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Melting Borders: The Strategic Implications for India's National Security

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Abstract:
India has been witnessing massive climate changes in recent years, threatening its biodiversity and ecological balance. The impact of environmental disasters in India is challenging natural ecosystems and human existence across seven Himalayan states from the north to the east, which lie along the Himalayan Faultline, an important geostrategic frontier zone with neighbouring Asian countries. All these states are strategically significant to India. Recently, these states have been experiencing environmental disasters such as flash floods, landslides, cloud bursts, changes in precipitation patterns, heat waves, and thunderstorms in an unbridled manner due to climate change, posing a threat to national security.
This article analyses the significance of environmental security in the paradigm of national security. In the first part of the article, an attempt has been made to explain the connection between national security and environmental security. The second part of the article tries to explain how environmental disasters in the Indian Himalayan region are risking the national security of India.

Keywords: climate change, environmental security, national security, comprehensive security.

Introduction:

Environmental security concerns have become increasingly important recently, due to the intensified ecological vulnerability resulting from climate change. Humans have been posing relentless threats to the natural environment through the overuse of natural resources with hyper-scientific technology-induced tools in the ecosystem for the sake of development in the name of energy and the security of the nation-state resulting in conflict over resources, energy, water, land risking human security; it has been and continue to be the major cause of conflicts and competition among nation-states and beyond. As a result, the ecosystem endured multiple natural interruptions, often challenging human sustainability and security. In the post-Cold War era, Scholars and policymakers worldwide began discussing environmental concerns, including the melting of glaciers, greenhouse gas emissions, pollution, resource depletion, and their scarcity, as threats to human life. They then began relating it to other dimensions of security, leading to the establishment of agencies, commissions, amendments, acts, and organisations to combat all possible environmental problems and conserve the environment by building a sustainable ecology that preserves the ecosystem without disturbing natural biodiversity. The globalised economy, technology, and human resource consumption distressing biological and chemical ecology compelled world thinkers to address the complex interplay between the environment and national security. Following this, the 1987 Brundtland Commission on Sustainable Development proposed the implementation of a global management plan, as outlined in its reports, Our Common Future. It was a significant effort to link economic development and environmental sustainability. The 1990 United Nations General Assembly and the 1995 United Nations

Commission on Human Rights related environmental security to peace and human rights issues (General & Development, 1987). Also in 1995, the Commission of Global Governance suggested the need for effective global decisions and strategies to reverse the deterioration of the global ecosystem and management of both demographic and economic change to safeguard the interests of future generations to meet the challenges- security, economic, environmental, and social- that the world faces and that governance must address (Governance, 1995).

Defining Environmental Security as a dimension of National Security:

National security, as a discourse, is a nation-oriented approach to security that protects its citizens against external threats. It basically refers to a country's military preparedness against external forces and the state's ability to safeguard its sovereignty, territorial integrity, and internal stability through the use of its coercive power. However, if we try to analyse the security concept in a wider context, national security becomes more complex and intertwined with various other notions of security. National security is not only about state power to defend its citizens from armed external threats within its limited definition, but a composite of many factors of other non-traditional security, such as human security, food security, health security, economic security, energy security, including political security, encompassing many national interests and international issues. Recently, Challenges to the survival of humans and their security are often more challenged by non-traditional security paradigms rather than traditional security and external aggression. According to Barry Buzan, "Security challenges are not the same for all but vary from one state to another, so do the threats. This variation makes national security a complex issue. He further adds that the complex nature of states invites threats on many levels, depending on the unique structures of the state and the circumstances of the state concerned (Buzan, 1983). According to Lester R. Brown in his article "Redefining National Security" (1986), he has stated that the concept of national security acquired an overwhelmingly military character after World War II, where new sources of dangers arose from oil depletion, soil erosion, land degradation, shrinking forests, deteriorating grasslands, and climate alterations. These threats began impacting the natural resources and systems that support the economy, threatening, endangering not only national economic and political security, but also the stability of the international economy itself (Brown, 29).

