

Conference Report

**CLIMATE CHANGE AS A NON-TRADITIONAL
SECURITY CHALLENGE:
RELEVANCE FOR PAKISTAN**

10th November 2021



**Jointly Organized by
Center for Global and Strategic Studies (CGSS), Islamabad &
Hanns Seidel Foundation (HSF) Pakistan**

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BRIEF OF THE CONFERENCE

The Center for Global & Strategic Studies (CGSS) and Hanns Seidel Foundation (HSF) Pakistan jointly organized the conference on “Climate Change as Non-Traditional Security Challenge: Relevance for Pakistan” on 10th November 2021. The conference brought together a distinguished panel of veteran subject experts, leading academicians, ministers and renowned scholars to discuss the dreadful implications of climate change and propose policy options to curtail its negative implications. Mr. Joudat Ayaz, Additional Secretary, Ministry of Climate Change, Government of Pakistan was the Guest of Honor of the Conference.

The report represents a detailed analysis of the collective views and speeches of the panelists presented during the conference. The conference focused on multiple dimensions, i.e., repercussions of climate change on Aquaculture and Fisheries, strengthening economic security in the midst of climate change, food security challenges etc. The speakers highlighted climate-related disasters, economic issues, and the role of governmental institutions in devising a robust framework for disaster management and conflict resolutions. The scholars explored the possible ways to combat emerging Non-traditional security challenges, especially climate change and food security issues in Pakistan. They also provided valuable policy recommendations.

CONCEPT

Food insecurity, poverty, health issues, and reduced natural resources are a new set of threats and crises, giving rise to conflicts in the 21st century. As each year passes, traditional security challenges have been overtaken by what we have now come to call as the non-traditional security challenges.

One of the most pertinent challenges is that of Climate Change, which, if not addressed in the form of individual as well as a collective effort, will have a negative impact on all living things on this planet, making it one of the biggest non-traditional security threats to humanity and national security.

Historical data and recent events clearly show that Pakistan is highly vulnerable to climate change and ranks at 5th position on global vulnerability table. ¹Pakistan is ranked 5th due to severe impacts of climate change on mainly food production, water availability, energy security through floods, droughts and migration. For example, the 2010 deadly floods were unprecedented in the history of country in terms of magnitude, human displacement, destruction, and economic loss. Pakistan was still struggling to overcome the impact of 2010 floods but unfortunately 2011 and 2012 floods further exacerbated the situation causing again a huge devastating impact and increasing the existing miseries of people.

The Intergovernmental Panel on Climate Change (IPCC) has pointed out that Pakistan lies in one of the most vulnerable regions to climate change. Livelihood opportunities are shrinking due to climate change. People will have to look for water, food and energy to sustain their lives but there would be scarcity of these resources due to climate change.

Internal displacement/migration due to climate change is another challenge, with people looking for better and safer livelihood opportunities. However, chances that new destinations may not accept migrants which give rise to tensions among people and

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<https://www.dawn.com/news/1520402#:~:text=The%20Global%20Climate%20Risk%20Index,think%2Dtank%20Germanwatch%20on%20Wednesday.>



communities, and even among countries, as we have seen nationally, regionally and globally, through multiple recent episodes.

In light of the above discussion, we can claim that climate change is a real national security threat. Currently, there does not exist any conducive research and policy framework for it. Therefore, this conference will explore climate change as national security challenge. It will attempt to deepen the knowledge and suggest structural systems, policies and right interventions at national level to facilitate the process and address it at all levels. Moreover, it will also look into streamlining the research themes for a better understanding of the issue in the long run.

Key Focus Area:

- Explore how climate change is affecting the main elements of national security of Pakistan. (Economy, Politics, and Society).
- Identify and discuss climate change as a national security challenge and its implication in the present and future scenario of Pakistan.
- Explore the right set of instruments/policies for developing good governance mechanism in order to address the emerging threat of climate change to national security

Executive Summary/Key Takeaways

1. Non-traditional Security Challenges in South Asia: An Overview

Non-traditional security threats to South Asia are more inclusive and have far-reaching consequences. They can trigger political competition among states, although they do not stem from it.

