

**Exploring the nexus between Climate Change and National Security
of Pakistan**



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Islamabad

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**IN THE NAME OF ALLAH, THE MOST BENEFICIENT THE MOST
MERCIFUL**

**Read! And thy Lord is Most Honorable and Most benevolent, Who taught (to
write) the man by pen, He taught man that which he knew not**

(Surah Al-Alaq 30: 3-5)

Al-Quran

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CENTER FOR INTERNATIONAL PEACE AND STABILITY

NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY (NUST)

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DEDICATION

I dedicate this thesis to my Parents because without their enthusiasm and unwavering support, this thesis would not have been possible. Thank you AME and ABU for your endless support and encouragement in all my endeavors.

“He who wishes to enter paradise through its best door must please his parents”

(Al-Hadis)

Abstract

Climate change is amongst the critical issues that the current world is facing. The Concept of security has undertaken international swift after the termination of the cold war and human security paid equal attention, thus challenging the concept of traditional security. Climate change is a global issue with local consequences thus states have faced the worst consequences of increasing climate change in terms of substantial humanitarian fatalities, socio-economic instabilities, and political turbulence beyond discrimination of any border. Therefore, they started mainstreaming the issue of climate change in their national security policies. Vulnerabilities maximized in the case of Pakistan because of its geographical location, agrarian setup, and least adaptive capacity despite its slightest contribution in the emission of Green House Gas (GHG) and has been tolerating the enormous penalties in terms of extreme weather patterns coupled with late monsoons, dry winters in addition to erratic and rigorous rainy patterns and prolonged dry spells. Despite significant humanitarian and economic losses due to the non-traditional security threat of climate change. Pakistan, unfortunately, has always adopted the narrower concept of security that is always knitted from a traditional lens since inception. However, it has articulated policy on climate change, taken some laudable measure and commendable acts, but very late unlike other states and even then, not incorporated issue in its national security policy. Hence, this research tries to explore the nexus between climate change and national security, in the case of Pakistan. The Literature on ‘climate change’ and its association with ‘national security’ in Pakistan’s context is enormously underprovided and this research is an initiative which with the help of research-based elements has developed a concrete relationship between said variables and tried to bridge the gulf between climate change and national security.

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INTRODUCTION

1.1 Problem statement

Climate change has emerged one of the most significant security issues distressing the state's internal security to every dimension of human security (Ahmed, 2016; Khan, 1998; Saeed, 2009). Human security is considered to be negatively affecting by climate change as natural resources are being disrupted (directly or indirectly). Extreme weather patterns, enormous floods, massive droughts, climate-induced migration, massive urbanization, and sharing of already declining resources, which ultimately matured to conflicts and violent conflict (in case of no attention). States' capacities have also been reduced for the provision of opportunities and services to their people for the sustenance of their livelihood (Reuveny, 2016). Though developed states like the United States, Russia, and recently Australia (forest fire) are suffering equally and could not isolate themselves from climate change-induced massive humanitarian and economic losses, just because of having a sound economic and institutional infrastructure in addition to functional adaptive capacities, the problem has been coped relatively fair by them.

Regions like Africa and Asia, suffering the worst consequences of changing climate because of their geographical location, huge dependence upon natural resources for their livelihood in addition to inadequate adaptive capacities (Barnett, 2007; Adger, 2007; Kumassa, 2010). Likewise, the geographical location of Pakistan makes it massively reliant upon natural resources and consequently suffering the worst impacts of climate change in terms of socio-political instability, humanitarian losses, and economic turbulence despite the least carbon contribution (Pakistan Meteorological Department [PMD], 2017). Pakistan is witnessing extreme weather conditions such as droughts, floods, famines, extreme heat events coupled with late monsoons, dry

winters in addition to erratic and rigorous rainy patterns, and prolonged dry spells (Ministry of climate change [MOCC], 2015). The issue of Climate change is so intense that it could even fuel already existing crises of food, water, health, and energy security (Vaughn et al, 2010).

The agronomy, the core part of Pakistan's economy which is contributing nearly 20% - 30% of the country's Gross Domestic Product (GDP), with approximately 70% of the population is being reliant upon (Chaudhry, 2017), has been extremely disrupted because of the consistent wave of droughts and floods in last two decades (Khan et al., 2016). These extreme weather patterns of the last two decades are also enormously responsible for material, humanitarian and socio-political damages. According to Pakistan Strategic Country Environmental Assessment Report published in 2006, the annual cost of environmental deprivation in Pakistan has been estimated at Rs 365 billion (\$4.2 billion), and Environmental specialists believe that the cost of environmental degradation has upgraded and reached up to Rs. 450 billion (\$5.2 billion) (MOCC, 2015). Moreover, it might prompt natural disasters and potentially sufficient to intensify already existing threats to national security such as poverty, weak governance, and armed insurrection by displacing people massively (Vaughn et al., 2010).

Climate change cannot cause conflict unless it is joined by poverty and socio-economic instabilities. Therefore, in light of the above discussion, it can be clearly said that climate change cannot be crowned as the root causes of current social, political, and economic turbulences. However, at the time it exhibits the maximum potential of catalyzing existing invariabilities (Reuveny, 2016). Therefore, climate change being a non-traditional security threat is equally damaging as traditional security threats are, but unfortunately, non-conventional security threats particularly the issue of climate change has not been given the desired attention because of the narrowed concept of security that is restricted to terrorism and extremism. Though, the concept of

security itself is inherently flexible, complex, and multifaceted and has undergone redefinition internationally after the post-cold war (Schubert et al., 2013).

Climate change is an international issue with consequences that vary from state to state. Subsequently, states have sensitized the issue timely by incorporating the issue of climate change in their national security policy documents, crafted national security policies in addition to the formulation of action plans and programs pertinent to climate change. However, unlike other states, Pakistan paid heed to the issue very late and designed its national policy on climate change very late (in 2012), and unfortunately, it is not as successful as it would be, because it lacked in measures that successful policy should possess such as scientific backing, statistical background and comprehensive goals (Mumtaz, 2018). Moreover, in addition to the aforementioned traits, it also exposed to human resource, technical, and financial constraints (Kakakheil, 2016).

However, Pakistan has taken some laudable initiatives both at the national and provincial levels for ecological stability and disaster reduction including launching a movement for clean and green Pakistan, employing legislative measures for disaster management in addition to the role played by Non-Governmental Organizations (NGOs) for ecological and environmental restoration. However, these measures are neither ample nor as organized and systematic as measures of traditional security were. It is just because, since inception threats (both internal and external) have defined from a traditional lens and the state has invested all of its capabilities and resources in curbing those conventionally existential vulnerabilities. National Counter Terrorism Authority (NACTA), National Action Plan (NAP), and National Internal Security Policy (NISP 1& NISP 2) are the measures taken in this regard, which successfully guarded the state against both internal and external traditional threats.

After the termination of the cold war developed states redefined their concept of security by contextualizing the issue of climate in their national security policies unlike Pakistan, which has adopted very confined, restricted, and limited security's concept and fails to mainstream the issue of climate change in its national security policy. Thus, this research by analyzing security discourse, will attempt to solve the riddle that why it is substantial to authorize climate change a status of the threat to national security and why the issue of climate change is essential to incorporate in national security policy?

1.2 Objectives of the study

Therefore, the objective of this research is to develop nexus between global climate change and national security by elucidating the indemnities triggered by global changing patterns of climate, generally and Pakistan specifically. Furthermore, this thesis also analyses the policies and initiatives taken by different states such as America, Canada, India, the United Kingdom, and the European Union, for curbing negative multi-dimensional impacts of climate change. Moreover, this study also compares Pakistan with the aforementioned states on the consideration of climate change, its inclusion in their national security policies, and their preparedness for mitigation of the issue's adverse outcomes.

1.3 Significance of the study

The issue of climate change has emerged as a reality. Also, both the scholarly and practitioner communities have well acknowledged the issue as a concern of 'human security'. With regards, various countries have accommodated the issue of climate change and developed institutional and policy-related responses. In this vein, Pakistan has indeed recognized the impacts of climate change and its vulnerability; however, the issue has not been well defined within the realm of

human security. Therefore, this research aims to develop a nexus between climate change and national security for the human security perspective.

1.4 Research Methodology

Research can be carried out either by employing quantitative or qualitative approaches or both. Whereas, tools used for qualitative research are participant observation, discourse analysis in addition to unstructured, semi-structured, and in-depth interviews. To achieve the objectives of the thesis, qualitative research has been carried out and data is collected through secondary sources only, as data collection through primary sources was not a viable option in the COVID-19 outbreak. Thus, for data collection different secondary sources including scholarly articles, journals, reports in addition to the policy documents published by different states on the Climate Change such as Climate Change Strategy and Action Plan by Bangladesh, National Action Plan on Climate Change by India and National Security Strategy by the United Kingdom and different newspaper articles have relied upon. Moreover, for making research more comprehensive and inclusive, different themes have also been incorporated such as national security in the context of Pakistan, climate change as a threat multiplier, challenges professed by Pakistan in limiting the changing climate, etc. and for the identification of the aforementioned themes, policies correlated with national security such as National Internal Security Policy (NISP 1&2) and related documents (in context of Pakistan) have broadly discoursed. Furthermore, accomplishments and challenges faced by national and provincial disaster management authorities (NDMA & PDMA respectively) have also conversed for the identification of aforesaid themes.

1.5 Research Questions

Q 1: How Pakistan has redefined its (national) security, particularly in the context of the non-traditional nature of threats?

Q 2: What are the institutional or contextual challenges which have been impacting the adaptive capacity of Pakistan despite the state's enormous impacts wrenched by humanitarian or natural disasters?

Q 3: Why has the issue of climate change not been accepted as an issue of (national) security considering its socio-economic and environmental dimensions?

2 UNDERSTANDING NEXUS BETWEEN SECURITY AND CLIMATE CHANGE

2.1 Evolution of Security: A Paradigm Shift

The concept of security is complex and multifaceted hence subjected to an intense discussion. The concept has emerged as one of the most controversial issues within international politics (Schubert et al., 2013). Thus, this chapter enumerates the reconceptualization of security after the termination of the cold war and extensively explains how states started swapping their emphasis from traditional to equally threatened non-traditional security by incorporating the dimension of human security generally and environmental security specifically in non-traditional security paradigm. Moreover, this chapter also tries to unwrap the causal relationship between the increasingly ‘changing climate’ and ‘national security’ by highlighting the tremendously hostile and progressively unpredictable global climate changes. Moreover, this chapter also sheds light on the attitudes of different states regarding the sensitization of the issue and formulation of different policies, legislations, and inclusion of the issue as a part of national security policies.

The concept of security is inherently flexible, therefore depending upon the interests of intellectuals, security experts, and politicians, security can be interpreted in multiple ways. Since the end of the Second World War, security was defined in classical terms and considered as the territorial integration of sovereign nation-states as represented by the United Nations (Schubert et al., 2013). During the cold war, international security was dominated by the highly militarized and highly polarized ideological confrontation between the superpowers. In the epoch of the Cold War, ideological rivalry segregated the industrialized North into the West (the first world) and Soviet bloc (the second world). Their (the United States and the Soviet Union) rivalry was intense, the

danger of war was real, in addition to the domination of political or military concerns in the security agenda. But with the disintegration of the USSR, the cold war terminated and Post-Cold War Era was a remarkable change in the whole design of international relations (Buzan, 1983; Buzan, 1991; Buzan, 2009).

2.1.1 Redefining security

With the termination of the Cold War in addition to the increasing globalization, it was recognized universally that military aggression is not only responsible for violence, instability, and insecurity, issues of ecological origins, complex political, economic, and socio-cultural nature are also equally responsible. Therefore, it led to security's reassessment and corresponding adjustments of policy. Furthermore, intensive debate arises in academia as well, pertinent to the new concept of security in the post-Cold War era. Therefore, discourse proceeded in the 1970s and 1980s, named as 'peace discourse' gradually shifted into 'Security discourse' and consequently, concerns of the public including degradation of the environment, which was initially regarded as 'soft' policy fields, had been accorded great significance (Schubert et al., 2013).

2.1.2 Buzan's Lens of Non-traditional Security

The contribution of Barry Buzan has been considered significant to understand the complexities of the concept of security. Security can be defined as a state of freedom from threat and the ability of societies and states for the maintenance of their autonomous identity and their functional integrity against forces of change, which they considered as antagonistic (1991). He further argues that survival is the bottom line of security, but it also rationally includes a considerable range of concerns about the conditions of existence. Similarly, Barnett and Adger (2007) considers security as the condition of being protected from or not exposed to the threat. Thus, security can also be construed as the guarantee to the people that they will continue to enjoy those things that are most

significant for their survival and well-being. Initially, security has been viewed from the conventional lens and defined by Realists and their definitions were quite pertinent during the period of world wars, where states were in a consistent race of maximization of power. However, the conventional concept of security where the state is the referent object has been up for wide debate (Buzan, 2009).

Therefore, the concept of security has become more complexed and multifold after the Cold War epoch. Book, 'People, States and Fear' (authored by Barry Buzan in 1983) has offered a broad framework of security by integrating concepts that were not formerly considered to be part of the security conundrum such as security of region, societal and environmental security. His approach of security is very thought-provoking as he looks it, from all perspectives going from micro to macro, in addition to addressing the social facets of security, how folks or societies securitize or construct threats. He also addressed political, economic, military, societal, and environmental aspects in his concept of security. Therefore, the aforementioned domains of security concepts cannot effectively understand distinctly, each one is closely and complexly linked with the next forming a web of information (Buzan, 1983, p.8).

The above mentioned five dimensions of security are very important to develop a comprehensive security framework. However, this research is mainly concerned with the 'environmental' dimension of security. As the main objective of this research work is to explore the nexus between climate change and national security so the whole research work rotates around the security in the context of climate change.

2.1.3 Environmental Change in Security Discourse

The environmental domain of security also proves difficult to define and can be considered as the most argumentative amongst the five (political, economic, military, societal, and environmental) dimensions. The recent issues of human impacts on the planet such as increasing global warming, growing pollution, and mounting ozone depletion can be seen as a manageable variable to the environment. Thus, environmental security is not all about environmental protection and sustainable utilization but also includes the minimization of those risks which have negative consequences on the environment. Changing the environment is a severe threat not only being faced by human beings but all species are equally vulnerable and suffering alike from increasing deforestation, swelling soil erosion, growing global warming from all ranges of human activities from civilian to military (Lordgard, 1992, p. 20). The beginning of a climate change as security discourse can be traced back from “This Endangered Planet” in which Lester Brown was very influential in falsifying the relation between security and climate change.

