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# **CLIMATE-INDUCED SECURITY THREATS TO PAKISTAN**

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## ACRONYMS

<b>BLA</b>	Baloch Liberation Army
<b>CCI</b>	Committee of Common Interests
<b>CGIAR</b>	Consultative Group on International Agricultural Research
<b>FAO</b>	Food and Agriculture Organization
<b>GDP</b>	Gross Domestic Product
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>IS-K</b>	Islamic State of Khorasan
<b>LeT</b>	Lashkar-e-Taiba
<b>NDMA</b>	National Disaster Management Authority
<b>NSP</b>	National Security Policy
<b>TTP</b>	Tehrik-e-Taliban Pakistan
<b>UN</b>	United Nations
<b>UNDP</b>	United Nations Development Program
<b>UNICEF</b>	United Nations International Children's Emergency Fund
<b>UNOCHA</b>	The United Nations Office for the Coordination of Humanitarian Affairs
<b>USAID</b>	United States Agency for International Development
<b>WASH</b>	Water, Sanitation, and Hygiene
<b>WFP</b>	World Food Programme

## PREFACE

Little is known or deemed serious on the grassroots level about the nature of climate-induced social and political stresses and how they may interact with one another and with other endogenous to society to destabilize nations and regions, despite the growing consensus that climate change has the potential to disrupt societies' milieu and ultimately threaten global security. For the past two decades, Pakistan has consistently ranked among the top 10 most vulnerable countries on the Climate Risk Index with 10,000 people dying from climate-related disasters and 173 extreme weather events causing financial damages of about \$4 billion. <sup>1</sup>According to the index (2021), it is ranked as the eighth country in the world most vulnerable to long-term climate risk. In 2010, floods across Pakistan affected more than 20 million people and damaged over 20 percent of the land area. <sup>2</sup>

Then came the super floods of 2022 that affected 33 million people, while more than 1,700 lives were lost and more than 2.2 million houses damaged or destroyed. The floods damaged most of the water systems in affected areas, forcing more than 5.4 million people, including 2.5 million children, to rely solely on contaminated water from ponds and wells. The World Bank report says that the total damage is equivalent to 4.8 percent of FY22 GDP, while recovery and reconstruction needs are projected to be sizable at 1.6 times the budgeted national development expenditure for FY23. Post Disaster Need Assessment also estimates a portentous spike in the national poverty rate by 3.7 to 4.0 percentage points, pushing an additional 8.4 to 9.1 million people into poverty. Multidimensional poverty will increase by 5.9 percentage points, meaning that an additional 1.9 million households will be pushed into non-monetary poverty. Climate change is not merely about unprecedented increases/decreases in summer/winter temperatures, dry and wet hydrological cycles – drought, and floods due to varying flow regimes in the rivers as a result of melting snow and glaciers. The catastrophic events compromise the food and livelihood security of vulnerable communities, causing socioeconomic instability, and conflict amongst the stakeholders over shared resources, particularly share claimed by the violent non-state actors (VNSAs). Climate change encourages VNSAs in a variety of ways, including disagreement vis-a-vis state legitimacy and its writ, increased competition for resources, the necessity for regressive policies (by the state), and limited state capacity (as the attention is divided during the catastrophes). The cost of climatic catastrophes is higher than the average for the South Asian nation, which already struggles with frequent political and economic turmoil and a polarized society subject to ethnic and religious wrangling.

Due to its heavy reliance on agriculture, rising population, low social standards, inept governance, and precarious political structure, Pakistan is particularly prone to these dangers - all of which collectively can be referred to as traditional/conventional and non-traditional/unconventional security threats. These factors have a bearing on the overall law and order situation and dampened the overall economic and social landscape of the country.

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<sup>1</sup> <https://www.germanwatch.org/en/19777>

<sup>2</sup> [https://www.germanwatch.org/sites/default/files/Global%20Climate%20Risk%20Index%202021\\_2.pdf](https://www.germanwatch.org/sites/default/files/Global%20Climate%20Risk%20Index%202021_2.pdf)

## EXECUTIVE SUMMARY

Lately, it has dawned upon the Global South that while the developed countries may be the highest emitters of carbon, they are building defense and mitigating mechanisms and switching to renewable energy, while people at this end of the globe, i.e., the global south, not only bear the maximum brunt of the environmental damage but also lack sustainable infrastructure. Hence, in this part of the world, the repercussions of global warming are more severe, resulting in water and food insecurity, rural-urban migration, rising crime rate, and political instability - which is an ideal situation for violent non-state actors (VNSAs) to thrive.