- a. Non-Traditional Security has reached this extent due to a lack of vision and unguided priorities of the policymakers. Despite investing in human development, South Asian countries are not only misusing their existing depleting resources but also by clinging to traditional approaches to national security.
- b. Presently, South Asia is experiencing an expansion of man-made non-traditional security challenges (NTS) in terms of weapon trafficking, drug trafficking, human trafficking, insurgency, illegal migration, smuggling, food–energy–water nexus, climate change, transnational crimes, terrorism, disaster relief, poor economic performance, environmental, population, health (COVID-19), resource, and demographic challenges to threaten security within the region.
- c. The availability of renewable water resources in South Asia is less than 5% of the global total. Although the intensity of this issue varies from state to state, every South Asian country is expected to face acute water shortages in the future.
- d. The average per capita water availability in South Asia is already less than other regions. Further reduction in the availability of water may have drastic social and economic implications.
- e. Agriculture accounts for major portion of the GDPs of Bangladesh, India, and Pakistan. The major products of these countries are water-intensive crops like cotton, wheat, rice, and sugarcane. Thus, 90% of the total water consumption goes to

the agriculture sector. It is unlikely that their water resources will cope with the growing demands of food. Climate change further exacerbates the already worsening situation.

- f. Regional cooperation and integration have vast potential for accelerating economic growth, reducing poverty and economic disparity within and across the countries involved.
- g. The time has come for governments to put aside their differences and start focusing on newly evolving security challenges with utmost devotion and political will. The plight of South Asian people depicts an alarming picture. The cost of further inaction would be unbearable. As most of the issues are transnational, requiring a comprehensive and collective action.
- h. Sharing information between governments, non-government organizations, and international institutions, exchanging threat perceptions, countering terrorism misinformation and propaganda are all significant steps to be taken.
- i. With the increase in NTS challenges, the impetus for effective regionalism has become more urgent. Thereby, it is necessary to enhance efforts to strengthen cooperation and deepen integration in South Asia through the existing regional framework of SAARC.
- j. A framework for managing regional disasters needs to be designed. The framework should include a comprehensive strategy and action plan, cover institutional mechanisms, provide tools for mitigation measures, and facilitate a legal framework and policy directions.
- k. Special attention should be paid to strengthening networking among research institutions in the region working on NTS issues and encouraging them to provide inputs, ideas, and strategies for joint action. It is equally important that this network

of research institutions closely monitors and evaluates regional and sub-regional projects.

2. Environmental Security and Climate Change: Implications on National Security of Pakistan and Way Forward

- a. Environmental security refers to a range of concerns that can be organized into three general categories vis-a-vis the potential threats and risks involved in environmental conflicts.
- b. First, the adverse impact of human activities on the environment. Second, the direct and indirect effects of various forms of environmental change (especially scarcity and degradation), may be natural or human-generated on national and regional security. Third, Human security, i.e., individuals or groups' (from small communities to humankind) experience and resources due to environmental change such as water scarcity, energy security, sustainable food supply, air pollution, global warming etc.
- c. Today, environmental issues are the most concerning transnational issue, and environmental security has emerged as an important dimension for peace, national security, and human rights.
- d. The basic precursor of the environmental security is the triad of energy, water and food security, which is as important as traditional structural security.
- e. Environmental security has taken a new meaning in the 21st century as sustainability and natural resource protection have become essential elements of national security and foreign policy.
- f. National security is being destabilized by direct environmental disasters and socio-political and technological impacts on overall national security scenario.



- g. The consequences of Non-traditional security challenges (NTS) are associated with the non-conventional nature of the national paradigm. Climate change is one of the most alarming NTS challenges that the world has been facing. It arises out of economic, social, and environmental stressors.
- h. Climate change's anticipated impacts such as rising sea levels and forced migration can have multiplier effects, accelerating traditional security threats.
- i. The recent survey indicates that security communities of all countries globally have their advanced contingency planning associated with tracking the risks associated with climate change.
- j. Climate change has triggered other issues in Pakistan such as floods, GLOF, water scarcity, droughts, migration, disturbance in the food supply chain, and diminished agriculture production.
- k. Pakistan contributes very little to the GHG emissions. However, it is one of the countries highly impacted by climate change. During this monsoon season (2021), 24% less rainfall has been observed throughout the country.
- l. Total rainfall for the year 2020 was 38% above average and was the fourth wettest year since 1961. ²During August 2021, throughout the country, 55% less rainfall occurs from normal, which is third driest month on record.
- m. August was ranked 10th dry in terms of less rainfall in KPK (-34.3%) and Sindh (-89.2%). ³The situation was not different over Balochistan (-48.6%) and Gilgit Baltistan (-12.8%). ⁴Punjab and Azad Jammu Kashmir were second driest months with 57.7% and 60.5% less rainfall.