2.2 Understanding the Nexus between Security, Conflict, and Climate Change

It has been argued by Adger (2010) that there is a lack of consensus on the concept of security, which by definition is vague and relative. Therefore, developing scientific literature on conflict and climate change has not led to an agreement based on causes, mechanisms, in addition to the potential interventions (Paris, 2001). Security studies as a field have different contours, sometimes it becomes a concern for national security, sometimes manifested as a concern for global, and sometimes becomes apprehension for human, or individual security. The risks at these different scales can be interpreted as the peril of violent action, or generally includes risks to livelihoods, health, and environment (Adger,2010; Barnett, 2007; Barnett 2014; Graeger, 1996). Research has highlighted that impacts of changing climate can be observed in different ways. Sometimes

national security is being threatened, and most of the time human security at individual and community levels is susceptible, and sometimes global security is on the stake. Moreover, climate change is most commonly framed as a threat multiplier, a driver of various secondary risks, such as political instability, massive climate-induced migration, poverty, hunger in addition to many violent conflicts (Hartmann, 2010; Raleigh, 2011; Reuveny, 2007). While there is an increasing indication that changes in climatic conditions seem to be associated with conflicts, and analysis made an implicit assumption that the anticipated changes in natural systems would mature into threatened national security and social problems. The framing of climate change as a security concern has also been a device for states to address the issue of climate change immediately and utterly. Thus, climate change as a peril to human security needs an extensive and similar hard look from practitioners and scholars (Adger et al., 2014).

2.2.1 Climate Change; states vulnerabilities and their threatened national security

Climate change has multiple indirect negative impacts that can even weaken the legality of governments, by undermining individual and communal economic livelihood. It also jolts the human health via condensing the availability of fresh water, food, and by exposing many people to new disease vectors. Besides, it also weakens the wealth of the states and their military capabilities, and questions their political stability by exacerbating disparities amongst different masses (Barnett, 2007; Adger, 2010). In light of the aforementioned indirect but highly intense and potential impacts of changing climate on nations has been considered as a national security issue (Buzan, 1991; Graeger, 1996; Barnett, 2007).

Climate change has emerged one of the most important security issues by affecting the state's internal security to every dimension of human security (Ahmed, 2016; Khan, 1998; Saeed, 2009). Issue of Climate change considered to be negatively affecting human security either by

undermining or disrupting the natural resources (directly or indirectly) and also reduces the capacities of states to provide its people the opportunities and services to sustain their livelihood. Extreme weather events, massive floods, enormous droughts, climate-induced migration, massive urbanization, and sharing of already declining resources, which ultimately matured to conflicts and violent conflict (in case of no attention) (Adger, 2010; Reuveny, 2016). The negative impacts of increasing climate change on the wellbeing of humans are not uniform but vary according to the country's ecological condition, its geographic location in addition to its level of economic development which identifies the capacity of ordinary people to cope with hostile ramifications. Likewise, countries with low incomes having widespread poverty suffer the most (Malik et al., 2012).

Exposure of any state to instability or insecurity will be determined by the extent of changing climate, its increasing negative impacts in addition to their adaptive capacities in undertaking the problem. Service-based economies are less vulnerable than states having Agriculture-based economies. Societies having sound economies are more competent in handling the costs of changing climate than developing countries. Likewise, governments with good capabilities can manage the consequences of environmental degradation and changing climate better than states having the weak economic infrastructure and fragmented societies (Schubert et al, 2013). However, countries with even high problem-solving abilities are not completely isolated from vulnerabilities of mounting climatic changes, they (developed states) do expose to susceptibilities and sufferings but because of having a sound economic framework with better institutional infrastructure and having virtuous adaptive capacities, they are coping the problem fairly. In the case of Africa and Asia where livelihood is dependent upon natural resources, suffering badly from adverse effects of climate invariabilities (Barnett & Adger 2007; Kumassa & Jones, 2010).

The intense impacts of climate change and resultant huge humanitarian and massive economic losses are hidden from none. Hurricane Katrina in the USA in 2005 (Busby, 2005) earthquake in Pakistan (Farooqi, 2005), Nargis cyclone in Myanmar, wildfires in Russia and earthquake in Haiti in 2008, and huge floods in Pakistan in 2010 (which cost \$8.74-10.85 billion for overall recovery and reconstruction) caused massive losses. Over 2 billion people were affected by climate-related disasters in developing countries (Ahmad, 2003). Climate change is affecting all countries in varying ways regardless of their developing or developed status. Until 2005 scholars believed that the US has sufficient adaptive capacity that insulates the US from the most horrible impacts of climate change but when hurricane Katrina and Rita, hit New Orleans, it cost the US \$80 billion damages, killed more than 1,800,000 in addition to the displacement of more than 270 people. These hurricanes also damaged platforms, refineries oil terminals, and the electric grid, which ceased the regional oil and gas supply for a long time. Almost 770,000 inhabitants were immigrated by Katrina. Before hitting Katrina, the city generated \$9.6 billion by the industry of tourism. The city attracted 7.1 million tourists each year. While it received merely 2.6 million in 2006 after hurricane Katrina. Moreover, approximately 1,836 people were killed and almost 80% of the city was swamped in the storm of Louisiana (2005) (Kimcerly, 2017). Consequently, average annual damages amplified to 0.126% from 0.06% of the GDP of the US (Busby, 2007). Likewise, North America suffered a loss of \$415 billion in the last three years and much of that was due to tornadoes and wildfires. Texas's assessed losses of \$125 billion from Hurricane Harvey in 2017 and \$71 billion of damages were estimated by Hurricane Sandy in 2012 (Cho, 2019).

It is estimated that because of increasing average daily temperature the patterns of rainfall also get changed, which has reduced agricultural productivity ultimately and cost African farmer a loss of \$28bn per hector per year. Similarly, damages caused by drought in sub-Saharan Africa increased up to 60 to 90 million hectares and dry land cost the US \$26 billion by 2060 (UNDP 2007/2008). According to Homer Dixon (2010), environmental extremes are insufficient to cause conflict unless, they are joined by political, demographic, and socio-economic conflicts (Barnett & Adger 2007; Kumassa & Jones, 2010). States have realized that their human, socio-economic, and political stability is more exposed to unpredictably hostile and tremendously variable global climatic changes so they have contextualized the issue of non-traditional security in their national security policies. Therefore, developed sates in addition to most developing states have formulated different plans, commissions, acts, and bills to mainstream the issue of climate change in their national security policies.

2.3 Incorporating issue of climate change in national security policy by different states

2.3.1 India

The Indian government has taken the issue of climate change very seriously and pledged to reduce its GHG emission by 2025 in comparison to 2005 and has released its National Action Plan on Climate Change (NAPCC) on June 30th 2008, for mitigation and adaptation to climate change, almost one year after its announcement (Hooda, 2019). Climate Risk Index published by German watch, from 1997 to 2016, ranks India 12th amongst the most vulnerable states. Indian cities are amongst the most polluted in the world according to numerous reports. Air pollution has altered long-term rainfall patterns in India, according to the United Nations Environment Program report of January 2019 and it is affecting millions of farmers. Wheat and rice yields reduced in India to 30% from 20% just because of ozone pollution at ground level (Rudy). Therefore, in light of all

these Vulnerabilities and being the most populated and tropical developing state, the Indian government has mainstreamed the issue of changing climate in its national security strategy.

As the issue of changing climate is an international phenomenon with local ramifications, therefore both internal and external dimensions to India's policy on Climate Change have formulated through two key documents. The first one is the National Action Plan on Climate Change (NAPCC), approved on 30th June 2008, and the other is India's Intended Nationally Determined Commitments (INDC) submitted to the UN Framework Convention on Climate Change (UNFCCC) on 2nd October 2015. The NAPCC is fundamentally nationally focused while INDC is a statement of intent on Changing climate action announced in the run-up to the Paris Climate Change summit held in December (the same year) (Saran, 2019). The INDC stands upon the existing environmental policy and rooted in the Indian constitution Article 48-A. INDC also highlighted that 32 states and union territories have installed their action plans on the issue of changing climate in addition to the integration of concerned issue in their planning process (Ebinger, 2016) whereas NAPCC dealt with the incorporation of India's vision of ecologically sustainable development and steps to be taken for its implementation (Saran, 2019).

2.3.2 Bangladesh

Bangladesh is one of the most climate-vulnerable countries in the world and is becoming more susceptible because of increasing climate stresses (Government of People's Republic of Bangladesh [GOPRB], 2009). Bangladesh is predominantly brutally affected by the adverse impacts of changing climate as of its geography, specifically the extensive delta of the Brahmaputra and Ganges rivers and its coastal location (on the Gulf of Bengal). The majority of the areas of Bangladesh are largely flat and lie only a few meters above the level of the sea. That

is why it is already susceptible to flooding and the risk gets double by rigorous tropical cyclones over the Bengal's Gulf and by the rise in the level of sea (Schellnhuber, 2009).

The steady onset of climatic stresses and sudden shocks, including cyclones, floods, coastal or delta erosion, in addition to water shortage have been faced by Bangladesh. From 1991 to 2010, Bangladesh along with Honduras and Myanmar was adversely affected by extreme weather events. Multiple factors, including disasters, environmental changes, shortages, and economic pressure, could increase the vulnerability of local people. Therefore, the issue of climate change works as a global phenomenon that makes existing socio-political, economic, political, and environmental challenges even more serious at a local level (Martin et al, 2013). Over the last 35 years, the government of Bangladesh has invested \$10 bn dollars to make the country less vulnerable to natural disasters. These investments are supported by many development partners and their objective is to create a suitable environment for the socio-economic uplift of the country and security of most vulnerable and downtrodden societal segments (GOPRB, 2009).

The Environmental Policy of Bangladesh dates back to 1992 (before the Earth Summit). As mandated by the United Nation Framework Convention on Climate Change (UNFCCC), for the least developed countries (LDCs), Bangladesh's Department of Environment has developed a National Sustainable Development Strategy (NSDS) since 2006, with technical assistance from United Nation Environmental Program (UNEP) and monetary support from Norway (Martin et al, 2013). Bangladesh submitted its National Adaption Program of Action (NAPA) in 2005 which was updated in 2009 (Vij et al, 2018). It engrossed on four security issues that are food, water, energy, and livelihood. Also, policies that specifically dealt with the issue of climate change are the Bangladesh Climate Change Strategy and Action Plan (BCCSAP) in 2008, which was revised

in 2009. It fixated on six crucial areas and low carbon development and comprehensive disaster management are amongst them (GOPRB, 2009).

The Guchhogram Project (Climate Victims Rehabilitation Project) Launched in 2009, dealt with the settlement of climate victims, homeless, landless, evicted and river eroded people. In the same year (2009) government has set up a Climate Change Trust Fund (CCTF), which approved 43 government projects with an apportionment of USD 70 million. Moreover, USD 3.5 million was allocated for 32 NGO projects. Furthermore, the Bangladesh Climate Change Resilience Fund (BCCRF) has been put in place with development partners promising of USD 113.5 million. The resilience fund has to be managed and executed by the Government with the technical support of the World Bank (Martin et al, 2013).

A new paradigm emerged, concentrating on the incorporation of Climate Change Adaptation (CCA) into the development process from 2011 onwards. Formerly, CCA was outlined as a distinct initiative for the reduction of the adverse impacts of extreme events but now it is reframed as a significant constituent for the advancement of all climate risk sectors. All Policy documents such as the Bangladesh climate change gender action plan (2013), Sixth Fiscal Year Plan (FYP) (2011-2016), and the seventh FYP (2016–2020) overtly intended to mainstream CCA into planning, development and budgetary process (Vijj et al, 2018).

2.3.3 United Kingdom

The UK's National Security Strategy of 2015 agrees that climate change is possibly responsible for political instability, migration, and conflict. Consequently, the issue of changing climate is greatly understood as a 'threat multiplier' that can multiply prevailing problems, particularly in countries and regions having already existing conflicts and failing governments. Even Military leaders of the UK have warned that climate change is potentially ample to present an increasing

threat to geopolitical stability, which ultimately affects the security, prosperity, and wellbeing of the nation (Energy and Climate Intelligence Unit, 2016). Therefore, the UK since the late 1980s took a complex set of measures for the reduction of emissions. The purpose has been to stimulate the deployment and improvement of energy efficiency in addition to the development of clean energy. The UK started pursuing policies for the reduction of greenhouse gas emissions comparatively earlier and now has an inclusive set of measures in place. It has set clear targets for emission reductions steady with international goals of restraining global warming and has initiated legislative underpinning of target-setting. On the global forum, it has been an active character of a global deal for limiting human-induced climate change (Bowen & Rydge, 2011). Thus, the UK has preferred to invest, growing climate finance for developing states by at least 50% over five years (Energy and Climate Intelligence Unit, 2016). Likewise, UK contextualized the issue of climate change and established Climate Change Act in 2009, according to which UK has to reduce its Green House Gas (GHG) emissions by at least 80% of 1990 levels by 2050. The UK has established a Low Carbon Transition Plan 2020 for changing the power sector, homes, transport, farming, workplaces, and the way land and waste are managed, to meet these carbon budgets, in addition to the protection of the most vulnerable. The government has allocated £1bn for a Carbon Capture and Storage (CCS) demonstration facility. By 2015, UK Government decided to increase their spending on climate finance (International Climate Fund) to £2.9bn by 2015 (Rudy). Moreover, the UK is officially committed to meet 15% of its energy demand from renewable sources by 2020. A total of £12.7bn investment between 1st April 2011 and 31st July 2012 related to the renewable energy resources had been announced. The energy efficiency sector in the UK accounts for about 136,000 jobs already and had sales of £17.6 billion in 2010-11 (Brown, 2009).

2.3.4 Canada

Furthermore, in Canada significant measures, in all Canadian jurisdictions (central, regional, and public) are being designed to deal with climate change. The aim is to achieve the Limitation of Green House Gas (GHG) emissions and enhancement of GHG sinks, improvement of education and training to provide Canadians with better information about options to limit net emissions and encouragement of voluntary action, promotion of research, development to increase the technological options for limiting net emissions of greenhouse gases. These measures are usually known as ‘first-step’ initiatives. These activities are consistent with the comprehensive approach of Canada in limiting emissions. It is the main component of the National Action Strategy of Canada on Global Warming (Canada’s National Report on Climate Change, 1994).