Divided into 5 broad categories, this report is centered on how climate change has an impact on Pakistan's national/conventional security, water, and food security, how it empowers VNSAs and can fuel civil, inter-communal, and interprovincial conflicts, and how it adversely affects the most marginalized groups and individuals. The report concludes with solid policy recommendations noting the nature of prevailing issues.

The report is an attempt to underpin the magnitude and severity of climate change as a real and utmost threat, as such a change amounts to augmented vulnerabilities in human security caused by bad governance and poor socioeconomic conditions in Pakistan. Similarly, scarce resources – whether energy, water, or arable land – can lead to turmoil and conflict even among the most civilized and enlightened groups. On the brink of climatic catastrophes, Pakistan has also witnessed the resurgence of violent non-state actors. The empirical data confirms the state's worst fear regarding the consequences of climate change on national security. The super floods of 2022 unveiled how fragile the country's infrastructure is; hence, it has further widened the governance and security loopholes, which calls for sound policymaking to counter climate change, mitigate the losses, and build resilient infrastructure for the future. The report does not depict any novel ideas or realities but rather attempts at reiterating what is already known and needed, but rarely practiced or implemented by the key actors and decision-makers.



## SECTION I - WATER AND FOOD INSECURITY

Sustainable growth of the agriculture sector stands vital for food security and rural development in Pakistan. It is a major contributor to employment and foreign exchange earnings. Besides, it provides industrial raw materials, hence growth in this sector has multiple linkages with the overall economy. Agriculture contributes 22.7 percent to the GDP and employs around 37.4 percent of the labor force, manager of rural landscape and environmental shield in protecting and upgrading the climate-resilient production and ecosystem.<sup>3</sup>

The Indus Basin River system serves as the main source of canal irrigation in Pakistan, reports Food and Agriculture Organization (FAO). The Indus River has its source in the Western Himalayas near the Karakoram glaciers. About one-third of its flow is thought to be runoff from the melting of Karakoram glaciers, with the remaining two-thirds of water coming from precipitations in the catchment area, snow, and ice combined Shrinkage in the Indus Basin flows is inescapable given the net gains in the Karakoram mass balance; water is being frozen and trapped as a component of the glacier, decreasing the amount of water available for hydropower generation, agriculture, and ecosystems. In addition, Pakistan is experiencing acute energy shortages and increasing water scarcity as a result of rising population and industrial activities. Climate change has a part to play even though poor management is frequently blamed for water constraints.

According to the post-disaster needs assessment, the flooding caused \$14.9 billion in damages and \$15.2 billion in economic losses. Estimated needs for rehabilitation and reconstruction in a resilient way are at least \$16.3 billion. The UN's development agency, UNDP, says an additional nine million people risk being pushed into poverty on top of the 33 million affected by the devastating floods. The food security situation among flood-affected people continues to deteriorate. According to World Food Program (WFP) and the Intergovernmental Panel on Climate Change (IPCC) , "an additional 1.1 million people are likely to slip from an Integrated Food Security Phase Classification Phase 3 (crisis) to Phase 4 (emergency) by early 2023, increasing the total number of people in IPCC Phase 4 to 5.1 million."

More than 1.2 million livestock have been killed since mid-June 2022, with severe repercussions on the livelihoods of affected households and the supply of animal products, including milk and meat. According to officials, the floods affected nearly 15% of Pakistan's rice crop and 40% of its cotton crop. The country could face severe food shortages.<sup>4</sup>

Sindh province accounts for nearly one-quarter of the country's agricultural output, so the damage to crops there and reduced harvests may have implications for food security in Pakistan. The loss of crops and livestock could push families under pressure further into poverty.<sup>5</sup> The post-disaster needs assessment released in October 2022, said poverty could

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<sup>3</sup> [https://www.finance.gov.pk/survey/chapter\\_22/PES02-AGRICULTURE.pdf](https://www.finance.gov.pk/survey/chapter_22/PES02-AGRICULTURE.pdf)

<sup>4</sup> <https://news.un.org/en/story/2023/01/1132207>

<sup>5</sup> <https://reliefweb.int/report/pakistan/2022-pakistan-floods-assessment-crop-losses-sindh-province-using-satellite-data>

potentially increase by 5.9 percentage points, meaning that an additional 1.9 million households are at risk of being pushed into poverty.