² l. Total rainfall for the year 2020 was 38% above average and was the fourth wettest year since 1961

³ l. Ibid

⁴ l. Ibid



- n. The national security consequences of climate change should be fully integrated into national security and national defense strategies.
- o. Innovative processes and technologies must be adopted to improve Pakistan's combat power through energy efficiency.
- p. The Research & Development (R&D) sector must conduct an assessment of the impact of rising sea levels, extreme weather events, and other possible impacts of climate change over the next 30 to 40 years.
- q. Government should invest in adaptation as it can avert big losses in the future. In this regard, climate change compatible development programs are necessary.
- r. It is necessary to include the human security dimension in national planning and implementation.
- s. Pakistan needs to develop a conceptual framework to identify and monitor potential conflicts related to climate change and resources.
- t. Adaptation must be the priority. Thereby, innovative ideas i.e., the new model of Urbanization or special hybrid Urbanization, should be adopted to resolve climate change issues.
- u. Awareness campaigns are important. People must be equipped with proper knowledge and education.
- v. It is crucial to facilitate the private sector to contribute towards adaptation, mitigation, clean, green and resilient Pakistan.
- w. Integrating climate change into industrial and sectoral policies is necessary. Moreover, extensive research & development in climate smart technologies must be promoted.



3. Scaling-up of Glacial Lack Outburst Flood Risk Reduction in Northern Pakistan (GLOF-II Project): Recent Initiatives

- a. The maximum number of glaciers outside the polar region are present in Northern Pakistan. A GLOF is a sudden release of water from a lake fed by glacier melt that has formed at the side, in front, within, beneath, or on the surface of a glacier.
- b. In the last 20 years, over 200 destructive floods occurred in Khyber Pakhtunkhwa (KP) and Gilgit Baltistan (GB).⁵ Till 2017, over 33 potentially hazardous lakes were present in KP and GB. In 2021, GLOF imposed massive destruction of houses, loss of livelihoods, villages, roads and also caused deaths in the regions of Badswat, Ghizer, and GB.
- c. To curtail the devastating impacts of GLOF, the Government of Pakistan in collaboration with United Nations Development Program (UNDP) and Ministry of Climate Change (MoCC), have started the scaling-up of GLOF risk reduction in Northern Pakistan (GLOF-II Project). It is the continuation of four year 'Reducing Risks and Vulnerabilities from GLOF in Northern Pakistan (GLOF-I) project.
- d. The project helped vulnerable communities in two districts to prepare to mitigating GLOF risks through early warning systems, enhanced infrastructure, repair & rehabilitation of irrigation channels, development of mitigation structure, awareness sessions, training, and community-based disaster risk management.
- e. Moreover, the current project, Scaling-up of Glacial Lack Outburst Flood Risk Reduction in Northern Pakistan (2018-2023) focuses on adaptation, mitigation, and resilience against GLOF events to protect local communities through strengthening national and sub-national institutional capacities.

⁵ Ministry of Climate Change

- f. There is a need to follow a scientific approach to cope with climatic variability. Climate smart agriculture policies must be adopted. Technological advancement or data science can help curtail climate change risks.

4. Challenges to Fisheries and Aquaculture: Impacts on Food and Agriculture Security

- a. Average temperature of the earth surface has risen by 0.14C since late the 1800s and is expected to increase to another 4C by 2100. ⁶The reasons for global warming are: the increase of heat trapping, greenhouse gases in atmosphere, industrialization, burning fossil fuels, intensive agriculture, and deforestation.
- b. Global warming is expected to bring long-term changes in weather conditions. Due to climate change, Agro-based economies have been suffering the most, and Pakistan is no exception.
- c. Sustainable agriculture is important for food security in many ways, i.e., by producing the food and providing a primary source of livelihood for the people.
- d. Nutrition and food supply are important for the health and wellbeing of all people, both rich and poor. Malnutrition makes life vulnerable to disease and premature death.
- e. Sadly, hunger and malnutrition remain among the most devastating problems facing the world's poor and continue to dominate the health and wellbeing of the world's poorest nations.
- f. If agriculture production in the low-income developing countries of Asia and Africa is adversely affected by climate change, the livelihoods of a large number of rural

⁶<https://www.climate.gov/news-features/understanding-climate/climate-change-global-temperature#:~:text=August%2012%2C%202021-,Highlights,land%20areas%20were%20record%20warm.>



- populations will be at risk. Consequently, vulnerability to food security will increase.
- g. In Pakistan, Cotton, Wheat, Rice and Sugarcane growth have been adversely affected due to climate change⁷. Furthermore, a significant reduction in yields of Maize and Coarse Grains has also been observed.
 - h. High use of groundwater has increased the danger of soil salinization along with the change in crop patterns/production, life cycles, and practices because of climate change. The shift in spatial crops boundaries would impose enormous socio-economic impacts.
 - i. In this aspect, adopting climate smart approaches with enhanced climate financing is necessary. Additionally, farmers' capacity building and education are required for a better livelihood system.
 - j. Women and men farming communities must be empowered and engaged.
 - k. Reshaping the food systems through technical and social norms, demand-side management, adaptation strategy, involving the stakeholders in the scientific approach while having a holistic advanced mechanism are all crucial steps to be followed.
 - l. Diet through Fish plays an important role in human nutrition, global food supply, particularly within diet & food security, and a source of essential dietary nutrients (Proteins, Omega etc.). Fish food currently represents the major source of animal protein (contributing more than 25% of the total animal protein supply) for about 1.25 thousand million people within 39 countries worldwide, including 19 Sub-Saharan countries.