Canada being a signatory to the Paris Accord, confirmed that it will condense its GHG emissions by 30% by 2030 below the 2005 level. On 3rd October 2016, being a part of the debate on a motion to support the endorsement of the Paris Accord, the Prime Minister proclaimed that at the beginning of 2018, Canada would upsurge a minimum price on carbon from of \$10 per ton per annum to \$50 per ton by 2022. Although the Paris Agreement is a federal commitment, Canada will be relying on each of the provinces to endorse suitable climate change policies to achieve compliance (Harper et al, 2016).

Moreover, a couple of other initiatives have been taken including the Pan-Canadian Framework (PCF) which is supposed to condense Greenhouse gas emissions to 30% by 2030 below the levels of 2005 in addition to positioning Canada to be competitive in the clean economy. According to its 2018 GHG and Air Pollutant Emissions Projections report, GHG emissions of Canada are anticipated to decline over the next 12 years. A wide array of programs, policies, and investments executed under Canada’s climate plan have responsible for the principal development of Canada’s

emissions outlooks. Canada has been working with transnational partners for the development of implementation guidance for the Paris Agreement by allowing the agreement to become fully operational since 2016. At the Conference of a party (COP) 24, Canada additionally built confidence and trust for a determined global regime of changing climate (Government of Canada, 2019).

2.3.5 European Union

Likewise, the European Union started its policy on climate as part of environmental policy, which had a sound legal basis established by the Single European Act, implemented in 1987. New provisions (through the 1987 Act) were added to the Treaty of EU dealing with the environment. Today, there is almost a complete set of legislation by the EU which is supposed to deal with environmental protection, addressing water and air quality, and biodiversity. EU has endorsed that developed states as a group should lead by reducing their GHG emissions by 80-95% by 2050 compared to 1990. EU overachieved its target by reducing 8% of GHG emissions by the end of the Protocol's first commitment period in 2012 as compared to the 1990's level just because of designed policies.

The EU endorsed UNFCCC in 1992 and followed by the Kyoto Protocol in 1998. EU assumed the target to lessen emissions by 20% by 2020 under Kyoto Protocol and consequently by the span of 22 years (1990-2012), the EU reduced its greenhouse gas emissions in all foremost emitting sectors excluding transport. Total emissions of (then 28 Member States) were reduced to 4.6 billion tons of CO₂-equivalent in 2013 from 5.6 billion tons in 1990. Total emissions lessened by 19% and the GDP of the EU economy raised by 44 % in 2014.

The Challenge of climate change has been taken by the EU to limit the temperature to 2°C. This requirement can be fulfilled when domestic emission reduces by at least 80% by 2050. 20% of the

target for 2020 has almost been achieved and for domestic reduction of (at least) 40% by 2030, political commitment at the highest political level has been made (Delbeke & Vis, 2015). EU ratified the Paris Agreement in 2015 and under Paris Accord, the EU communicated a nationally determined contribution (NDC) of at least 40% domestic GHG emissions reductions by 2030 compared to 1990 (Herold et al, 2016).

2.3.6 United States

Likewise, the US being a superpower is not lagging and has sensitized the momentum of an issue very early (Skelton, 2008). At the national level, the US alone has officially identified climate change as the main threat to its national interests. Therefore, the Military Advisory Board (MAB) of the United States Centre for Naval Analysis (CNA) published reports in 2007 and 2014 and highlighted the risks faced by the US's national interest by changing climate. John Kerry (US Secretary of State) in 2014 stated climate change a global threat having magnitude equivalent to terrorism, epidemics, and weapons of mass destruction. Climate change has been stated as a threat multiplier by the US Department of Defense in 2014. Likewise, a statement issued by the White House in 2015 that climate change-induced increases in the frequency of extreme weather events could be responsible for political and economic instability and which ultimately has perilous national security consequences (Kakakheil, 2016).

National Defense Authorization Act (NDAA) for Fiscal Year 2008 was among the first bills related to climate that incorporate the security implication of climate change. The inclusion of climate-related concerns in a document for the Department of defense such as mitigation of climate change and adaptation policies is a landmark initiative (Skelton, 2008). The climate action plan designed by then-president in 2009 had pledged to reduce its greenhouse gas emissions by 17% below 2005 levels by 2020 if all other major economies agreed to reduce their emissions as well.

And as a result, they minimized their carbon emission to the lowest level of the last two decades by not compromising their economic growth. Under this action plan, different initiatives were taken to control GHG emission including the Deployment of Clean Energy, permitting acceleration of Clean Energy, and curtailing emission of Hydro fluorocarbons (HFC's). Under these measures, the emission of ecologically toxic materials (lead, arsenic, and mercury) was reduced and consequently, more than 25 states have set energy efficiency targets and more than 35 states have implanted renewable energy targets. Furthermore, American Leadership was promoted to double the generation of electricity by solely relying on renewable energy resources. So, for the fulfillment of these initiatives and support of the aforementioned programs estimated 17,000 jobs were created (Obama, 2009). Since 2005 Congress has also issued different resolutions such as the Climate Change Security Oversight Act of 2007, the Lieberman-Warner Climate Security Act of 2007, and the American Clean Energy and Security Act of 2009. Though none of these acts became law however they did have an impact on the discourse on the issue of climate change on the Hill (La Shier & Stanish, 2019).

Conclusion

So, it can be concluded that the concept of security initially confined to territories and the supremacy of the territorial integration was the ultimate objective of the states. During the era of the cold war, Superpowers were busy in the race of power maximization so that they could tackle their rival by subduing its ideology. Therefore, it was out of the question to consider human security, all policies were formulated by keeping the state as a referent object. But after the termination of the cold war, with the disintegration of the USSR and with the emergence of the US as the sole superpower, we have seen the gradual paradigm shift in designs of international relations and likewise, the concept of security got flexible and broadened by incorporating human

security. And literature started developing on climate change, its relation to human security and violent conflict. Climate change emerged as one of the most significant security issues in the survivability of humans. Climate is changing rapidly. A global rise in temperature from 2°C in pre-industrial levels can be expected to reach 7 °C by 2100. This will ultimately cause extreme weather events including, heatwaves, drought, heavy rains, and storms levels of the sea are gradually rising because of extreme temperatures. Consequently, societies and people around the world are suffering badly because of the direct, far-reaching, and long-term impacts of climate change. And if climate change continues unchecked and unabated, agricultural production will decline abruptly in different regions (especially south Asian and African region). Consequently, poverty will increase, millions of people worldwide will unable to access clean drinking water because of drought and famine. Therefore, extreme weather events will continue to gain destructive force and may confront governments. United Nation's former Secretary-General, Kofi Annan has referred changing climate a 'threat to peace and security'. Annan emphasized that the international community must devote attention to the issue of climate change as it does to non-proliferation of WMD's and avoiding wars (15th November, 2006).

History is evident that human activities are largely responsible for disrupting biodiversity and overwhelming global warming, extreme weather patterns which ultimately give birth to droughts, famine, floods in addition to forest fires, and other extreme heat events. Climate change despite the socio-economic statuses of different states threatening their livelihood and questioning their survivability from every dimension such as social, economic, or political levels. So, all states despite their financial statuses suffering equally. However, financially sound, technologically modernized states having good adaptive capabilities succeeded in minimizing the losses caused by climate change. Secondly, they also have integrated the issue of climate change in their national

security policies by understanding the issue's sensitivity and designed particular acts, bills, and national action plans on the issue of rapidly changing climate. But states having weaker economies, huge dependence upon natural resources, and already entangled in their socio-political issues are greatly suffering the perils of climate change.

3 PROBLEMITISING SECURITY IN CONTEXT OF PAKISTAN

3.1 Understanding ‘Security’

This chapter aims to shed light on the concept of security knitted by Pakistan. It elaborates why unlike other states Pakistan did not incorporate human security in its concept of security and restricted its notion of security to traditional security since its inception. This chapter also explores what kinetic and non-kinetic measures taken by the state of Pakistan for maximizing and strengthening its conformist security.

Security is considered as an intricate concept and essentially defines as an absence of real and perceived threats, whether originating from internal or external turmoil or economic disparities or social inequalities (Cheema, 2006). States being autonomous and independent units develop themselves socio-economically, politically, and militarily for dealing with different threats. The complicated notion of security can be classified into two categories: conventional security that is primarily dealing with state security and for its insurance maximizing military power and other category is a non-traditional concept of security which will be discussed later.

Thus, one is said to be secure under two conditions. First, when it's previously acquired values are not being threatened and secondly when he is capable enough to defend himself against hazardous sources at rational costs. Likewise, threats to national security threaten by revisionist states which are discontented with their status quo. Therefore, most of the threats are posed either by proximate neighbors, which have both the motivation because of substantive sources of conflict (such as borders, terrain, nationalism, and ethnicity) and opportunity (capabilities) to pose a threat or by the major powers which have both global power- projection, capabilities and global interests (Miller, 2001).

3.1.1 Post-cold war epoch; Security undergoes redefinition

The conventional concept of security played a leading role in global politics during the epoch of the cold war (Majeed, 2013). With the termination of the Cold War a breath of relaxation brought to people worldwide, with the expectation that human security and issues of poverty and environmental destruction could be paid more attention rather than the resource-consuming conventional security (Soherwordi, 2005) and after Cold War, the concept of security redefined internationally and goes beyond the conventional and narrow understanding of traditional security and incorporated the idea of human security and its different aspects (economic, environmental, health, food and community security etc) that in multiple ways supplements security of the state (Shirazi, 2016). Therefore, in the present-day scenario, security is not limited to military threats solely but non-military threats have arisen as vital threats as well.

3.1.2 Inclusion of human security in redefined notion

There are different non- military issues such as terrorism, trade, environment and economy etc which are considered as soft security or part of low politics. Barry Buzan was a renowned scholar who believed in a thoughtful broadening of security by incorporating non-military issues (Javaid, 2006). A new notion of security is being expanded and increasingly incorporated the Security of people not just territory and it dealt with security via development not through ammunition and arms in addition to the security of all the people universally in their homes, environment, and their jobs (Soherwordi, 2005). United National Development Program (UNDP) played a substantial role in popularizing the idea of human security in the 1990s and it was backed by social constructionists and pluralists too (Javaid, 2006). Human security means that people can freely and safely exercise their choices and are assured that the opportunities they have now are not completely obsolete tomorrow (Shinoda, 2004). The literature on human security threats commonly characterized

human security as the absence of fear or protection of an individual against violence and freedom from want or it can be understood as emphasis beyond violence (it can be an existential threat to a life of human) (United Nation Development Program [UNDP], 1994). A confined and narrow understanding of human security has been endorsed in earlier interpretation as political violence has been advocated as the only threat to an individual. Whereas another way of interpreting human security has conceptualized more broadly, freedom from fear has not just incorporated in this approach, but it expands to all types of dangers and threats to human life. This school of thought has associated human security with political and economic agenda including ecological and environmental problems, issues of human freedoms, and underdevelopment as these types of intimidations not just erupt political violence but endanger human life as well (Gazizullin, 2016). Human security is composed of seven elements economic security, health, food, environmental, individual, communal, and political security. Whereas, this thesis is dealing with the environmental aspect of human security later on. Environmental insecurity dealt with a lack of accessibility to clean water, deforestation, salinization in addition to air pollution natural disasters, and so on. Human security is a comprehensive notion, repeats the significance of development while declining the spending upon traditional security under the umbrella of security (Shinoda, 2004).

Human Security also dealt with a new partnership between South and North that is based on cooperation, not on confrontation, on justice not on charity, on unbiased sharing of global market opportunities through trade not through aid (Soherwordi, 2005). It is occasionally argued that for national security military expenditure is essential because development is pointless if a state loses its freedom to external hostility. But at the same time considering national security without human security is nothing less than an illusion. The needs of national security will not be denied by anyone

but trouble ascends when stern disproportion arises between national and human security (Soherwordi, 2005).

It has been observed that in Iraq ratio of social spending to the military was 1:8 back in 1980, in Somalia ratio was (1:5), and Nicaragua it was (1:3.5). Yet these three states could not make a balance between their people security and territorial security, Costa Rica on the other hand, unlikely spent nothing on its military, even abolished its army in 1948, and spends 1/3rd of its national income on health, nutrition, education and health that's only why it was a prosperous democratic state in a troubled region of Central America back in 2005. Likewise, the defense budget declined globally by 35% while, the South Asian defense budget, on the other hand, has swollen by 12%, and regrettably, 47% population of South Asia is living below the poverty line. Both India and Pakistan boarded on a path of nuclearization and militarization in addition to a reinvention of the cold war. According to a report published in 1997 titled "Human Development in South Asia", has highlighted that region of South Asia is the poorest, the most malnourished the most illiterate in addition to the least gender-sensitive amongst all regions in the world. (Soherwordi, 2005). It's just because Pakistan, since its inception facing multiple multi-dimensional security challenges either because of its Geo-strategic location or because of lack of resources (Mukhtar et al., 2019).

3.1.3 Traditional Security and the Case of Pakistan

Pakistan since the day of its creation confronted the hazards of ingestion from a huge proximate neighbor that unfortunately meets all the fundamentals of regional authority in South Asia and has left no stone unturned to undo Pakistan. Secondly, Pakistan being nascent on the world map was debilitated both militarily and economically and surrounded by hostile neighborhood and to confront the external existential security threat posed by India and to ensure its survivability it was

handcuffed to have military agreements with the United States and became a front line state of American led Afghan war (in the epoch of Cold war) and forced to engage in the regional nuclear-armed race (Javaid, 2016). Apart from the conventional and non-conventional threat from India, the economic fragility, negative fall-out of developments in Afghanistan in addition to the presence of multi-ethnic groups and sectarian detachments notion of security coerced Pakistan to restrict its security to conventional security.

The incidents of 9/11(attack on twin towers) further added a new dimension to the range of trials challenged by the world and Pakistan by adding an unparalleled complexity to the situation of internal security (Mukhtar et al., 2019). Despite becoming nuclear in 1998, though it could deter India in conventional terms, its internal and external fears of security and apprehensions enhanced with time, and consequently its external security threats laid serious implications on her internal security. Moreover, the cost of becoming part of anti-Soviet alliances with the US and Saudi Arabia had paid in form of religious extremism, unfolding terrorism in addition to Islamization and the unbottled jinn of violence under the regime of Zia (Javaid, 2016).