In addition to impacts being felt by farmers and herders, Pakistan's fishermen are also struggling. Now facing an uncertain future, the \$650 million worth of the fishing sector is the main source of income for many people in Sindh.<sup>6</sup> The season has a significant impact on fishing income. Fishing communities may need to look for alternative means of putting food on the table this year because the floods occurred during the height of the fishing season. In rural Pakistan, people normally look forward to the monsoon season with enthusiasm, but many now worry about the upcoming rains. They are afflicted with what can be called "climate anxiety".

According to a report released in 2018 by the United States Agency for International Development (USAID), the Indus Delta has decreased by 92% since 1833. "It is not only the delta which has shrunk. The effects of climate change have also resulted in a reduced catch in the duration of the season that used to be suitable for fishing. Until a few years ago, we waited till 15th August to return to the sea for fishing but now the temperature fluctuates for another month, holding us back until 15th September", says Majeed Motani, president of the Fisherfolk Forum Karachi.<sup>7</sup>

Talib Kachi, another veteran fisherman, believes that many factors are altering the climate in the coastal areas, including human activities. He sees a steep decline in the variety of fishes. For instance, out of the 30 to 35 varieties that once existed, many have gone extinct. "The Indus Delta has been home to mangrove forests," he says. "Today, there is a significant decline in their number. These trees were home to a variety of shrimps, which fed on the roots of the trees. With the chopping of these trees, their habitats have also been destroyed."<sup>8</sup>

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<sup>6</sup> <https://www.aljazeera.com/gallery/2022/10/28/photos-climate-anxiety-grips-fishers-in-pakistan>

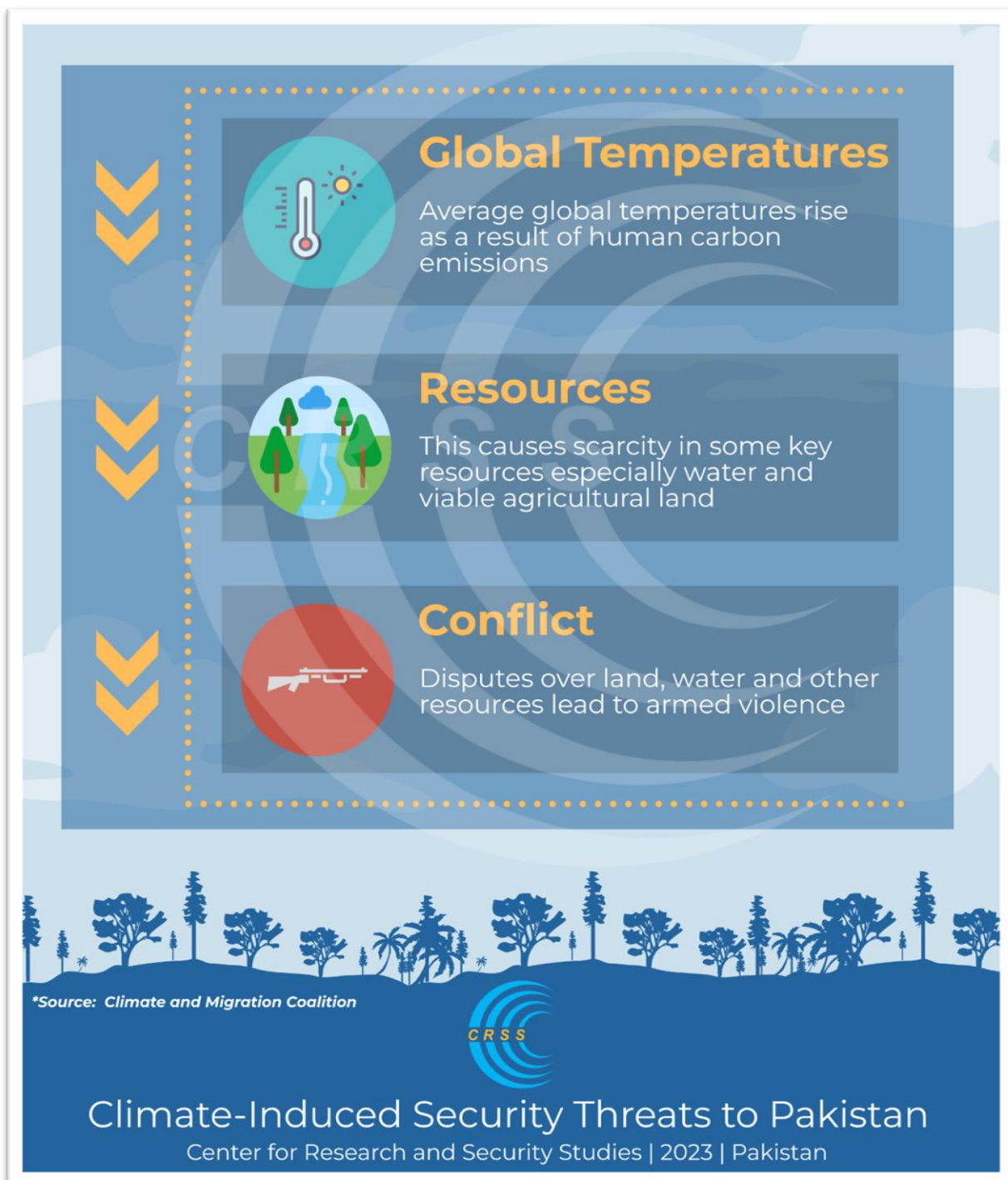
<sup>7</sup> <https://www.dawn.com/news/1733970>