⁷ <https://www.dawn.com/news/1252681>



- m. From the different agricultural food production systems, aquaculture is widely viewed as an important tool in the global fight against malnutrition & poverty, particularly within developing countries where over 93% of global production is currently realized in the aquaculture sector, providing an affordable and much-needed food source, rich in essential nutrients. However, specific issues have been jeopardizing Aquaculture
- n. As the global population is expected to increase up to 9 billion by 2050, there are growing reservations over the long-term sustainability of existing agriculture and Aquaculture food production systems to meet global demand for food.
- o. Therefore, a holistic scientific approach is required to save marine life and Aquaculture, which is a significant source of food and nutrition.
- p. In this aspect, all relevant institutions must work together to protect the oceans, seas, inland waters and marine resources and ensure sustainable livelihoods, diets and developments.

Policy Options/Recommendations

Following recommendations to foster cooperation to mitigate repercussions of climate change are emanated from the expert deliberations during the online roundtable discussion.

- Detailed sectoral framework for environment-related sustainable development goals be developed containing clear indicators and framework of implementation.
- The targets should be vigilantly categorized in short-, medium- and long-term goals so that implementation may properly be evaluated and altered, if necessary.
- Environment-related sustainable development goals should be aligned with the development strategy of Pakistan.
- The integrated strategies to achieve sustainable climate change targets must be communicated to the local government and community level so that the environmental threat may be catered at the grass-root level.
- Structural reforms should be made in state institutions which are working in this domain so that effective implementation of policies and accountability in case of negligence be properly carried out.
- Mainstreaming climate-related sectoral policies and plans is also a major task. In this aspect, the role of parliamentarians in specific legislation is highly significant. There should be focused education and awareness campaigns in each constituency.
- Climate change has severely impacted the food supply chain. Therefore, the requirement of the agriculture, industrial sector, and civil water in Pakistan must be fulfilled. Government should revisit the whole plan of agriculture commission under the climate change scenario. There is a need for new farming or agricultural laws with technological advancement to sustain the food supply chain.
- There is an immediate need to enhance the storage capacity of existing water reservoirs. Thereby, constructing new mega-dams along with the large-scale rehabilitation is the dire need of time.
- Moreover, utilizing alternatives or renewable energy resources would result in a boon for all sectors involved to curtail adverse climate change impacts.



- Disaster risk reduction framework, investing in disaster Risk Reduction resilience, and enhancing disaster preparedness for effective response to mitigate climate change implications are the main requirements.
- There is a stark need for environmental diplomacy within Pakistan, among the provinces, and within the region among the South Asian Association for Regional Cooperation (SARRC) member countries. Therefore, integrating the development process with environmental security and peace is imperative for achieving sustainability.
- There is a need to set maritime climate action plans that should adhere to compatible climate development by covering the various aspects of vulnerability and adaptation mitigation, resilience, and low carbon to invent a maritime climate task force. Ideally, it can include coordination committee from the Ministry of Climate Change. It can also incorporate provincial environment ministries and other stakeholders, including the National Institute of Maritime Affairs, civil authority, and think tanks to suggest solutions.
- Climate change is not a myth but a reality. Therefore, every sector needs to work together cohesively. In this aspect, we should promote and adopt clean, green, and resilient parameters to mitigate adverse impacts of climate change.



ANNEXURE: GUEST SPEAKERS

The Panelists of the session included the following individuals:

- Mr. Joudat Ayaz, Additional Secretary, Ministry of Climate Change, Government of Pakistan, Islamabad – Chair of the Session



- Mr. Ashfaq Ahmed Gondal, Former Federal Secretary of Information and Broadcasting and Vice President (Federal Region), Center for Global & Strategic Studies (CGSS), Islamabad



- Dr. Steffen Kudella, Resident Representative, Hanns Seidel Foundation Pakistan



- Mr. Shakeel Ahmed Ramay, Chief Executive Officer, Asian Institute of Ecocivilization Research and Development, Islamabad



- Prof. Dr. Muhammad Khan, Professor, Department of Politics & International Relations, International Islamic University, Islamabad



- Dr. Sarah Amir, Department of Environmental Sciences, International Islamic University



- Dr. Hassan Abbas, Chairman Forte, Integrated Water Resources Management



- Mr. Salah ud Din, Deputy Director, Pakistan Council of Research in Water Resources (PCRWR)