Therefore, decisions of past policies and their geographic location can be held responsible for Pakistan to suffer the matchless damages of terrorism. After assuming the status of a frontline state in American led war against terrorism, terrorism was nothing less than an existential threat for Pakistan as war has cost Pakistan heavily both in terms of blood and treasure, state despite the fragile and dwindling economy, suffered massive economic losses more than \$123 bn in addition to the loss of more than 80,000 innocent lives (Habib, 2018).

3.2 Initiatives taken for consolidating traditional security

Hence, in light of the aforementioned existential vulnerabilities, Pakistan still used to think about national security in terms of weapons and armed forces and Pakistan narrowed its concept of

security to traditional security. Therefore, it is hard to accept human security generally and climate change particularly as another major non-traditional security threat to the state of Pakistan in the twenty-first century (Hussain, 2012). Consequently, Pakistan confined its concept of security to violence, extremism, and radicalization by marginalizing the equally important non-traditional security threats and employed its full strength to curb all contours of terrorism as it poses a serious threat to national harmony in Pakistan. To combat this menace, the state of Pakistan has taken multidimensional laudable short term as well as long term initiatives (Saffee, 2015).

3.2.1 Employment of kinetic measures

Thus, it followed a realist understanding of the security and started maximizing its defense and economic interests. Armed forces of Pakistan have undertaken ecstatic military operations against terrorism in Federal Administered Tribal Areas (North Waziristan Agency) since 2002. Though, for the eradication of internal security hazards the Pak armed forces underwent multiple military operations such as Al-Mizan, Operation of Zalzalaa, Rah-e-Haq, Operation of Sher Dil, Rah-e-Nijat and Rah-e-Rast, in addition to Zarb-e-azb and Radd-ul-fassad in different areas of Pakistan (Javaid, 2016). These efficacious military operations have not only eradicated terrorist safe havens from the Federally Administered Tribal Areas (FATA) but also seriously smashed their financial and logistic backing systems in the cities. Therefore, in addition to the reduction of violence in the country; it (violence) has fallen by three quarters in the last two years (Habib, 2018).

3.2.2 Synchronizing institutional infrastructure; non-kinetic measures

3.2.2.1 National counter-terrorism authority (NACTA)

Numerous policy guidelines, both kinetic (measures militarily in nature) and non-kinetic (political and socio-economic initiatives), have been adopted by Pakistan for navigating this problematic terrain. Such policies were formulated by the National Counter Terrorism Authority which was established in 2008 as an administrative unit under the Ministry of Interior (MOI). Though, it became functional in 2013 as a national institution for countering terrorism. It was formed to act as a principal national institution for uniting response of state for curbing terrorism and extremism by merging the efforts of intelligence and law enforcement agencies and by designing and executing action plans and policies through adaptive innovation, subsidiary mechanisms, and through constant research.

Execution of National Security policy also comes under the sphere of NACTA which is an autonomous body accountable to the Prime Minister of Pakistan directly. According to the mandate of NACTA, it was supposed to be the most vibrant body and synchronize and cooperate with numerous institutions for designing policies on countering terrorism. After the incident of 9/11, the world understood that terrorism has become an existential threat, and apparatuses of traditional security were less reliable for fighting against the continuing terrorism and extremism. The main issue with NACTA for executing plan was that it had no operative role as per its mandate under the Act though the expectation is that NACTA was expecting to deal with all types of threats and terrorist attacks (Aslam, 2018).

National Assembly of Pakistan has passed the bill on National Counter-Terrorism in 2013 and consequently dysfunctional National Counter-Terrorism Authority (NACTA), which formulated

in 2008, become revitalized and Pakistan announced its first-ever National Internal Security Policy (NISP) on 25th February 2014 as a result of this legislative measure (Saffee, 2015).

3.2.2.2 National Internal Security Policy (NISP)

National internal security policy (NISP) is the first-ever and comprehensive internal security strategy of Pakistan and its vision is to create a safe environment where people of Pakistan can make sure their harmonious and autonomous survival according to Pakistan's constitution (Khalid & Kamal, 2015) so NISP released twice in 2014-2018 and 2018-2023, it was decided that Pakistan should design a national narrative in society against prevailing terrorism, violent extremism and religious militancy in addition to sectarianism and violence (Aslam, 2018).

Objectives of NISP 1 (2014-2018) were the protection of citizens' lives, their fundamental rights, promotion of freedom, democracy and culture of pluralism and tolerance, prevention, deterrence, and containment of threats to internal security in the accountable and just manner followed by the establishment of state's writ, resolution, and management of antagonistic elements peaceably without bargaining the rule of law. Therefore, principles of mutual inclusiveness and integration of all national efforts were adopted by NISP for the fulfillment of the aforementioned objectives (Ministry of Interior [MOI], 2014).

To achieve the listed objectives NISP was segregated mainly into two components. First, the Comprehensive Response Plan (CRP), which dealt with the soft components, strategies it employed for containment of extremism were negotiation, rehabilitation of momentarily displaced persons along with the socio-economic development and reforms, against extremism. Another approach employed for the attainment of objectives was termed as 'The Composite Deterrence Plan' (CDP), which signifies the hard component of the approach. It largely focused upon the

capacity-building of the National Internal Security Apparatus (NISA), in addition to controlling the regime of arms and ammunitions at the center (Saffee, 2015).

The national consensus for the elimination of terrorism from Pakistani soil strengthened further when the APS (Army Public School) attack in Peshawar on 16th December 2014 followed by the terrorist attack in Mastung and Safoora and this national commitment responsible for the announcement of the National Action Plan (NAP) in January 2015 by the Prime Minister and which ultimately led to the formation of military courts and suspension on death penalty eliminated. Moreover, the 21st Amendment passed by parliament on 7th January 2015 to provide legal cover to the National action plan. Jurisdiction of NACTA has been enhanced further by National Counter Terrorism Act (2013), and it is supposed to collect and disseminate intelligence or information to pertinent stakeholders for assessment of threat, harmonization, and formulation of counter-terrorism policies and action plans, in addition to research and evaluation of legal reforms, and most notably the cooperation with international entities for sharing of intelligence (Saffee, 2015).

However, after four years of the declaration of NISP 1, NISP 2 was approved by the outgoing PML’N government, had vowed to take action against the threats in the field of cyberspace. Full Employment of modern technology for the enhancement of internal security expressed by the outgoing government (Raza, 2018). Whereas the issue of terrorism in cyberspace has not been addressed by NISP 1 and it did not even talk about the usage of modern technology for the improvement of internal security. Secondly, for the attainment of desired objectives, the strategy of 6R (re-imagine, reconcile, redistribute, recognize, regional approach, and reorient facets of the State Policy) has been crafted by NISP 2 (2018-2023).

The strategy of DDR (disarmament, demobilization, and reintegration) will also be employed for the mainstreaming of ex-combatants (it could be done either by providing jobs, vocational training) so that they could play a productive part in the nation and societal building. Modest scholars and judicious professionals will be betrothed for said purposes (Jahangir world times, 2018). All kinetic measures including NAP and NISP are supposed to integrate security efforts across federal and provincial governments. These measures are supposed to involve all pertinent stakeholders for dismantling terrorist networks of terrorists and guaranteeing deterrence by operationalizing the obtainable capabilities of security organizations to overthrow internal threats posed to state security (Rumi, 2015).

3.2.2.3 Critical Analysis of NISP

NISP particularly dealt with traditional security threats and vulnerabilities. National internal security policy is another initiative of Pakistan's Counterterrorism effort and released twice.

Pakistan has formulated its National Internal Security Policy (NISP) in two phases (2014-2018) and (2018-2023). NISP 1 was designed by keeping in mind the top threats including Tehreek-Taliban-Pakistan (TTP), presence of Islamic State (IS) in Afghanistan, and its possible spillover Pakistani soil return of radicals from Iraq and Syria in addition to cyber-attacks and violent extremism in educational institutes (Niaz, 2018).

It mainly focused on internal security threats that question the state's writ. The first such policy released in 2014 for constructing a national narrative, for curbing vicious extremism, vehement sectarianism, religious combativeness in addition to intimidation, and violence to deal with increasing extremism in society (Aslam, 2018). NISP identifies principles of inclusiveness, consensus, and heterogeneity for ensuring peace. It is retaliation to traditional security threats of religious, sectarian, and ethno-political violence, cyber-crime, and developing threats of

transnational terrorism emerging from fighters returning from Iraq and Syria. Policy recommendations of NISP are categorized as ‘administrative domain’ which dealt with the encouragement of capacity-building of civilian and military institutions for countering security threats, ‘ideational domain’ contests narratives of an extremist, and lastly socio-economic domain that underscores re-forging of the social contract between state and society by addressing grievances that are responsible for security challenges (Waseem, 2018).

The second phase of NISP, NISP 2 released in 2018 discussed the efforts made and results achieved by NISP 1. According to NISP 2, the top most threat to the national security of Pakistan is internationally banned militant outfits, Tehreek Taliban-Pakistan and Daesh, their presence in Afghanistan, and its probable spillover outcome to whole Pakistan. Other threats mentioned in NISP were increasing violence and religious intolerance in the society and recurrent usage of hate speeches (Aslam, 2018).

The government of Pakistan unveiled NISP 2 (2018-2023) that is comparatively broader, incorporated both the lessons learned in the last few years in addition to updating security profiles by including non-traditional security challenges like terrorism, extremism, sectarianism, and militancy (that emphasized in NISP 2014 remains persisted) (Nabeel, 2018). NISP (2018) focuses on three main spheres: Administrative (strengthen the state’s ability so that it could respond to security issues more effectively), Ideational (ideological foundations of radicalistic and extremist narratives will be challenged in this domain of NISP) and Socio-Economic (addressing the deficiencies that are responsible for the creation of breeding ground for security challenges and it also includes frustration and alienation of youth, lack of social justice and the rule of law exclusionary identity narratives, in addition to regional inequalities, lack of accountability as the substantial determinant of insecurity in Pakistan (Niaz, 2018).

Thus, the policy has been drafted well to provide an outline to incoming central and provincial administrations to deal with future security challenges. However, the policy needs to be further developed, because while highlighting non-traditional security threats the policy remains silent on the issue of environmental security. Though, it is an equally important issue which in late and even in recent history challenged national security multiple times, by causing huge socio-political, economic, and humanitarian losses through different natural calamities (Ramay, 2015).

Conclusion

So, in light of the above discussion, it can be said that security is a very intricate and complex notion and previously viewed from a traditional lens internationally as well as nationally. After the termination of the cold war international community has realized that they spent the bulk of their resources in quenching the thirst of maximizing territorial security and its integration against traditional threats on the cost human security and put the security of human and all of its aspects (health, food, environmental, community etc) on hold for a long span. Social Spending compared to defense budgeting was nothing less than a chicken feed.

However, in the post-cold war era, when the international world order underwent another transformation, the notion of human security emerged in the international arena and states started spending for strengthening human security. Unfortunately, when the world was cutting their defense budget south Asian states (India and Pakistan) were swallowing their defense despite rampant poverty, climbing illiteracy, and fragile human security. Pakistan because of its geographic location was more vulnerable to existential threats so it was handcuffed to support American led war on terror and faced its worst consequences in terms of terrorism, religious extremism, ascending militancy and ethnic insurgency, thus in light of internal as well as external existential traditional treats from hostile neighborhood compelled Pakistan to define its idea of

security from traditional lens merely and it was narrowed to extremism, terrorism, and radicalization.

The state devoted all of its resources and attention for taking multiple initiatives, designed different policies, acts, and national action plans for eradicating multidimensional traditional security threats. Different military operation carried out in different parts of Pakistan since 2002 and succeeded in mitigating terrorism to 3/4th. Also, NACTA (a body against terrorism, working under the ministry of interior, established in 2008) being the most vibrant and synchronizing institute supposed to coordinate activities of different military and intelligence agencies for formulations of different plans and programs against terrorism.

Moreover, the first time the most comprehensive and diverse national internal security policy was designed, that employed both kinetic as well as non-kinetic measures against transnational and cyber-crime terrorism (posed by internationally banned militant outfits), through the principle of inclusivity, democracy, and pluralism for mitigating traditional security threats. However, in process of winning the game against conventional security threats state stopped paying due attention to equally important non-traditional security such as human security (and especially the environmental aspect of human security which has been increasingly responsible for huge humanitarian and economic losses).

Though Pakistan is already facing multiple challenges of overpopulation, unemployment, massive urbanization with extreme political instability, weak state institutional infrastructure verminous with corruption, poverty, jolted economy, in addition to national disharmony, feeble social structures leading to persistent social tensions and regrettably the NISP which is considered as inclusive, assorted and augmented, released twice, so that loopholes left by NISP 1 could be filled by NISP 2 and unfortunately it did not even touch the highly sensitive and equally vulnerable

issue of environmental security unlike other developing and developed states. Therefore, this policy needs to be reconsidered and strengthen further and incorporate the said issue in its content so that desired attention could be paid to the issue's sensitivity.

4 PAKISTAN, CLIMATE CHANGE, AND NATIONAL SECURITY

Chapter four dealt with exploring the growing undesirable implications of fluctuating climate on different sectors (such as agricultural production, availability of freshwater, climate-induced migration which ultimately led to social uncertainty and political turbulence, and violent conflicts in case of continuous negligence) in addition to the trends of increasing temperature all over the country. Moreover, this chapter is a detailed discussion of initiatives taken and challenges faced by central and provincial governments for curbing the undesirable effects of the changing climate.