Environmental security is a non-traditional security paradigm related to environmentally induced conflict and challenges caused by different environmental degradation, which can be both natural and man-made. It has a multifaceted dimension that is directly correlated to all the domains of security relating to human, including their rights and peace. Its major challenge concerns global environmental change, the association between the ecosystem and mankind, the effects of environmental change on its degradation, and the effects of increasing social demand for resources and environmental supply capabilities. While quoting Barry Buzan, Threats to national security might also come in ecological forms in the sense that environmental events, like military and economic ones, can damage the physical base of state, perhaps to a sufficient extent to threaten its idea and institution". He again had rightly observed that national security problems need to be understood from systemic security" perspective where economic, social and environmental security can be as important as political and military (Buzan, 1983). In a monograph, "Non-Traditional Security Concerns in the New Normal", edited by Jose Ma. Luis Montesclaros and Mely Caballero Anthony -have rightly stated that Non-Traditional Security issues are defined by the Consortium of Non-Traditional Security Studies in Asia as "challenges to the survival and well-being of peoples and states that arise primarily out of nonmilitary sources", with examples including "climate change, cross-

border migration, environmental degradation and resource depletion, infectious diseases, natural disasters, irregular migration, food shortages, people smuggling, drug trafficking, and other forms of transnational crime (Montesclaros, June 2022). Environmental security is fundamental to all concerned actors, particularly people and governments, as it significantly plays a role in action, evolution, resilience, quality and quantity of resource flow, and unequal resource access vis-à-vis the capacity and intensity of the state to confront threat that directly threatens human existence. There is an unswerving link between national security and environmental degradation because it ultimately causes economic blunders, leading to political ruins, risking the Comprehensive security of any nation-state.

The geopolitical significance of the Himalayas States of India:

The Indian Himalayan region lies in the world's most unsettled geopolitical fault line. The region is complexly interlaced with political history and ecology. The 2500-kilometre-long Himalayan range stretches from the west (Indus) to the east (Brahmaputra). It is a natural barrier against peripheral hostility and one of the longest orographic ranges in the world, with the highest mountains on the planet. The Himalaya is home to more than half a billion people in India, Nepal, Pakistan, Bhutan, China (Tibet), Afghanistan, Bangladesh, and Myanmar. It is also a vital global asset for economic, sociocultural, and environmental reasons. The rivers and landscape not only provide biodiversity and valuable goods and services by also ensure soil retention, climate regulation, carbon sequestration, and reservoirs of pollinators, natural predators, and others. The welfare and livelihood of millions of people are linked to these natural resources (Eklabya Sharma, 2009). The Himalaya Mountain constitutes the source of many large rivers, namely the Indus, Ganges, Brahmaputra, Salween, Irrawaddy, Mekong, Yangtze, and Yellow Rivers. Together, these water sources provide fertile sediments on Asia's lowland, agricultural river plains. It is the major supplier of fresh water for drinking, agriculture, and manufacturing, supporting 47% of the World's human population. It is an important resource for half of the world's population by providing a life-support system for the people living in the downstream basins (Eklabya Sharma, 2009). Henceforth. the interconnected projects of militarisation and intense development among these rivers' headwaters are transforming their environments and contributing to above-average warming in the globe's most hydrologically important node. The construction of large hydropower projects by all regional states is adding to this hydrological and ecological degradation. The transformation of the mountain's sociocultural fabric is equally profound (Alexander E. Davis, 2020). According to Brahma Challaney, "Without the intergovernmental agreement, the Himalayas would become Asia's 'treacherous new battleground'. He further simplifies its complex issues into state-based environmental arguments. He blames the mountains' ills on China, arguing that grassroots activism has checked India's development projects and prevented environmental destruction (Chellaney, 2018).

The Indian Himalayan Region (IHR) covers 533,000 sq. km across 10 mountain States and four hill districts of India that make up the north and northeastern borders. The region stretches from the mountains in the northern States of Jammu & Kashmir, Uttarakhand, and Himachal Pradesh to the north-eastern States of Sikkim, Arunachal Pradesh, Meghalaya, Manipur, Mizoram, Nagaland, and Tripura, and also covers the hill districts of Dima Hasao and Karbi Anglong in Assam and Darjeeling and Kalimpong in West Bengal. IHR shares borders with 6 neighbouring countries with upstream-downstream geographical connections (Contributing to Sustainable Development in the Indian Himalayan Region , 2018).

If we carefully understand the complex nature of the geopolitics of these states from the national security model; it begins with the state of Jammu and Kashmir located in the northern part of India which shares

an international border with Pakistan along the Line of Control which separates Indian-administered Kashmir from Pakistan-administered Kashmir and in the southern end is Sir Creek, an estuary in the Runn of Kutch between the state of Gujrat and the Pakistan province of Sindh which are a constant conflict zone between the two countries since Independence. Despite having shared history & culture and diplomatic relations, both countries have fought a border war in the years 1947, 1965, 1971, and 1999. Besides this, cross-border terrorism, ceasefire violations, territorial disputes, and water disputes (sharing of the Indus Water) are the simultaneous characteristics of intrusion between the two countries. Since the partition in 1947, the ceaseless disputes between these two countries have complex power rivalries and discourses on regional, bilateral, and sub-local levels, engaging various states and non-state actors and other representatives of local communities. However, these disputes should also be regarded as historically inherited through the ideological and emotional nucleus of the state-led, intentionally nurtured nationalism, often serving as a tool for belligerent mobilization on both sides of the border (Kuszewska, 2022).