- Dr. Kanwar Muhammad Javed Iqbal, Lead Researcher, National Institute of Maritime Affairs, Islamabad



- Ms. Mufeezah Ahsan, Research Officer, Pakistan Council of Research in Water Resources (PCRWR)



- Prof. Dr. Irfan Ahmad Baig, Dean Faculty of Social Sciences, MNS University of Agriculture Multan



- Mr. Aftab Alam Khan, Chief Executive Officer, Resilient Future International Pvt Ltd



- Dr. Naheed Bano, Assistant Professor, MNS University of Agriculture, Multan



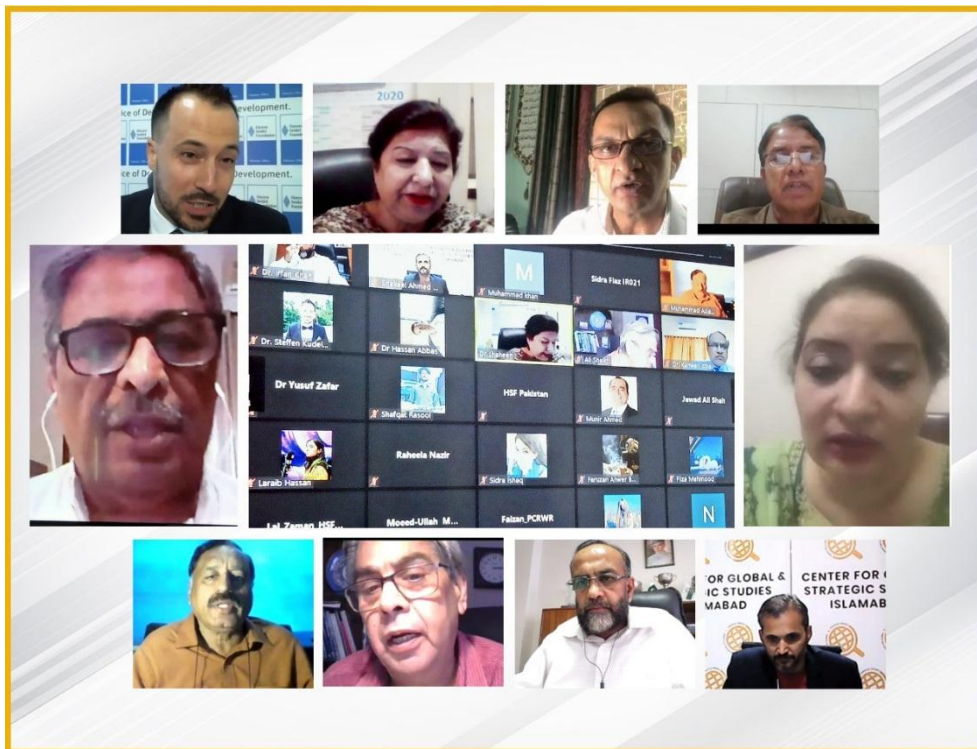
Picture Gallery





Online Roundtable Discussion Report

“CLIMATE CHANGE AS NON-TRADITIONAL SECURITY CHALLENGE: RELEVANCE FOR PAKISTAN”



**Jointly Organized by
Center for Global and Strategic Studies (CGSS), Islamabad &
Hanns Seidel Foundation (HSF) Pakistan on
2nd June, 2021**

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BRIEF OF THE CONFERENCE

On 2nd June 2021, Online Roundtable Discussion on Climate Change as Non-Traditional Security Challenge: Relevance for Pakistan was held. It was jointly organized by Center for Global and Strategic Studies (CGSS), Islamabad and Hanns Seidel Foundation (HSF) Pakistan.

The aim of the Roundtable Discussion was to establish a strong narrative based on critically analyzed climate change scenarios in the region, particularly in Pakistan. The discussion will focus on highlighting the grave implications of climate change on the major pillars of national security of Pakistan i.e., Economy, Society, and Politics. Moreover, the discussion will yield applicable collective solutions to curtail repercussions emanating from climate change.

Well known experts from climate and relevant fields participated as Panelists. The Online Roundtable was moderated by Mr. Shakeel Ramay, Advisor, Asian Institute of Eco-civilization Research and Development, Consultant SDPI & Member Board of Advisors, CGSS. A total number of 80 participants attended the online roundtable discussion and was also viewed live on various social media platforms.