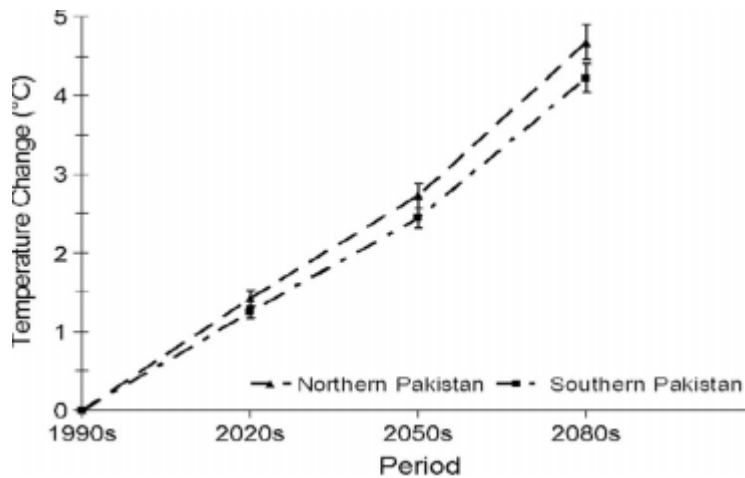
Pakistan, since its inception facing multi-dimensional security, challenges not just because of its Geo-strategic location and lack of resources but traditional rivals, the economic fragility, in addition to the presence of multi-ethnic groups and sectarian detachments have also played a crucial role in posturing traditional threats and Pakistan was forced to define its security from the traditional lens. The incidents of 9/11 (attack on twin tower) further added a new dimension of trials challenged by world generally and Pakistan specifically by adding unparalleled complexity to a situation of its internal security (Mukhtar et al, 2019) and Pakistan consequently, restricted its concept of security to violence, extremism and radicalization by marginalizing tremendously important and equally damaging non-traditional security threats and employed its full strength in curbing all contours of traditional threats to national harmony of Pakistan (Saffee, 2015). Thus, it followed a realist understanding of the security and started maximizing its defense since its inception.

After Cold War, the concept of security redefined worldwide and goes beyond the conventional and narrow understanding of security and incorporated the idea of human security and its different aspects such as economic, environmental, and community security etc that in multiple ways supplements security of the state (Shirazi, 2016). Therefore, in light of above-mentioned hostile and extremely vulnerable habitat (which has been extensively discussed in the 3rd chapter), it has always been hard for Pakistan to take eyes off from traditional security and put human security (and especially environmental security as one of a component of human security as another major non-traditional security threat) in the same weighing balance in the twenty-first century, therefore, Pakistan put human security on hold for a long (Hussain, 2012).

4.1 Changing Climatic Trends in Pakistan

In the 20th century, there has been a consistent increase in global temperature which is a depiction of climate change (Reuveny, 2007). 0.6°C increase in global temperature has been observed in the last century and it is likely to increase by 1.8 - 4°C, by the end of the twenty-first century. Likewise, the average annual temperature in Pakistan, in the last century also surged by 0.6°C as in agreement with the global trend, but the pattern of temperature rise is not uniform throughout the country (Chaudary, 2017). The temperature increase over the northern side of Pakistan was 0.8C whereas on the southern side it was 0.6 C (Reuveny, 2007). The impact of increasing temperature on glacial or snowmelt in northern Pakistan has been seriously impacted by changing climate. The figure below shows the difference in the increase in temperature in the Northern versus southern Areas of Pakistan.

Figure 1: The difference in temperature variation, North versus South during 20th and 21st century



Source: Global Change Impact Studies Centre (GCISC), Ministry of climate change (MOCC), Government of Pakistan (GOP).

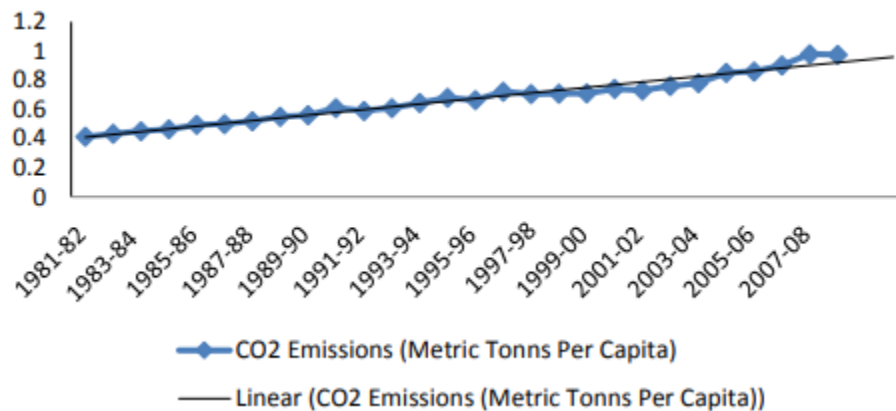
Climate change has negatively impacted the hydrological cycle by severely affecting the patterns of a downpour (PMD, 2017). Snow covers reduced by 10%, with a rise in the level of the sea by 20 cm in addition to the increased frequencies and intensity of summers and droughts respectively (Reuveny, 2007).

4.1.1 How far Pakistan is vulnerable to Climate Change?

In terms of susceptibility to changing climate, Pakistan is geographically located in one of the most vulnerable places (MOCC, 2015). Despite a minor contributor of total Green House Gas (GHG) emissions, it is prone to intense impacts of climate change (PMD, 2017). According to the 2012 Global Climate Risk Index of German watch, Pakistan is eighth among 180 nations of the world whereas ranks 135th in the world in per capita GHG emissions. However, the overall emission of Green House Gases is likely to rise because of projected growth in the agricultural and industrial sector and energy consumption and secondly due to the energy future of Pakistan being driven by

coal. National Economic and Environmental Development Study (NEEDS) projected overall Green House Gas Emission to increase from 347 million tons CO₂ eq. in 2011 to 4621 million tons CO₂ eq. in 2050, under Business as Usual (BAU).

Figure 2: Pattern of GHG emission in last two decades



Source: World Bank data (2012)

The sector of energy followed by agriculture will remain the principal contributor with its share reaching nearly 60 % by the middle of the present century (Khan, Ali, & Ahmad;2016). Regardless of an overall increase in GHG emissions, Pakistan is still the 135th state amongst 180 states and unfortunately the most vulnerable because of huge dependence upon natural resources (Khan, 2016).

Pakistan is witnessing extreme weather conditions such as droughts, floods, and famines coupled with late monsoons, dry winters in addition to unpredictable and intensive rains and extended dry spells (MOCC, 2015). The issue of Climate change is so intense that it could even fuel already existing crises of food, water, health, and energy security. In addition, it might trigger natural disasters and potentially ample to exacerbate existing threats to national security (such as weak governance, poverty, and armed insurgency by dislocating people massively) (Vaughn etal, 2010).

Consistent floods in 2010, 2011, 2012, 2013, and 2014, two cyclones in a month in Coast of Gwadar in 2008 besides worst droughts from 1999-2003 and increased incidences of landslides, GLOFs (Glacier Lake Outburst Floods) in the north of Pakistan testified the repercussions of increasing climate change (MOCC, 2015). Generally, the least developing countries are hitting harder by Climate change because of their huge dependence upon natural resources for their livelihood, the least technological advancement, and rampant poverty than developed countries (Reuveny, 2007).

In the case of Pakistan, economy and food security are highly dependent upon agriculture and glacial reserves of water in the Himalaya, Pamir, and region of Karakorum. Natural resources and land are already pressured because of the increasing population. Thus, further pressure due to the changing climate will make the sustainability of the country difficult. According to Pakistan Strategic Country Environmental Assessment Report 2006, the yearly cost of environmental deprivation in Pakistan has been estimated at Rs 365 billion (\$4.2 billion) and Environmental specialists believe that the cost of environmental degradation has upgraded and reached up to Rs 450 billion (\$5.2 billion) (MOCC,2015).

4.1.2 Environmental Stress as Threat Multiplier to Security in Pakistan

The negative impact of increasing climate change on the wellbeing of humans is not uniform but varies according to the country's ecological condition, its geographic location in addition to its level of economic development which identifies the capacity of ordinary people to cope with hostile ramifications. Likewise, countries with low income having widespread poverty suffering the most (Malik et al., 2012). Pakistan is already facing the negative consequences of climate change because of its huge dependence upon natural resources for survivability and it can easily be observed in long consistent drought from 1998-2001 and the worst consistent wave of floods

2010, 2011, 2012 and 2014. Therefore, it can be said that the negative impacts of changing climate are felt in all dimensions of sustainable development such as the economic, social as well as environmental sectors (Khan et al., 2016).

4.1.3 Decreased agricultural yield: Food Security on stake

Climate change is negatively impacting the food and agricultural production by exacerbating the already existing conditions of evapotranspiration, reduced the availability of irrigating water by increasing average temperature. Moreover, health productivity and reproducibility of livestock are also adversely affected by increasing average temperature (Farooqi et al, 2005). The agriculture sector is the main part of Pakistan's economy which is contributing nearly 20% to 30% of the country's Gross Domestic Product, with about 70% of the population is reliant upon agriculture is adversely affecting (Chaudary, 2017). Pakistan became a large net importer of food products from 2001 to 2003 whereas it was a net exporter of wheat and other cereal grains in the 1980s and 1990s reported UN (Vaughn et al, 2010).

Crops are categorized into Rabi and Kharif. Rabi crops are sown in autumn, from October to December, and harvested in a season of spring, from March to April and Wheat is the main rabi crop. Whereas in summer, Kharif crops are sown. Their season is generally longer in Pakistan and varies from crop to crop, sugarcane in February, cotton was sown in March to May, rice in June to July, and maize was sown in July to August. Therefore, crops grown in both irrigated areas and under spate systems of farming are extremely sensitive to changeability in temperature and the amount of available water. It is assessed that with an increase of temperature from +0.50C to 2C, the agricultural yield will decline by around 8% to 10% by 2040. According to findings of the International Institute for Applied Systems Analysis (IIASA) Austria, agricultural productivity will decline for all the major crops and wheat would have the highest drop in its productivity by

2080, and changes in agricultural productivity of wheat are alarming for Pakistan (Chaudary, 2017).

Table 1: Decline in Wheat, Rice and Maize production in coming years

Crops	% Change		
	2020	2050	2080
Wheat	-3.2%	-11.0%	-27.0%
Rice	0%	-0.8%	-1.9.0%
Maize	-2.4%	-3.3%	-4.3.0%

Source: World Bank Climate Change Knowledge Portal: Agriculture Model by IIASA. http://sdwebx.worldbank.org/climateportal/index.cfm?page=country_impacts_agriculture&ThisRegion=Asia&ThisCcode=PAK

Furthermore, Pakistan ranks on the 11th number in the list of the World's Food Security Risk Index and its placement in this category is the projection of the fact that the country is on extreme risk (Vaughn et al, 2010).

4.1.4 Exacerbation of economic and humanitarian losses

Though changing climate cannot be held responsible for the root cause of natural calamities, abrupt and un-periodic increasing change in climatic patterns are determinant of triggering and multiplying already existing threats and it has been observed in late and recent history in form of consistent floods and droughts. Pakistan has faced huge floods in different parts of Sindh, KPK, and southern Punjab in months of July and August 2010, and consequently deaths reached up to 2000, 11 million people were forced to displace, and reportedly 18 million individuals badly affected (Volkmer & Sharif, 2018). Furthermore, the worst floods cruelly damaged the economy by the US \$10 billion, reduced the growth rate of the economy by 2% which was already in dwindling position (Hussain, 2012). The situation worsened further and flood in 2010 was followed by another huge flood in 2011 in the provinces of Sindh and Baluchistan. It posed

estimated economic damages of US\$3.7 billion. The total estimated amount of US\$2.7 billion has been spent for rehabilitation and revival of affected areas and humanitarian losses are in addition to it. Therefore, floods responsible for the killing of 520 people, and more than 1180 people were reportedly injured.

Moreover, the agriculture sector including different crops, livestock, poultry, and sector of fisheries experienced substantial losses of US\$ 1840.3. Similarly, the province of Punjab, Sindh, and Baluchistan were hit again by flood in 2012, 4.8 million people affected consequently (Ali et al, 2017). Crops standing on 1.1 million acres in addition to 465,000 houses (approximately) devastated badly. Likewise, another wave of the flood came in 2014, more than 2.5 million people affected resultantly by heavy rains and the estimated cost of recovery and reconstruction were estimated at US\$56.2 million and US\$439.7 million and respectively (Volkmer & Sharif, 2018). The table below is a glimpse of economic losses of climate-induced natural disasters.

Table 2: Natural Disasters and economic damage cost in Pakistan

Disaster	Date	Damage (000 US\$)
Flood	8-Sep-1992	1,000,000
Drought	Nov-1999	247,000
Flood	22-Jul-2001	246,000
Flood	10-Aug-2007	327,118
Storm	26-Jun-2007	1,620,000
Flood	28-Jul-2010	9,500,000
Flood	12-Aug-2011	2,500,000

Source: “EM-DAT: The OFDA/CRED International Disaster Database, www.emdat.be

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So, in light of all aforementioned negative impacts of climate change and exacerbation of already existing crises indicates that national security is no longer confined to territorial security, weaponry, and fighting forces. It also includes soil cover, croplands, forests, watersheds, genetic resources, climate, and other factors, that rarely considered as a security by political and military experts but masses have been suffered at large from their vulnerabilities (Myers, 2004). Detrimental consequences of climate change are not confined only to food and energy security but negative ramifications of this sensitive issue have also been diversified to agriculture, livestock, forests, fisheries, and industries in addition to them, the sector of water has also paid the huge cost of changing climate.

4.1.5 Water scarcity: Another detrimental impact of climate change

Pakistan, because of its geographical location in the world, the expected increase in temperature is higher than the average increase in global temperature. Moreover, land area is mostly arid and semi-arid therefore its vulnerability to changing climate also gets doubles (PMD, 2017). Water is being supplied from two main sources that are rainfall, glacier, and snowmelt. Rainfall contributes 50 million acre-feet or 60 billion cubic meters and which is brought by westerly winds and monsoons (Khan et al., 2016). Patterns of rainfall vary; less than 250 millimeters of rainfall received by 60% of the area per year and 24% receive 250 to 500 millimeters. Therefore, by increasing climate change, large risks of variability in monsoon rains, tremendous floods, and extended droughts have observed. Snowmelt and glaciers of the Hindukush, Himalayas, and Karakoram Mountains are other major sources of water as they fed the Indus River System by contributing 141 million-acre feet or 174 billion cubic meters. Snowmelt and glaciers again immensely suffered by abrupt climate change (Hewitt, 2014). The period of storing solid precipitation is reducing because snow maxima are shifting from January to February. Thus, the accessibility of water is more in two months (January and February) than a year. And consequently, water having a worth of \$22 billion dissipates into seas every year because of a lack of storage (Wasif, 2017).