<sup>8</sup> <https://www.dawn.com/news/1733970>



## CATALYSTS TO CIVIL, ETHNIC, AND INTERPROVINCIAL CONFLICTS

Studies show that climate-induced conflicts over already-existing social, religious, and ethnic rivalries can get worse. Violence can occasionally occur in such receiving zones where there is a high level of ethnic animosity.



Another study links racial unrest in Karachi, violent disputes among Islamists, and Baluch Separatist disputes to the impact of the 2010 floods in Pakistan. Karachi being a host region is home to diverse ethnic, racial, political, and religious groups. When the population reaches the threshold limit, they are exposed to resource scarcity, severe water shortages, poorly designed urban infrastructure, and high unemployment rates. As a result, there is widespread psychological tension that leads to unrestrained ethnic strife.

In the same vein, water and food shortages in Pakistan are known to translate into civil and interprovincial rifts, ultimately leading to social and political polarization. In 1990, as the flows of the Indus Basin rivers dropped to less than 25 percent of the flows at the time of Pakistan's creation, interprovincial antagonism grew to new heights. A parliamentary committee called the "Committee of Common Interests (CCI)," made up of chief ministers of all four provinces, proposed a formula for the equitable and fair allocation of the Indus waters among the provinces. The committee's recommendations, named the "Pakistan Water Apportionment Accord of 1991," allowed for a minimum flow of water into the Arabian Sea, and shared the remainder between all four provinces.

In Punjab alone, approximately 3.85 million acres of land are uncultivable due to shortages of irrigation water. If cultivated, these lands could contribute toward food sufficiency for the country's growing population.

As water levels in the Indus Basin have reached new lows, Punjab and other provinces have clashed several times since 2010. Each time, the provinces cite the inequitable distribution of constrained river flows as the reason for the conflict. Bitterness against Punjab over water issues turned into a deep political crisis in 2012, when the Lahore High Court issued a verdict in favor of Punjab, and ordered the federal government to start the construction of a new reservoir on the Indus River at a site called Kalabagh in Mianwali District. The provinces of Sindh, Khyber Pakhtunkhwa (KP), and Baluchistan vehemently opposed the verdict, and the governing assemblies in each of the provinces passed resolutions against the dam's construction, threatening "dire consequences."