1. Introduction:

The Center for Global & Strategic Studies (CGSS) and Hanns Seidel Foundation (HSF) Pakistan jointly organized the online Roundtable discussion “Climate Change as Non-Traditional Security Challenge: Relevance for Pakistan” on 2 June 2021. The roundtable discussion brought together a distinguished panel of veteran subject experts, leading academicians, members of the National Assembly, and renowned scholars to discuss the dreadful implications of climate change and propose policy options to curtail its negative implications. Therefore, this online roundtable integrated national experts to analyze the discourse of environment and security nexus. The report represents a detailed analysis of the collective views and speeches of the panelists presented during the online roundtable discussion. The roundtable focused on multiple dimensions. The experts identified a wide range of core areas, i.e., evolution of global climate change agenda, regional sensitivity to climate change in South Asia, and climate change’s repercussions on Pakistan’s social, economic, and political fabric. The valuable speakers highlighted climate-related disasters, migration issues, and the role of governmental institutions in devising a robust framework for disaster management and conflict resolutions. The scholars explored possible ways to combat emerging Non-traditional security threats, especially climate change and provided valuable policy recommendations. The discussion has built a comprehensive analysis and cohesive measures to counter common menaces.

2. Climate Change as an Emerging Non-Traditional Security Challenge:

In the 21st century, major focus is on the wide range of existing non-traditional security threats emanating from social, economic, and environmental stressors. Food insecurity, poverty, health problems, and reduced natural resources are new threats and crises, giving rise to conflicts. Environmental challenges are impacting globally. The global community has a consensus that climate change is the most concerned transnational issue, and it has emerged as an important dimension of peace, national security, and human rights. The cascading effects of climate change are attributed through its convergent shreds of evidences and manifestations across all sectoral economies. After the end of the Cold War, the national security paradigm has been enlarged by the

inclusion of non-military threats that directly impact people's well-being and stability. Environment security is the subset of national security because national security holds the pillars that are not just confined to the traditional threats but also include the non-traditional security dimensions. Melting glaciers, rise in temperature, climate change, droughts, floods, huge carbon dioxide emission, pollution, water scarcity, energy security, and a vast range of other environmental threats are occurring more frequently and intensely than expected. Developing countries, coastal communities, and ocean-based economies are more vulnerable to non-traditional security threats due to climate change.

In this aspect, formulating national and international solutions to such risks are necessary for stable political development. The consequences of environmental threats are associated with the non-conventional nature of the security paradigm. The devastating results of these perils are on the main elements of the national security of Pakistan, i.e., changing the economic, political, and social fabric. Environment degradation is leading to climate change vulnerability. This change is occurring because of two main reasons. One is the natural short-term challenges including, natural disasters, floods, volcanic activities, droughts, etc. The second is the anthropogenic factors which refers to human activity. This includes rapid urbanization, use of land, and emission of greenhouse gasses. In the big cities and towns of Pakistan, the growth is at the cost of green fields due to which the temperature is rising. Pakistan was struggling to overcome the impact of the 2010 floods, but unfortunately, 2011 and 2012 floods further exacerbated the situation, causing a huge devastating impact while increasing the existing miseries of people. About 5 million were impacted, and 1.7 million acres of land came underwater.⁸

Pakistan does not contribute massively to Greenhouse Gas (GHG) emissions. However, according to the Global climate risk index 2017, Pakistan was the seventh most vulnerable country. The German Watch report has placed Pakistan as the fifth country which is most vulnerable to climate change.⁹ Moreover, climate change's dreadful

⁸ "[Floods worsen, 270 killed: officials](#)". The Express Tribune. 13 September 2011. Retrieved 13 September 2011.

⁹Syed Muhammad Abu-bakar, "Pakistan fifth most vulnerable country to climate change, reveals German watch report" Dawn news editorial, Dec 5,2019.



outcomes have caused a huge economic setback of \$3.8 billion and witnessed 152 highly extreme events.¹⁰ Climate change could particularly alter the biophysical relationship for crops, livestock, fisheries and forests, including changes in rainfall patterns and increased thermal and moisture stresses. Internal displacement/migration due to climate change is another challenge, with people looking for better and safer livelihood opportunities. However, chances that new destinations may not accept migrants give rise to domestic chaos among people and communities, and even among countries.

3. Environmental Dimension to Security:

Under the given assertions, the environmental dimension to security is clear. When environment-related issues become part of low politics, they lose their sense of political importance and urgency. The cross-boundary character of most challenges to the environment makes it difficult to fit into the state-centric ideology of security problems. However, securitizing environmental issues and considering it as a matter of high politics would make it imminent to handle them. It would prompt a quick response at the top political level,¹¹ while such a theme becomes part of the discussion for much-heightened attention. The inter-state environmental issues became part of comprehensive security as some potential issues may transform into security. It cannot occur from the external threat but internal, or presented so that it creates the perception of security issue.