Pakistan is already undergoing a shortage in resources of freshwater. In the wake of the growing population (which has sores up to almost 220 million with a growth rate of 2.4 (Ahmadani, 2017), per capita availability of water declined from 5600 cubic meters in 1951 to 1200 cubic meters in 2003 and is reaching close to the water insufficiency threshold level of 1000 cubic meters (Khan et al, 2016) and by 2025 it will probably reduce by 700 cubic meters .The region defines as water-stressed by the United Nations if the available amount of renewable freshwater is below 1700

cubic meters per person per year. It will be termed as a water-scarce if the amount is below 1000, and will become absolute scarce if below 500 (World Bank, 2006). Countries that are already water-stressed or far worse include, Israel, Syria, Jordan, Yemen Egypt, China, Turkey, Iraq, India, and some states of the United States. Most of the aforementioned not all, of these countries, are already facing protracted conflicts (Douglas, 2016). The current level of available water in Pakistan is the same as drought-stricken Ethiopia and the availability of water per capita has decreased five times and declining further as the population is mounting and shortage of water will be maximized further by increasing climate change. In light of the above-mentioned conditions, the country is likely suffering from water insecurity (Masood, 2015).

4.1.6 Climate-induced migration: Intensive response to environmental stress

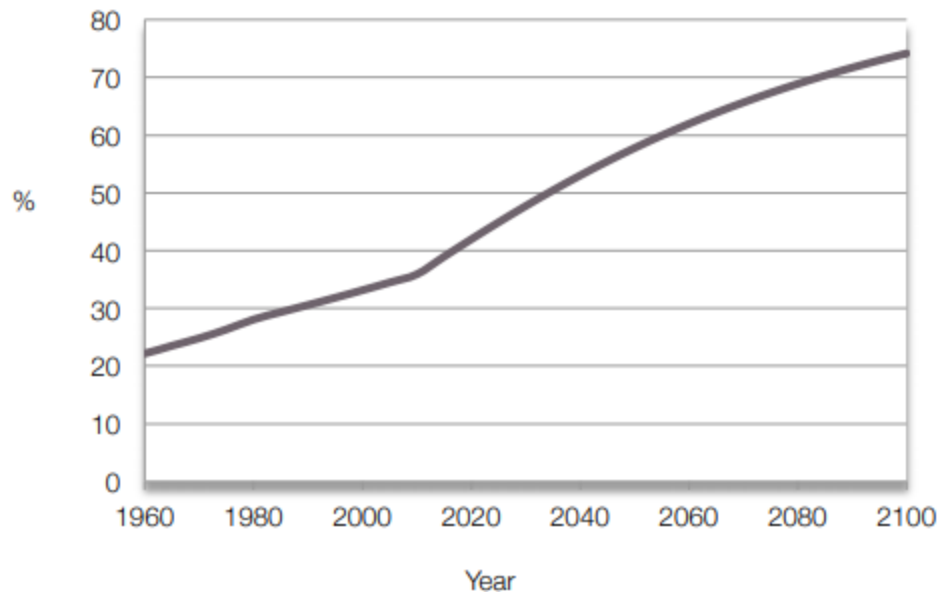
Climate change by reducing the availability of resources may result in inflation of food prices and an increasing number of people at risk of food security and hunger by increasing competition for getting already scarce resources of water, food, and energy could breed both internal and external socio-political conflicts. Moreover, abrupt climate change also results in migration, civil unrest, and conflicts. Therefore, dealing with the issue of changing climate is no longer an option for the country but has become an inevitable reality in the wake of increasing symptoms exhibited through calamitous droughts and floods (Saeed et al., 2016).

Pakistan being a low-middle-income country with having a population of 220 million people ranks low in human and development infrastructure, with enormous rural to urban disparities in poverty, which is more noticeable in arid and semi-arid regions. Climate variables such as average temperature and precipitation have immensely affected agricultural productivity. The issue of changing climate by acting as a macro driver of many kinds of environmental changes prompts shifts in local environmental and biophysical conditions (Barnett & Adger, 2007). These changes

may be sudden or having slow-onset. Sudden or rapid climatic changes include an increase in extreme events such as extreme rainfall, droughts, flash floods, and heatwaves, etc. The slow onset environmental changes include changes in water flows, the decline in biodiversity, shifts in agricultural productivity, degradation of ecosystems, and soil dilapidation. Though climate change is not the only factor behind migration, once it couples with socio-economic, political, and ecological stresses it will act as a push out factor (Saeed et al, 2016).

Increasing Climate change will also have some negative social impacts such as hostile effects on health, massive loss of people's income due to enhance extreme natural events including floods, droughts, and a rise in sea level (Reuveny, 2007). Therefore, for their peaceful livelihood, they have to migrate some climate-friendly areas and massive displacement will raise another wave of social problems. The arrival of environmental migrants can burden the economy and resource base of the recipient area and will promote contest over insufficient resources between natives and migrants which increases the risk of social conflicts. The situation worsens further by increasing the probability of conflict if the recipient area is already suffering from political instability and civil strife. It is estimated that about 20 million people have been expatriated because of extreme weather events (Goria, 1998). It is assessed that the ratio of migrants in Pakistan that are moving within districts is 42%, the ratio across districts is 39%, and 19% crosswise provincial boundaries. The study by Arif (2005) estimates that amongst total internal migration rural to urban migration constitute 40% (Ali et al, 2008). International Institute for Applied System Analysis shows that urbanization in Pakistan will escalate to 50% by 2030-35 and by the end of the 21st century it will reach up to 70%. These findings are also in line with UNDP's World Urbanization Prospects (Saeed et al, 2016).

Figure 3: Percentage of urban to rural population in Pakistan based on IPCC SSP2 scenario

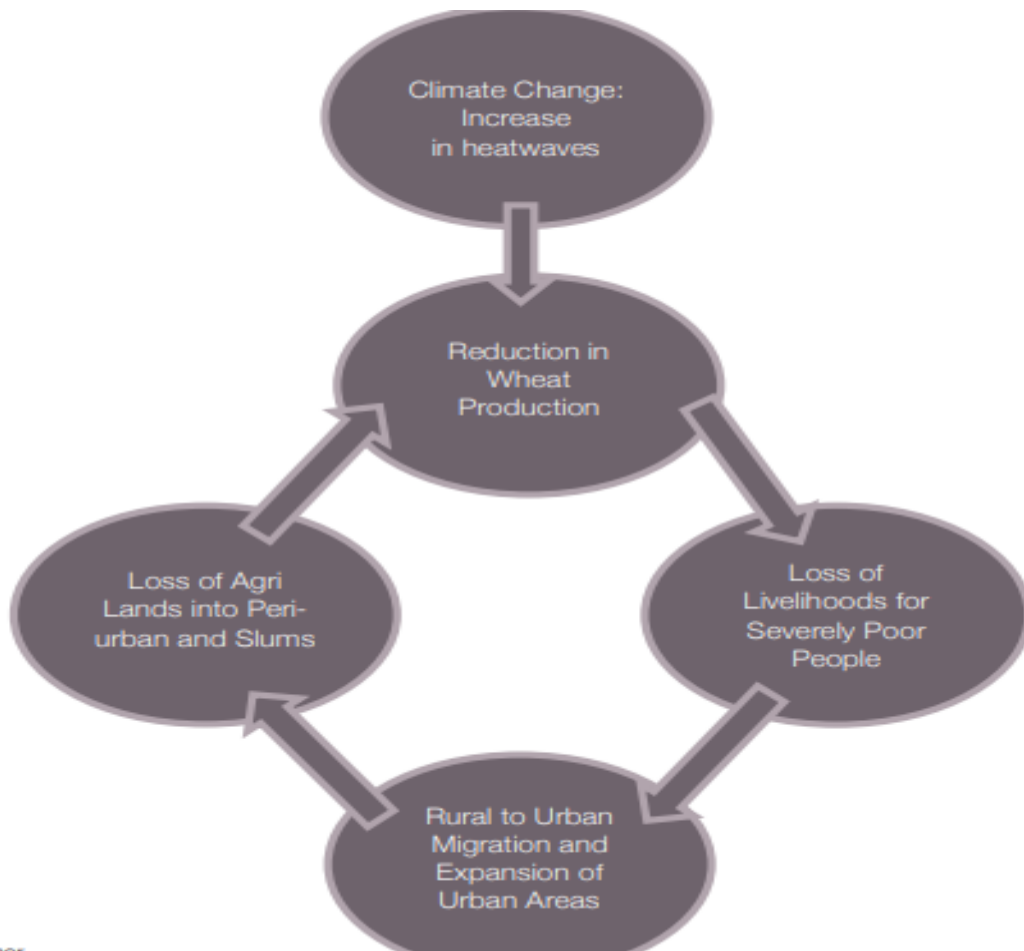


Source: Saeed et al, 2016

There is another detrimental social impact of disasters, when government fails in paying due heed to meet the necessities of disaster-affected communities then disasters break the social contract between the state and victims and consequently open political space for change. And it has been observed the same a decade ago (Shah & Ellick, 2010). Sindh region of Pakistan had experienced the worst floods in its post-independence history, in July and September in 2010 and 2011 respectively and millions of people affected consequently. Beleaguered masses were in a distressed situation as the state failed in meeting its essential responsibility of providing basic human security and giving any relief, and the only help, they received from the organization of Jamaat-ud-Dawa (JUD). During the extended and challenging stages of rescue, relief, and restoration of post-disaster, international media agencies ran the following headlines: “Flooded Pakistan has been filled by hard-line Islam” by New York Times. ‘Pakistan Aid Vacuum has been filled by stepping in hardline Groups by BBC.

The disaster was predominantly interesting because it occurred at a time of unprecedented changes towards civic engagement, greater democratization, digitization, and ripples of those changes also faced by the province of Sindh. There were only 2-3 madaris in Badin city a decade ago, but now there are over two hundred. In a small town of District Thatta, there is a large well-funded, and large institution 'Qasmi Madrassa' that can easily be compared to an elite educational institution in Pakistan. Intentional anti-Shiite efforts for stirring sectarian conflict can be taken by Graffiti on the walls in this town. So, flooding disaster created a vacuum that was filled by a militant group, and consequently, militancy proceeded parallel with progressive politics.

Islamist political groups are famous for social interventions in addition to a range of welfare activities and they exercised in local communities in both a catastrophic and non-catastrophic context. Thus, in this regard, there is a list of charity work such as health, clinics, schools, mosques dispensaries, and madaris that are operating under the shadow of JuD. They succeeded in dispersing their militant ideology and influencing the political choices of people. The Ex-analyst of the FBI firmly stated that Islamic social welfare groups should not be permitted to pass freely, simply because they will support terrorism in the wake of providing humanitarian support (Siddiqi, 2014).



The Feed Back Loop

4.2 Initiatives taken by the government for curbing climate change

Though non-traditional security threats (including the negative impacts of changing climate) are equally important and Pakistan has paid its enormous cost in terms of massive humanitarian and economic losses in addition to socio-political turbulence but desired heed has not been paid judiciously for addressing the issue's sensitivity. National Climate Change Policy (NCCP) designed very late, unlike other countries. Pakistan, comparatively other South Asian states, is far behind like Bangladesh and India who have designed a policy framework pertinent to the changing climate back in 2008 whereas Pakistan framed its policy document on the same issue in 2012. The

reason for this delay was the aforementioned narrowed and restricted concept of security (Mumtaz, 2018).

4.2.1 Climate Change in Pakistan's Security Discourse

Institutionalization of climate change started in Pakistan in the mid-1970s. Pakistan signed and endorsed 14 international environmental commitments from 1971 to 2001 including the United Nations Framework Convention for Climate Change (UNFCCC) and Kyoto Protocol, which acted as stimuli in starting and guiding the policy processes and efforts on climate change in the country (Boas & Rothe, 2016). In addition to the endorsement of international environmental commitments, Pakistan also participated in the annual Conferences of UNFCCC and other regional and global forums. Committee on Climate Change by cabinet established in 1995 and lately re-designated as Prime Minister's Committee on Climate Change, which is supposed to work as the apex body for guiding activities related to climate change. The Global Change Impact Study Centre (GCISC), A scientific research center, set up in 2002 dealt with the assessment of impacts of climate change on agriculture and other sectors of the country. The Task Force on Climate Change set up by Planning Commission in October 2008 and it dealt with the inclusive assessment of all aspects of climate change in addition to the suggestion of options for adoption and mitigation (Kakakheil, 2016). However, these efforts remain fragmented, because of inadequate organization, lack of political support, and ownership (Boas & Rothe, 2016).

In Pakistan, climate change has been recognized as a serious challenge first time since the Musharraf Era when, then federal minister for the environment (from 2002 – 2004) warned that Agricultural productivity in Pakistan has affected badly, arid and semi-arid regions are more expose to vulnerabilities and food security is on the stake (Dutt & Bansal, 2013). The report published by the planning commission of Pakistan says that Pakistan is vulnerable to climate

change because various socio-economic sectors are impacted negatively. Major concerns raised in the report were the increase in temperature which led to the melting of glaciers in addition to floods and droughts. Moreover, a threat to coastal installations is also threatened because of a rise in sea level (Planning Commission Government of Pakistan, 2010).

Pakistan designed its first National Policy Climate Change in February 2012, for the management of pressures of changing climate via measures of adaptation and mitigation. After the passage of the 18th Amendment, the issue of environment had devolved and became a provincial subject. The newly formed Ministry was abolished and whole progress had been slowed down consequently which ultimately slowed down the whole progress (MOCC, 2015). Moreover, the issue of changing climate could not be mainstreamed into the discourse of the public sector, as it demands the participation of both horizontal (all stakeholders from the government) and vertical (civil society, general public technocrats, and private businesses) coordination efforts otherwise inclusion of climate change in the discourse of public sector is not possible. However, officially institutionalized coordination efforts taken in the past but they largely involved horizontal efforts. Vertical coordination efforts among local, federal, provincial, and local governments have not operated yet (Chaudhry, 2017).

For countering climate change, the establishment of the National Climate Change Policy (NCCP) was a laudable step by Pakistan. After the 18th constitutional amendment in 2010, the Ministry of Environment was transferred to the provinces and become the responsibility of subnational governments (but initially it was a federal subject). In 2011, a new Ministry of Disaster Management was established and it was retitled as the Ministry of Climate Change (MOCC) in 2012. MOCC was demoted to a division of the Cabinet Secretariat and persisted in the same position till 2013 and promoted to the level of a ministry again in 2015. So, the NCCP is the main

document notifying the policy framework for climate change in Pakistan. Thus, the policy document provides a predominant framework for addressing the challenges that Pakistan is facing or will face in the future due to the changing climate (Chaudhry, 2017).