Next lies China. India and China are Asia's potential rising powers, characterized by the common aspiration to become global players with mutual economic goals. Despite having bilateral economic engagements between the two nations. They have longstanding border and territorial disputes, frictions over regional hegemony, and other wider, subtle tensions. If we trace the history, the tension between India- China began in the 1950s when the People's Republic of China annexed Tibet. India's decision to grant political asylum to the Dalai Lama and his Tibetan followers has remained a sore point for China ever since. There are unsolved border disputes in the Himalayas in Kashmir, over the Aksai Chin and McMahon Line in the northern boundary of Arunachal Pradesh, which led to a war in 1962 that still flares up periodically. Apart from this, low-key tension keeps on interrupting the relationship between the two. Given China's widening interest in South Asia and the Asia Pacific region for which it is aiming to appease Pakistan through many investments like the China-Pakistan Economic Corridor (CPEC). These dynamics would inevitably influence the domestic politics and preferences of the regional nations (Pant, 2021). Although both countries try to pacify their ties by engaging in many economic ties. The spectre of Chinese Gray-zone warfare continues to loom, which mirrors more often.

Nepal, a landlocked country situated between China and India, strives to balance its sovereignty by balancing its power against these two Asian giants, both of which are determined to expand their hegemony over this Himalayan state. Nepal has a close tie to India due to its historical and cultural affinity, sharing open borders with many Indian states: Uttarakhand, Uttar Pradesh, Bihar, and West Bengal. Being an immediate neighbour, border populations are dependent on India for employment, healthcare, and the market. Its overall market economy is dependent on India. After the 1970s, Nepal has realigned its economic partnership with China resulting in increased Chinese involvement in Nepal, straining India-Nepal close ties. Moreover, the increasing involvement of Western powers in Nepal has compelled China to become more aware of the potential regional impact and geopolitical implications, given that China has been continuously extending political, diplomatic, economic, and cultural support to Nepal over the decades.

Bhutan lies in the northeast of India. There are several bilateral ties between the two, including hydropower, energy, space technology, connectivity, education, and sports infrastructure. Since 2021-22, the cooperation has expanded to digital technology, start-ups, and STEM fields, reflecting a forward-looking approach to collaboration. Still, hydropower remains the central pillar of Bhutan-India bilateral cooperation. The Siliguri Corridor, often referred to as the "Chicken's Neck," is a narrow land in the state

of West Bengal that connects the northeastern states to the rest of the country. 2017 Dokhlam Standoff escalated between Bhutan and China near the tri-junction with India, is the outcome of China's Belt and Road (BRI) development plans in Nepal and Pakistan (Riberio., 2017). Bhutan and China have held 25 rounds of border talks since 2016 and more than ten rounds of Expert Group Meetings to discuss a "Three-Step Roadmap" aimed at delimiting the border, undertaking surveys, and concluding final demarcation. India certainly has worries, as any agreement will directly affect India's national security. Since the corridor is close to disputed areas between Bhutan and China, any resolution will force India to revisit its entire Himalayan security structure (Gupta, 2024). Since India underwrites Bhutan's security. it supports Bhutan's claims but doesn't claim the area. All these territorial disputes between India have led to the militarization of the regions, thus intensifying the region's strategic development, particularly between India and China (Alexander E. Davis, 2020).

Bangladesh shares a border with India in the north, west, and east, and Myanmar in the southeast. In the south, it opens into a coastline with the Bay of Bengal, and it slightly touches a Siliguri corridor in West Bengal, which is one of the important supply lines for India, Bhutan, and Nepal. It lies in the trijunction. The northern part of India shares a border with Assam, Meghalaya, Tripura, and Mizoram. Bangladesh and India share a close colonial legacy and linguistic, socio-economic, and cultural affinity. Bangladesh is strategically and geopolitically important for its subregional grouping for maritime access and India's 'Act East policy' (Pant, 2021). India and Bangladesh's strategic partners lie in the areas of the Land Border Agreement on border management, border-centric crimes, and counter-terrorism. Security cooperation, cooperation in connectivity, economic cooperation, Energy and Power Cooperation, and other socio-cultural relations (Ali, 2023). Both countries are heavily dependent on the sea for international trade and supplies from the Middle East. The recent power shift in Bangladesh, marked by Sheikh Hasina's refuge in India, has brought India-Bangladesh relations to a critical juncture. Rising anti-India sentiment and religious intolerance are straining diplomatic relations. Given that the two countries share the longest international border in South Asia, incidents of illegal crossings and border-related crimes have surged, increasing the vulnerability of the frontier and threatening regional stability.