The transnational character of environmental degradation upholds its link in international security as well. The inter-state conflicts weakened the state internally, which has repercussions at the regional or global level. Although, mobilization of various institutions in countering environmental-induced security threats is necessary. In this aspect, the “Environment-threat-vulnerability” plays a significant role in proving the relationship between environment threats and real security threats. First, the ecosystem is a crucial factor for the sustainable livelihood of the population. Therefore, certain environmental changes, for example, pollution, depletion of natural resources, climate change, and natural disasters, can pose acute threats to security. These challenges increase an individual vulnerability. Second, the direct relationship between

¹⁰ Iftikhar Khan and Anwar Iqbal “*Military says security linked to Economy*”, Dawn News, October 15, 2017.

¹¹ Nina Graeger, “Environmental security?” *Journal of Peace Research* 33, no. 1 (1996): 109-116



transnational conflicts and the environment. These conflicts can lead to the outbreak of violent conflicts or war. For example, water issues between India and Pakistan, South-China Sea politics between India, US and China. This increases the risk factor for any society or country. Therefore, environment security encompasses the interactive dynamics of the diverse human and natural networks that constitute the modern world.

4. Theoretical Approach to Understand Environmental Risks and Climate Change

The roundtable deliberations focused on a holistic narrative regarding the climate change issue. Thereby, it can further be understood under one prominent theoretical framework. This report considers the securitization theory under the credible work of Ole Waever and Barry Buzan that explains the environment-related issues comprehensively.¹² The field of security studies has been challenged to re-conceptualize by the work of these proponents. They had taken the term security into account for broadening its agenda beyond the narrow concepts of state and military security. The end of the Cold War sparked a debate over ideas of security in international relations between narrowers and wideners. The narrowers were concerned with the security of the state and focused on analyzing the military stability. On the other hand, wideners sought to incorporate other types of threats that were not military in nature but affected people massively. The expanded security agenda encompasses the concepts of environmental, human and regional security, together with ideas of culture and identity.

The Copenhagen School has made a significant contribution to the debate regarding the meaning of security. In the mid-1990s, through the formulation of securitization theory, the wideners have advanced the argument that security is ultimately an outcome of a social process or “speech act” rather than an objective condition. Accordingly, the theoretical basis of securitization theory came from the assumption that threats to the security exist independent of its representation as such. Buzan argues that when a threat becomes a national security issue depends not just on what type of threat it is and how much the recipient state perceives it but also on the intensity with which the threat operates. Moreover, a specific threat is articulated as threatening a “referent object”.

¹²Barry Buzan, Ole Wæver, “Security: A new framework for analysis.” Lynne Rienner Publishers, 1998.

The present report's characterization amid two main pillars of the Securitization theory, i.e., identifying existential threats (mainly focusing on the non-traditional), and taking emergency actions (effective countermeasures to curtail its server impacts). Thus, the security policies at the national level are not naturally constructed, but are wisely designed by relevant actors, legislators and social groups. It is also noteworthy that with the applicability of securitization theory, Pakistan has taken meaningful steps to securitize the environment but is still facing multi-dimensional challenges to deal with climate change as existential threats to national security. In this aspect, the "Green Politics" perspective is also pertinent to address and sophisticate the conceptual framework. Green politics is the series of movements related to the protection of the ecological system and grass-root democracy. When compared, environmental threats are much different from traditional threats while keeping in mind the state's national security. Global climate change and water issues have gained the spotlight in recent decades as major environmental challenges.

Speech act is one of the key tenants of this theory. Therefore, conceptualizing securitization as a speech act is important. It shows that words do not merely describe reality, but constitute reality which triggers certain responses. An issue becomes securitized when an audience or referent object collectively agrees on the nature of the threat and supports taking extraordinary measures. In this context, understanding of catastrophic climate change implications by the referent objects (all the state's stakeholders, i.e., population, government institutions, policymakers, educational institutes, think tanks, NGOs etc.) is significant to work collectively to protect the environment. In order to protect huge repercussions of these challenges on Pakistan's national security, the government needs to identify such threats, take actions accordingly and make effective strategies to mitigate their long-term repercussions on the economy, politics and society. Moreover, Public awareness is necessary to cope with these problems as the man-made environmental risk contribute heavily to environmental degradation.

ANNEXURE B: DETAILS OF THE PANELISTS

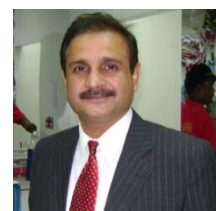
- **Ms. Romina Khurshid Alam, Member of the National Assembly of Pakistan and Former Secretary of Climate Change Ministry**

Ms. Romina Khurshid Alam is a Pakistani politician from the city of Gujranwala. She was elected to the National Assembly of Pakistan on reserved seats for women from Punjab in 2013



- **Dr. Rashid Aftab, Former Director, Pakistan Council of Research in Water Resources (PCRWR) and Director, Riphah International University**

Dr. Rashid Aftab has done Ph.D in “Public Policies and Governance perspective-Education” Sector in Pakistan’s perspective” from Utrecht University, Netherlands. Currently, he is heading and working as Director, Riphah Institute of public Policy, Riphah International University, Islamabad. He has also worked as Director in PCRWR.