And for the creation of NCCP, Task Force Report on Climate Change (TFCC) in 2010 was one of the building blocks. TFCC is a comprehensive text designed by the planning commission of Pakistan. Climate change policies and action plans in the provinces have been strongly backed up by NCCP. The NCCP was created at the national level by the engagement of respective provinces. Moreover, it strongly underscores the engagement of citizens and the participation of pertinent stakeholders while dealing with the negative impacts of the changing climate in the country.

The vital tasks of the ministry are to design policies and action plans on countering climate change and to deal matters pertinent to climate change at the global forum. It also synchronizes with Intra and interprovincial governments in the background of global warming and climate change. The MOCC endorses research and technical cooperation, with international agencies or donors. The climate change act was passed in 2017 and new arrangements of an institution such as Pakistan Climate Change Council, Pakistan Climate Change fund, and Pakistan Climate Change Authority were designed (Mumtaz, 2018). The council is a decision-making body whereas The Climate Change Authority is an independent department of government that is supposed to frame adaptation and mitigation policies and projects, to meet Pakistan's obligations under global climate agreements such as the Paris Agreement. While the job of the climate fund is to deal with the money received in the form of grants, endowments, and donations from whatever source, will be implemented for the projects and programs of the Authority (National Assembly, 2017).

4.2.2 Inadequacies of NCCP

NCCP is not as successful as it would be, it is because, for an operative and optimal policy, realistic and workable goals are the major strengths. Whereas, NCCP lacks statistical background, scientific backing, and comprehensive goals essential for achievable policy measures. Though the aims are emphasized in the climate policy, it lacks in fulfilling those objectives in the form of policy measures (Mumtaz, 2018). Efforts of the MOCC for implementation of Climate Change Policy through prioritized and time-bound action plans on mitigation and adaptation have been hindered by human resource, technical and financial restrictions. Coordination between MOCC and various other ministries is insufficient and the meetings of the Inter-ministries are consistently attended by officials of lower-level. Moreover, there is a poor understanding of the issue of climate change by the political elite at both the federal and provincial levels (Kakakheil, 2016).

The actual implementation mechanism of the NCCP is very slow. Back in 2013, the implementation framework for the NCCP was established by the federal government. The framework for the effective implementation of NCCP was developed with a period of 16 years (2014–2030). Proposed priority actions were to be completed (within 2 years), short-term actions (within 5 years), medium-term measures (within 10 years), and long-term actions (within 20 years). Priority actions would have been taken within 2 years but any substantial achievement has not been observed because most of these actions are not taken at any level and decentralization of the issue to the province is being held responsible for the poor implementation of designed plans (Mumtaz, 2018).

4.2.3 Laudable steps by Pakistan for reducing climate change

Pakistan being the least emitter of GHG emission but most vulnerable state to increasing climate change and facing multiple environmental challenges such as ecological and agricultural

disruption, deforestation, and deprivation of quality water and air. Therefore, it has taken some laudable steps for curbing the negative impacts of increasing climate change. Such as MOCC efficiently participated and played an active role in negotiation on international climate change. It held the 2nd Pakistan Conference on Sanitation (PACOSAN-II) and Sanitation and Water for All (SWA) in February 2015. MOCC took part as a Lead Author in Intergovernmental Panel on Climate Change's (IPCC) 5th assessment report (AR5), in Clean Development Mechanism Forum in November 2013 and also elected as Global Co-chair of the forum (MOCC, 2015). Likewise, international branches of Pakistan and Pakistani NGO's such as International Union for Conservation of Nature and Natural Resources (IUCN), World Wide Fund for Nature (WWF), Oxford Committee for Famine Relief (Oxfam), Action Aid, Sustainable Development Policy Institute (SDPI), Leadership for Environment and Development (LEAD) Pakistan, Mountain and Glacier Protection Organization (MGPO) and United Nation (UN) in addition to multi-lateral agencies, such as Asian Development Bank and World Bank and various development agencies of friendly nations have carried out advocacy activities and wide-ranging research pertinent to the changing climate (Kakakheil, 2016).

4.2.4 Initiative of Green Pakistan

Green Pakistan is another admirable step taken by the government for combating the negative impacts of climate change. The Ten Billion Trees Tsunami Program (TBTTP) is one of the projects of the Green Pakistan initiative and the Federal government has planned to plant 100 million trees across the country in five years as per initiative. Though, a job of environmental conservation has left to provincial governments even then the problem of changing climate is still handled by the federal government. Therefore, a program of Prime Minister's Green Pakistan has been implemented in several parts of the country under different directives including the Revival of

Wildlife Resources and Strengthening Zoological Survey of Pakistan in addition to the Revival of Forestry Resources. Moreover, Turkey will also be providing greater support in seismic research and development, projects like the Development of Reverse Linkages with the MARMARA Research Centre in Turkey will possibly improve our capacity to forecast calamities like earthquakes and floods (Zahid, 2018).

TBTTP is a completely systematized and elaborated approach aiming at the renewal of forestry and wildlife resources in light of national and provincial legislative frameworks and international conventions. The time required for completion of the Program is 8-Years (2016-2024). The Federal Government of Pakistan would make an allocation of Rs.7.30 billion for resources of wildlife and Rs. 69.067 Billion for renewal of forestry for five years (2019-2024). Moreover, the exact aims of TBTTP are the enrichment of forests cover, management of plantations, guzara, and preservation of forests, in addition to institutional strengthening of the Zoological Survey of Pakistan and preservation of biodiversity. Furthermore, being a party to the Montreal Protocol and the Vienna Convention for the preservation of the Ozone Layer, MOCC is devoted to launching the National Ozone Unit for operative compliance of the Montreal Protocol and Vienna Convention. Moreover, the compulsions of the Montreal Protocol are effectively executing and have condensed to 10% of Hydro chlorofluorocarbons (HCFCs) in January 2015 via ozone depletion substances (ODS), restriction of trade, campaigns on capacity building and awareness, and through transfer of technology. The process of its completion is in continuity. Moreover, another initiative, the Water, Sanitation, and Hygiene (WASH) Program has been taken by Pakistan for curbing the negative impacts of climate change. Pakistan is a signatory of Sustainable Development Goals (SDGs) and SDG aims to provide safe drinking water to 95% of the population and accessibility to safe

sanitation to 72% of the population by the year 2030. Currently, the national baseline for safe drinking water is 36% and sanitation is 0% (Ministry of Finance [MOF], 2017-2018).

4.2.5 Legislative measures for disaster management

Historically, Emergency Response Paradigm (ERP) approach had been focused on the management of disasters, and disasters were dealt with under the Calamity Act of 1958. National Disaster Management Ordinance (NDMO) was promulgated in 2006 and National Disaster Management Authority (NDMA) had established as a result of this NDMO under then Prime Minister's chairmanship. Therefore, NDMA has been working on strategies and national policies pertinent to calamities and crisis management since 2006 (Adnan, 2014) and it was the first initiative towards the integration of disaster management in the country (Ahmad, 2013).

At the Federal level, NDMA is working as a Central Agency for implementation, coordination, and monitoring the whole spectrum of disaster management such as prevention, Readiness, Mitigation, Response, Retrieval, Restoration, and Rebuilding programs (Government of Pakistan [GOP], 2018).

With the coordination of different ministries of the federal government of Pakistan, agencies of the United Nations, and some non-governmental organizations, a national agenda for disaster risk management, also known as the National Disaster Risk Management Framework (NDRMF), was formulated in 2007. NDRMF is responsible for delivering strategic guidance for disaster management in Pakistan, the NDMO (formed in back 2006) changed into an Act of the Parliament as the National Disaster Management Act (NDMA) in December 2010 (Ahmad, 2013). As per the NDM Act 2010, NDMA in addition to the chairman, having three members heading three wings and assigned multiple duties. Operations (Ops) Wing dealt with the response and Contingency planning for both Natural and Human-Induced threats in addition to the formulation of National

Policies on Rescuing and Relieving. Wing of Disaster Risk Reduction (DRR) dealt with the handling of all matters related to DRR Policies about all types of disasters, Risk Insurance, disaster awareness in addition to Retrieval and Restoration. Whereas the wing of Administration and Finance (A&F) is supposed to provide all logistical and admin support to NDMA for its Operations (GoP, 2018).

4.2.6 Disaster Management at Provincial Level

After the 18th constitutional amendment subject of disaster management was extended to provinces, and it was a great opportunity for making a local apparatus on disaster management. This provincial autonomy led to the Provincial Disaster Management Authority (PDMA) in each province, and disasters were made to handle and operated under the provincial Disaster Management Commission which was chaired by the Chief Minister of every province. Moreover, for the implementation of policies to the grass-root level of each province, another unit of District Disaster Management Unit (DDMU) was established. Therefore, the 18th constitutional amendment also dealt with the coordination of DDMU with PDMA for the provision of information and management of the disaster. Likewise, it is also responsible for post-disaster retrieval, rehabilitation, and rebuilding hence directly linked with the people (Adnan, 2014).

4.2.7 Pakistan's Crisis Management

Therefore, policy parameters, the establishment of coordinating offices at federal, provincial, and district level, and planning of reforms at the macro level will be defined by NDMA and DDMU and will implement all the policies about the management of disasters, recovering processes, along with coordination of individuals, organizations, NDMA and PDMA (Adnan, 2014). For maintainable socio-economic and environmental development, the significance of disaster risk reduction (DRR) has been comprehended by the Government of Pakistan and it has realized the

need for the establishment of suitable policy, authorized, and institutional arrangements for initiating strategies and programs for the minimization of perils and liabilities. It is because if there are a suitable system of disaster management (like early warning system, hazard assessment, risk calculation, etc.) disaster's indemnities can be lessened then (Iqbal, 2014).

Management of disaster is an intricate process and demands the involvement of national, local, and international organizations to play their role. Therefore, many non-governmental organizations (NGO's) have stepped in towards the management of disaster or crisis management in Pakistan in a timely and organized manner, either it is a flood or earthquake. For crisis management, NGOs are influential contributors. The government has been assisted by them in activities of rescuing, relief, transportation, and reintegration efforts (Adnan, 2014). Pakistan Resilience Partnership (PRP) with the help of the Asian Disaster Preparedness Center (ADPC) was formed by NDMA on 7th February 2018. At the Regional level, six Asian countries (Cambodia, Sri Lanka, Pakistan, Philippines, Nepal, and Myanmar) have established the Asian Preparedness Partnership (APP) for strengthening the capacity of preparedness of emergency response in Asia. Considering the need for a partnership of Government, Local Humanitarian Organizations, Private Sector, and other Stakeholders for strengthening the capacity on preparedness for well-coordinated emergency response in Pakistan.

4.2.8 Disaster Preparedness for Effective Response Trainings

To counter balance prevailing insufficiencies in response to disasters at the district level, Operation Wing of NDMA in collaboration with ADP started training of Government Officials in addition to representatives of another stakeholder. These training were supposed to help in strengthening the coordination mechanism both horizontally and vertically within the departments of Government (Adnan, 2014). Therefore, to express unity and join hands with the international

community, NDMA started celebrating 13th October as International Day for Disaster Reduction and observing 8th October, as “Disaster Awareness Day” “or National Resilience Day”. The annual report of the National Disaster Management Authority 2018 says that lack of awareness amongst the masses, act as a catalyst for disasters. So, there is a dire need for a steady public awareness at the National level for reinforcement of response apparatus at the community level and grant much-needed relief for mitigation actions (Ahmed, 2013).

4.3 Limitations of National Disaster Management Authority (NDMA)

The floods of 2010 and 2011 were the projections of the fact that PDMA exists only on papers as it is tremendously deficient in all capacities. The needs of the people had not been assessed by it properly. No coordination had observed amongst NDMA, PDMA, and DDMU. NDMA is not an authorized authority to monitor or control the actions of PDMA and DDMA. Pakistan’s disaster management capacity is insufficient at different levels of government and cost has been paid by poor societal segments in terms of huge economic and humanitarian losses.

Pakistan like many other countries has articulated many policies and endorsed laws on DRM, in compliance with international practices and standards. Strategies have been designed for the integration of DRR in developmental practices and policies. However, lack of political commitment, bad governance widespread corruption, in addition to economic restrictions and assertive plans, these policies and plans have not been executed efficiently. It has also transpired that DRM policies have been employed in a temporary and uncoordinated way. So, it can be said that despite proactive DRM policies and laws, implementation is still focused on a reactive basis, and subsequently existing DRR plans and policies in Pakistan have noticeably failed in dipping human sufferings. The 2010 floods are the clear depiction of DRM ineffective implementation.

Humanitarian and economic losses could have been condensed by the effective implementation of DRR strategies and policies (Ahmed, 2013).

Conclusion

So, in light of the above discussion, it can be concluded that Pakistan is more vulnerable to increasing climate change because of its geographic location and situation worsened further because of its least adaptive capacity. Climate change is nothing less than a national security threat. Initially, the sensitivity of the issue of climate change could not be paid a desired attention because of the confined and limited concept of security and in process of winning the war against terrorism, the state stopped paying due attention to equally damaging non-traditional security threats especially climate change which has been increasingly responsible for huge humanitarian and economic losses. Pakistan is already facing multiple challenges of overpopulation, unemployment, massive urbanization with extreme political instability in addition to weak institutional infrastructure. Therefore, the challenge of changing climate to Pakistan in this situation becomes a threat multiplier, when it disrupts already weakened socio-economic and political situations by exacerbating socio-economic, political, and humanitarian losses. Though climate change is a global phenomenon with local consequences, the average temperature throughout the world is increasing but this rise in temperature is not uniform across the country. The system of water (rainfall and glacier melt) has severely affected because of increasing temperature. Therefore, floods in northern Pakistan (because of no storing capacity) and drought in the southern side because of tremendously variable rainfall system badly affects the agricultural production on which the livelihood of the majority of people depend.