Another significant issue that has the potential to spark a larger conflict is the scarcity of clean drinking water in big cities. Drinkable water is becoming a source of conflict as a result of declining Indus Basin River flows, erratic rainfall patterns, and excessive pumping of subsurface water to fulfill demand from expanding urban populations. In Karachi, illegal hydrants (pumping stations) have proliferated and are run by non-state actors and local power brokers, frequently in connivance with dishonest police officers. For these individuals, illegally pumping water and selling it for inflated prices has developed into a lucrative enterprise. The same issue exists in Islamabad, where residents must stand in line for hours to receive a week's worth of water.<sup>9</sup>

The recent floods and the government's lack of preparedness to deal with post-disaster situations have led the country towards reduced agricultural output, food shortages, and lack of or absence of drinkable water resources. The famine and drought-like conditions lead the

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[https://www.files.ethz.ch/isn/167650/climate\\_change\\_and\\_its\\_impact\\_on\\_the\\_political\\_dynamics\\_of\\_pakistan\\_72313.pdf](https://www.files.ethz.ch/isn/167650/climate_change_and_its_impact_on_the_political_dynamics_of_pakistan_72313.pdf)

rural population – which depends on and earns majorly from the agricultural sector – to move to urban cities seeking employment and better living standard. In urban cities like Karachi and Hyderabad, there are already scarce resources in terms of fresh water supply, energy resources, and jobs for the youth. Therefore, the population of these cities sees rural migrants as a threat which creates a possibility of rural-urban conflict in the province of Sindh.<sup>10</sup>

Dr. Najam Khurshid, a climate and water management expert, deems the situation to further exacerbate over time. “Food prices will be raised due to a reduction in food production. These rising prices force many local people to fall into poverty, making them vulnerable to crime to fulfill their needs. He further said that the low-income displaced population – due to floods – has no other option than to move to informal settlements. In Karachi – where the population is expected to double by 2030 – the rural-urban migration is increasing – we are handling a ticking time-bomb.”, noted Khurshid. This could contribute to the rising crime rate in the city as well as lead to conflicts between different ethnic groups. Additionally, these settlements are also vulnerable to climate hazards. Therefore, he suggested urban cities can reduce the risk of climate displacement by building resilience to climate impacts and promoting better outcomes for those who move.

## **SECTION II - MIGRATION, URBANIZATION, AND RULE OF LAW**

There is a significant causal relationship between climate change, urbanization, migration, and violent dispute – ultimately compromising the rule of law. Environmental and social degradation is being brought on by the increased departure of small populations and ethnological minorities from other regions, combined with exponential population growth. The 2022 floods have displaced at least 7.9 million people. In Sindh province, more than 88,000 people remain displaced as of March 2023 down from 6.5 million in early September. Rural flooding and lack of facilities compel many to migrate to urban areas in search of shelter and livelihood.

Zahra Khan Durrani, a climate and urbanization researcher, tells CRSS, “Pakistan has one of the highest rates of urbanization in South Asia. While it may seem natural to want to move to big cities for livelihood opportunities and a better standard of living, increased spontaneous movements as a result of disasters and continuous water and food insecurity resulting from climate change, will exert pressure on already hard-pressed urban cities.”

Urbanization especially in times of national emergencies as such shifts the state’s attention from issues of law and order to relief and matters of urgency. When people from rural areas are driven to urban centers by the severity of natural calamities like floods, the terrorists may utilize these circumstances as a convenient cover to enter cities while pretending to be flood victims. They live in slums mostly (since the majority of migrants reside there) which enables terrorist organizations to hide from law enforcement and security agencies while plotting attacks. It is an uphill task for the relevant personnel to gather intelligence from these places through informers since they are more sympathetic towards the violent non-state actors because they admire them and can find employment prospects through them.