- **Dr. Yusuf Zafar, Former Chairman, Pakistan Agricultural Research Council**

Dr. Yusuf has served as Head of Division Plant Biotech and Director, National Institute for Biotechnology and Genetic Engineering at Pakistan Atomic Energy from 1992 to 2007. Later, he was appointed as the Director General of Pakistan Atomic Energy. He also served as Chairman Pakistan Agricultural Research Council.



- **Prof. Dr. Muhammad Irfan Khan, Dean, Faculty of Basic and Applied Sciences, International Islamic University Islamabad (IIUI)**

Prof. Dr. Muhammad Irfan Khan is Dean of Faculty of Basic and Applied Sciences, International Islamic University Islamabad (IIUI). He completed his PhD degree from DIC, London. His area of specialization is Environmental Governance, Water, Energy and Climate Change.



- **Prof. Dr. Muhammad Khan, Member Board of Experts, CGSS**

Prof. Dr Muhammad Khan is the former Head of International Relations Department, in the National Defence University (NDU). He is the founding member of the Faculty of Contemporary Studies (FCS) in NDU



- **Dr. Shaheen Akhtar, Professor at the Department of International Relations, National Defense University, Islamabad**

Dr. Shaheen Akhtar is a Ph.D in International Relations. She is currently working as Professor in the Department of International Relations, Faculty of Contemporary Studies (FCS) at the National Defence University, Islamabad. She is a scholar with wide experience in research and teaching. Her area of interest is non-traditional security issues – water, energy and gender issues in particular; regional stability, conflict resolution and peacebuilding with particular reference to Kashmir, and Sri Lanka.



- **Dr. Kanwar Muhammad Javed Iqbal, Lead Researcher of the National Institute of Maritime Affairs (NIMA)**

Mr. Kanwar Muhammad Javed Iqbal is a Lead Researcher at National Institute of Maritime Affairs (NIMA). He is also Senior Research Fellow at SDC - Sustainable Development Centre. He holds MPhil Degree in Environmental Sciences.



- **Dr. Sarah Amir, Department of Environmental Sciences, International Islamic University**

Dr. Sarah Amir currently works at the Department of Environmental Sciences, International Islamic University, Islamabad. Dr. Sarah does research in Climate change vulnerability assessment and adaptation strategies, Waste Management and Environmental Science.

- **Mr. Munir Ahmed, Executive Director of DEVCOM**

Mr. Munir Ahmed is the Executive Director of DEVCOM. Development Communications Network (DEVCOM-Pakistan) is a Pakistan's premier communication sector NGO that is registered with Islamabad Capital Territory



- **Mr. Ali Tauqeer Sheikh, founding CEO & National Program Director of LEAD Pakistan, and CDKN's Regional Director for Asia**

Ali Tauqeer Sheikh is the founding CEO & National Program Director of LEAD Pakistan, and CDKN's Regional Director for Asia. Mr. Sheikh leads efforts to assist developing country governments in Asia to mainstream climate compatible development in their policies and plans, strengthen their capacity to cope with climate induced disasters and extreme events, enhance their readiness to access international climate finance and to meaningfully engage in international climate negotiations.

- **Brig Muhammad Aslam Khan (Retd), Chairman Gomal Daman Area Water Partnership Pakistan**

Brigadier Aslam (Retd) holds a unique blend of senior management experience acquired through various military and civil appointments. His professional experience stretches over 45 years, in which he served as the Chief Executive of Faisalabad Electric Supply Company and Director of National Commission for Human Development.



- **Dr. Hassan Abbas, Chairman Forte, Integrated Water Resources Management**

Dr. Hassan Abbas is a PH.D and currently chairman forte, integrated water resources management and possesses extensive research and industrial experience in water resources evaluation, hydrological field investigations, climate change, environmental instrumentation, civil engineering works, GIS applications, ground



water modeling, environment modeling, data analysis through massive databases and project management.

- **Mr. Faizan ul Hassan, Director, Pakistan Council of Research in Water Resources (PCRWR)**

Mr. Faizan ul Hassan is the Director of Pakistan Council of Research in Water Resources (PCRWR). During his professional career, he worked for the integrated management of water resources, particularly surface and groundwater resources in the irrigated and dry (rainfed) areas. More specifically, he worked on water conservation technologies, high efficiency irrigation systems such as sprinkler and trickle, water supply management, water quality monitoring and treatment, rainwater harvesting.