Resultantly these unpredictably hostile and deteriorating food and water security compel masses to migrate towards a climate-friendly location, which on the other hand gives rise to another series

of social problems because of the abundant sharing of already declining resources. On the other hand, disaster-affected communities (when deliberately ignored by the state for relief and rehabilitation) become an excellent tool for militant ideologies to come forward and penetrate their militant and radicalized thoughts among downtrodden societal segments in wake of welfare activities. Therefore, the issue of increasing climate change has not only economic but negative social and political aspects as well. Increasing climate change, being a non-traditional security threat has been recognized by Pakistan very late unlike other countries, and formulated its NCCP in 2012. In light of NCCP, some laudable and successful initiatives have also taken by MOCC and sby NDMA but at the same time, there are some serious limitations attached to them that are responsible for consistent floods, droughts, and famine. Thus, it can be confidently said that for sensitizing the momentum of the issue of climate change, it should be incorporated into national security policy as has been done for terrorism and extremism so that more commendable and admirable steps should be taken for mitigating non-traditional security threats of increasing climate change.

5 DISCUSSION AND CONCLUSION

This thesis has taken a look at immense humanitarian and enormous socio-economic losses that the world has incurred due to the increasing climate change and how countries have started incorporating the said issue by redefining their security's notion in the post-cold war era. Specifically, this thesis explores the nexus between security and the issue of changing climate in the context of Pakistan in addition to the institutional and administrative challenges that have hampered Pakistan's adaptive capacity and made climate change indeed an issue of national security. Thus, discussion in this chapter is based on three parts and each part focuses on each research question. The first part of a discourse, analyses How Pakistan has redefined its (national) security, particularly in the context of the non-traditional nature of threats? The second part of the discussion evaluates the secondary research question, What are the institutional or contextual challenges that have been impacting the adaptive capacity of Pakistan despite the state's enormous impacts wrenched by humanitarian or natural disasters? A tertiary research question, Why has the issue of climate change not been accepted as an issue of (national) security considering its socio-economic and environmental dimensions? These three research questions have helped to narrow down the objective of research that is to comprehend and reconnoiter the relationship between national security and climate change.

Pakistan is not only said to be an insecure state but it is also inept to shield itself against perilous threats at rational costs. Regrettably, most of the threats to Pakistan were posed by adjacent neighbors, which possessed both motivation and opportunity to threaten the state, which was nascent on a world map. Pakistan being weakened both militarily and economically and to encounter existential security threat postured by India and to guarantee its survivability, it was

chained to have military agreements with the United States and enforced to engage in a regional nuclear-armed race. Apart from the traditional threat from the Indian side, the economic breakability, presence of multi-ethnic groups, and sectarian segregation also coerced Pakistan to frame its security from to conventional lens.

India being revisionist states could not quench its military aggression and revisionist attitude and Pakistan was compelled to upgrade its traditional security. Thus, in this military race, human security (and environmental security as one of the components) has neglected for a long. According to a report published in 1997 titled “Human Development in South Asia”, South Asia is the underprivileged, most underfed, most uneducated in addition to the least gender-sensitive among all regions (discussion has broadly conversed in section 3.1.2). Even after attaining nuclear power in 1998, Pakistan could not deter India in conventional terms, its internal and external insecurities heightened gradually, and consequently, its external security threats laid serious consequences on internal security. Therefore, in light of the aforementioned antagonistic and tremendously susceptible habitat (which has discussed in 3rd chapter) it has always been tough for Pakistan to take eyes off from traditional security or attending human security (and especially the environmental security as one of the component of human security as another major non-traditional security threat) with the same lens.

Therefore, Pakistan constrained its notion of national security to terrorism, extremism, and radicalization by sidelining extremely important and equally damaging non-conventional security threats and employed its full strength in restricting all contours of traditional threats to the national security of Pakistan (Saffee, 2015). Unlike world order which after the end of the cold war underwent an international shift and states started integrating human security in their national security. Pakistan, at the same time entangled in a quagmire of traditional as well as non- traditional

security threats both from the hostile neighborhood and from within the soil and was forced to demand economic and military assistance from the US and paid the assistance's cost in form of unwrapping and uncapping terrorism. Thus, all internal, as well as external elements, coerced Pakistan to restrain its security to traditional security (see Section 3.1.1).

Pakistan was prone to hostile international politics not only because of ill-designed past policies, but credit can also be given to its geography which made it more vulnerable to existential threats, therefore, it shackled to become part of American waged war on terror and confronted its wickedest penalties in terms of violence, climbing militancy, religious extremism, and ethnic insurgency and consequently Pakistan in light of internal as well as external existential traditional threats from the unreceptive neighborhood, forced to define its security from the traditional lens and notion of security was constrained to extremism, terrorism, and radicalization (Javaid, 2016). After assuming the status of a frontline state in American led war against terrorism, terrorism was nothing less than an existential threat for Pakistan. War has cost Pakistan heavily both in terms of blood and treasure, state despite the fragile and dwindling economy, suffered massive economic losses more than \$123 billion in addition to the loss of more than 80,000 innocent lives (Habib, 2018). Furthermore, Pakistan had paid the cost of religious extremism, unfolding terrorism in addition to Islamization and the unbottled jinn of violence because of becoming a part of anti-Soviet alliances with the US and Saudi Arabia under Zia's regime (Javaid, 2016). That's how Pakistan knitted its security concept, further details are provided in section 3.1.3.

Thus, by keeping all undesired and unfortunate situation in mind, there was no question of incorporating human security generally and climate change particularly as another major non-traditional security threat to the state of Pakistan and to ensure its survivability, Pakistan confined its security to violence, extremism, and radicalization by marginalizing the equally important non-

traditional security threats and employed its full strength to curb all contours of terrorism as they posed a serious threat to the national security of Pakistan. To combat this menace, the state of Pakistan has invested all of its resources and attention in taking multi-dimensional admirable short as well as long term initiatives and fully employed kinetic measures. Pakistan Armed forces took military operations against terrorism and extremism in Federal Administered Tribal Areas (North Waziristan Agency) since 2002 (see section 3.2.1). Likewise, all non-kinetic measures have also employed (by NACTA, NAP, and NISP) for the restoration of peace and survivability.

The principle behind the creation of NACTA was to unite the state's response by restricting terrorism and extremism via assimilating efforts of intelligence and law enforcement agencies and by designing and accomplishing policies and action plans. Similarly, the National internal security policy (NISP), the first-ever and inclusive internal security strategy of Pakistan and is supposed to create a safe and secure environment where people can make sure their independent survival according to Pakistan's constitution (Khalid & Kamal, 2015). Details of NACTA and NISP their objectives, principle, and achievements have extensively discoursed in section 3.2.2.1 and 3.2.2.2 respectively. So, to ensure survivability in hostile habitat unlike other states, Pakistan was weaving its security from the conventional lens and taking initiative for its maximization and in this race of maximizing arms and ammunition human security (and especially the environmental aspect, which is the pivotal point of this thesis) was ruled out.

However, it's undeniably right to spend on military expenditure for national security as development without freedom is pointless but at the same time, national security without human security is also a mere illusion. No one is refuting the needs of national security but the problem ascends when the disproportion between national and human security widens. Cruel and ruthless history has always designed the toughest environment for Pakistan and it could not take its eyes

off from traditional security and put human security (and especially environmental security as one of the components of human security as another major non-traditional security threat) in the same weighing balance and subsequently human security and all of its aspects especially climate change halted for a long.

Geographically Pakistan is located in one of the most susceptible places hence more vulnerable to increasing Climate Change. Global Climate Risk Index of German watch 2012, ranks Pakistan eighth amongst 180 nations of the world despite ranking 135th in GHG emissions in the world (Khan, 2016). According to **the Global Climate Risk Index Report 2020, released by German Watch**, from 1998 to 2018 economic losses having worth of \$3.8 billion in addition to 9989 lives have been lost by Pakistan (Abubakar, 2020). Pakistan being the least developing country hit harder by Climate change because of its huge reliance upon natural resources for its livelihood, tiniest technological progression, and widespread poverty. The agriculture sector is the backbone of Pakistan's economy which is contributing nearly 20%-30% of the country's GDP (Chaudary, 2017). Pakistan became a large net importer of food products during the span of 2001-2003, which was a net exporter of wheat and other cereal grains in the 1980s and 1990s. It has also paid the gigantic cost of extreme weather patterns in terms of immense humanitarian and economic losses. Worst floods which cruelly injured the economy by the US \$10 billion, condensed economic growth rate by 2% which already was in a deteriorating position (Hussain, 2012). The situation got worse again when the flood of 2011 posed estimated economic damages of US\$3.7 billion. Likewise, Punjab, Sindh, and Baluchistan hit again in 2012 by flood, 4.8 million people affected consequently (Ali et al, 2017). Similarly, another wave of the flood came in 2014 more than 2.5 million people were affected consequently by heavy rains and the assessed cost of recovery and resilience-building were estimated at US\$439.7 and US\$56.2 million respectively (Volkmer &

Sharif, 2018) (see section 4.1.4 for details of socio-economic and political damages of extreme heat events).

So, all these statistics project the fact that the issue of Climate change is so powerful that it could even escalate the already existing crises of food, water, energy, and health security. Moreover, it might also prompt natural disasters and aggravate prevailing threats to national security (Vaughn et al., 2010). The intensity of increasing climate change and its probability to become a threat multiplier is broadly stated in section 4.1.1. Pakistan because of geographical location, food security and economy are extremely reliant upon agriculture and glacial reserves of water and at the same time. Thus, more pressure due to changing climate will make the country's sustainability extremely difficult and those perils and hazards are extensively discussed in section 4.1.2 and 4.1.3.

According to Pakistan Strategic Country Environmental Assessment Report 2006, the yearly cost of environmental deprivation in Pakistan has been estimated at Rs 365 billion (\$4.2 billion), and a report released by MOCC in 2015 stated that the cost of environmental degradation has upgraded and reached up to Rs 450 billion (\$5.2 billion). Pakistan ranked on the 11th number in the list of the world's Food Security Risk Index and its placement in this category is the projection of the fact that the country is on extreme risk (Vaughn et al., 2010). Details of Exacerbation of economic and humanitarian losses in addition to social and political negative aspects of increasing climate change are discussed in section 4.1.4. and 4.1.6 respectively. Thus, in light of the aforementioned circumstances, it would be an insane and irrational approach to consider only traditional threats as a threat and this conception has also been ruled out by above mentioned surprising figures.

Unlike other states, Pakistan sensitized the issue very late and designed its first-ever National Policy on Climate Change in 2012. Unfortunately, the issue of changing climate could not be

mainstreamed into the discourse of the public sector because of lack of demanded participation of both horizontal (all stakeholders from the government) and vertical (civil society, private businesses, general public etc) wings. NCCP was supposed to address the negative ramification of increasing climate change via legislative as well as an administrative measure but it proved to be an inadequate as it is lacking in measures which are essential for achievable policy (Mumtaz, 2018) and objectives, framework, and inadequacies apposite to NCCP are broadly portrayed in section 4.2.2.

Unfortunately, cruel history did not teach any lesson and Pakistan has always adopted reactive approaches towards the management of disasters and consequently badly failed in upgrading its adaptive capacities against disasters. NDMA has been working on strategies and national policies pertinent to calamities and crisis management since 2006 (Adnan, 2014). All Legislative measures and institutional mechanisms for disaster management such as PDMA, DRM, DDMU and many others are broadly discussed in section 4.2.5. The floods of 2010 and 2011 were projecting the fact that as it is extremely lacking in all capacities and PDMA exists only on papers. Moreover, no coordination had observed amongst NDMA, PDMA, and DDMU for effective response training of disaster preparedness. The disaster management capacity of Pakistan is unusual and regrettably has multiple loopholes at different governmental levels and cost has always been paid by poor and downtrodden societal segments in terms of massive socio-political, economic, and humanitarian losses. Like many other countries Pakistan has designed many policies and endorsed laws on disaster reduction, but because of lack of political commitment, bad governance, and prevalent corruption, these policies and plans have not been employed (Ahmed, 2013).

Thus, in light of the above discussion, it can be confidently said that climate change is potentially ample to jolt national security so it does, through a consistent wave of droughts and floods. Though

the state of Pakistan has designed different policy measures at the federal and provincial level, different commissions and authorities established to execute policy measures which broadly discourse in chapter 4th but they were not as coordinative, systematic, and accountable as measures of traditional security were, which proves that state's definition of security is tremendously confined and the state has adopted realist approach by investing resources and full attention to traditional security and by putting the equally vulnerable and threatening issue of climate change (a non-traditional security threat) on hold.

Pakistan despite having a fragile and jolted socio-economic infrastructure paid the gigantic cost of climate change in terms of consistent droughts, floods, famines, and extreme weather patterns in the last two decades. Moreover, the state has also faced the socio-political ripples of climate change in terms of climate-induced migrations and political mobilization of militant outfits. So, the issue of climate change possesses all the parameters to threaten and question the national security, even then the issue has not been given the status of a threat to national security. On the other hand, traditional threats have granted a status of vulnerability to national security and for their mitigation state has invested all of its energy and resources.

So, the point is both traditional and non-traditional security threats have proved that they are equally vulnerable. Allan Behm, stated in an article published on 20th April 2020 in the backdrop of forest fire (in Australia) and COVID outbreak that people around the world no longer feel safe. For the individual citizen, now security is to manage a global epidemic, mitigation, and adaptation to changing climate, conserving clean water, sustaining reliable food supplies in addition to the protection and wellbeing of individuals and community. Hence, in national security policy, individual security and prosperity are now key considerations. To deal with the disruption,

characterize and reconsider the global economic, climate, health, and political environments as essentials of national security policy.

And this study is an effort to bridge the gulf between the two aforementioned paradigms. Though a lot of work has done upon highlighting the negative ramifications of increasing climate change but lack of research is available on uplifting the status of increasing climate change, a non-traditional security threat to the national security of Pakistan. This research accomplished the objectives discussed in chapter 1 and with the help of statistics has demonstrated the close correlation between climate change and vulnerable national security and has tried to fill a vacuum between said variables which has been ignored for a long. However, there are some loopholes associated with the research. Such as conduction of semi-structured interviews has seriously compromised just because of the COVID outbreak. So, opinions from different strata (officials of Climate Ministry, Climate Change Experts, NDMA and PDMA, etc) could not be incorporated. And to accomplish the objectives of the research (discussed in the introduction chapter), secondary sources other than semi-structured interviews have relied upon and successfully explore the causative relationship between climate change and national security in the context of Pakistan.

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