India and Myanmar share a 1643 km border through the state of Arunachal Pradesh. Nagaland, Manipur, and Mizoram. From 1948 to 2024, a Free Movement Regime (FMR) was in place, allowing free travel for tribals up to 16 km across each other's territories without requiring a visa. However, citing the security concern measures over the exploitation of FMR by the insurgent groups to retreat into Myanmar after carrying out attacks in India, and to prevent illegal cross-border influx, the Union Government decided to fence the entire India-Myanmar border in the year 2024 (Raj, 2025). However, the Union Government's decision to bolster national security may disrupt the longstanding demographic and ethnic ties of these regions, further escalating the geographical complexities of the region. The India-Myanmar border is characterised by mountains, deep river valleys, and difficult communication routes, making the area economically feeble. Excessive rainfall further exacerbates the difficulties for the Indian border forces in maintaining surveillance and controlling the area. Hence, the Indian government's border management requires a robust and sensitive approach to acknowledge the complexities of security and harmony.

Impact of Climate Change in the Himalayas:

According to studies and reports on Environmental and Climate Change, Climate change and climate variability have adversely impacted the biophysical system and socio-economic systems of IHR. The major concerns are changes in precipitation patterns, landslides, cloudbursts, debris flows, extreme

weather, land submergence, and rock falls. The reasons cited for such climate change are unplanned urbanisation, population growth, industrialisation, hydel power projects, unscientific development practices, unplanned tourism development in fragile areas, including overuse of resources, etc. Anthropocene epochs are not only disturbing the Earth's ecosystem but also causing extreme challenges to human sustainability. According to a report prepared by the State Inter-Agency Group (IAG) of Uttarakhand, unseasonal rainfall has caused a huge loss of property and destabilised the lives and livelihood of people (Group, 2021). The Uttarakhand Himalaya is prone to such geo-hydrological disasters, which occur every monsoon. It was hit by such disasters incessantly from 2020 onwards. Sikkim and the northern part of West Bengal witnessed a deadly flash flood, resulting in the tragic loss of lives and property. People living along the Teesta River banks from Sikkim to the Jalpaiguri district of West Bengal were put in danger. Landslides and flash floods are regular during the monsoon in this region.

Security Implications:

In recent years, climate change has emerged as the most dangerous environmental threat to India's national security due to its impact on natural terrain -rivers, mountains, and valleys, which have historically marked the borders between nations. Rising sea levels, extreme weather, shifting precipitation patterns, or a prolonged drought resulting in resource scarcity, Food and water scarcity, and the vulnerability of infrastructure, resulting in destruction and destruction of populations and resources, these cascading effects often lead to environmental justice concerns where the populations are marginalised, and resources are contested. Moreover, damage to roads and bridges poses a threat to the military logistics and installations, especially in the high-altitude sensitive conflict areas like Arunachal Pradesh. Ladakh, Sikkim, and the Kashmir region. Such infrastructural damage will hinder troop mobility and risk the surveillance operations over the disputed border areas. As climate-related crises intensify, tension over resources with neighbouring countries will escalate, puncturing the ecological equilibrium and the geopolitical landscape of South Asia.

Conclusion:

As South Asia fights with both climate shocks and geopolitical fragility, the urgency to incorporate climate adaptability into the national security framework is needed. The nature of environmental disasters should be studied and re-examined by reconceptualising the various dimensions of security. The study should focus on the composite behavioural pattern of humans, whether as agents of altering or disturbing the ecosystem on Earth, vis-à-vis the role of the government and its policies as a 'machinery' or 'agency' in promoting such human-induced disasters. The possible solution for combating it needs proper planning and resilience-building objectives by identifying the fragile areas and implementing suitable policies for risk mitigation and responding to climate-induced policies and plans. There is a need for both action and cooperation between governments and multilateral components of the state machinery, with holistic planning and research. The government should capitalise on artificial intelligence technologies to enhance disaster mitigation tasks to prevent disasters. Additionally, the second line of defence forces and the national disaster response force must be adequately trained and equipped for damage control and rescue operations at the borders. There is a need for a climate security nexus in policy-making and regional cooperation on climate change and its security. The government should focus more on green and climate diplomacy. It's only through regional cooperation, shared climate intelligence, and robust diplomatic

engagements. South Asia can transmute climate risk into a pathway for peace and sustainable development."

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