Pakistan ranked 8th most vulnerable country due to climate change: NA told," 2022). Pakistan bears the brunt of

climate change. Pakistan agriculture, which is considered the backbone of the Pakistani economy, has repeatedly suffered as a result of floods, droughts, changing weather patterns, and a shortening of the winter and an increase in the summer (World Bank Climate Change Knowledge Portal, n.d.).

All of these effects of climate change are harming Pakistan's agriculture industry, which jeopardizes the nation's economic, human, and food security. So, if these securities are threatened then it means that three fourth of Pakistan national security is at risk. So, we can say that climate change is greater threat to the Pakistan's national security. If climate change is not mitigated and adopted in Pakistan, the effects will be multiplied, causing more problems for Pakistan's national security. If the economic consequences of climate change are not assessed and addressed, it is unclear how Pakistan will maintain its traditional security and improve the social security of its people (The Impact of Climate Change on Pakistan's Food Security, 2020).

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