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<sup>10</sup> <https://www.usip.org/publications/2022/07/pakistans-climate-challenges-pose-national-security-emergency>

Overpopulation is a major catalyst to urbanization and together with resource depletion, it adds to the severity of climate change migration and dispute as it is known to have caused ethnic and linguistic bias and wrangling among different groups and tribes. Michael Kugelman, an expert on South Asia at the Wilson Center concedes that there is a traceable connection between Pakistan's urbanization and the growth in sectarian violence in Karachi.  
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Moreover, rural and urban conflicts challenge the state's legitimacy as the rural citizens believe that the government has failed to provide relief to the affected communities while the urban population feels threatened by their presence due to having limited availability of resources. <sup>13</sup>The rural Sindh population wants the relief assistance that is given by international communities for flood-affected people, but not getting it increases their frustration, creating risks of mass unrest in the province against the ruling government of Pakistan People's Party (PPP); while the urban population feels threatened by newcomers in their cities, creating a rift between the rural and urban class. Similarly, in Balochistan where the Baloch nationalists feel threatened by the presence of non-local people such as Afghans and Punjabis in their province, thinking and believing that these two ethnicities will usurp their resources e.g. land, employment, etc., and rule over them. Hence, they protest –silently and violently sometimes – against the outsider's presence. Until now, the political governments fail to reduce the anger of the general population due to their inability to solve these problems; hence it leads to political instability in the country, causing a national security threat for the country.<sup>14</sup>

### **SECTION III - NATIONAL SECURITY AND CLIMATE CHANGE**

Security threats, whether traditional or non-traditional, are in their nature both interconnected as well as have a cascading effect, says strategic studies scholar Dr. Salma Malik. The negative impacts of climate change may appear a non-traditional issue, but the adverse impact could be wide-ranging. These may include damage to the following:

- i) physical structures, particularly living quarters and storage sheds;
- ii) standing crops, stored grains, and fodder;
- iii) loss of human lives and death of animals;
- iv) farm machinery and other livelihood equipment and tools, etc.;
- v) social infrastructure such as schools, health-related buildings, drinking water, and sanitation structures;
- vi) communication infrastructures such as roads and bridges;
- vii) productive infrastructure such as canal network, wells, etc. This could lead to the displacement of the populace, can create mass displacements, floods, changes in cartography, droughts, and several factors, extreme temperature variations, etc., which may require military intervention, panicked population groups can turn into

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<sup>11</sup> <https://www.usip.org/publications/2022/07/pakistans-climate-challenges-pose-national-security-emergency>

<sup>12</sup> Kugelman, Michael. (2013, January). Urbanisation in Pakistan: causes and consequences. Norwegian Peacebuilding Resource Centre. Retrieved from:  
<https://www.files.ethz.ch/isn/159296/4c5b5fa0ebc5684da2b9f244090593bc.pdf>.

<sup>13</sup> <https://southasianvoices.org/pakistan-floods-climate-security-rethinking-comprehensive-national-security/>

<sup>14</sup> <https://southasianvoices.org/in-pakistan-climate-change-is-the-new-primary-threat-to-national-security>

riots, civic disorder, resettlement and rehabilitation of affected needs extreme disaster prevention and management measures.

- viii) nuclear installation from cyclones or likely tsunamis; and
- ix) cohesion in the society – conflict on control of damaged resources, leading to social unrest and emotional stresses.

Climate change poses serious threats to Pakistan's national security because of a confluence of geophysical and topographical features that expose the country to recurring extreme weather events that are expected to become more frequent as a result of climate change. Furthermore, the fact that a large portion of Pakistan's economy is dependent on natural resources that are vulnerable to the negative consequences of climate change is a matter of concern and needs immediate attention. Quoting Dixon's work on environmental scarcity's correlation with violent conflict, Malik says that changing weather patterns can lead the country to sociopolitical breakdown, ultimately decimating the parameters of national security.<sup>15</sup> The basic premise is that as the natural environment deteriorates, the resources that we rely on for survival become scarcer and more difficult to access. This can lead to conflicts over land, water, and other essential resources, and can even lead to violence and war in some cases.

The fact that the Indus Basin supplies more than 70% of Pakistan's surface water flows, underscores the significance of climate change consequences in the context of Pakistan's security policy. The Indus River rises on the Tibetan plateau and runs through Jammu and Kashmir, which is under Indian administration.<sup>16</sup> The Kabul River, another important Indus source, enters Pakistan from Afghanistan and joins the Indus, contributing nearly a third of the river flows. Climate change-related decreased river flows on the western side of the border are contributing to tensions between India and Pakistan.<sup>17</sup> Also, the flow of the Kabul River has decreased due to climate change, posing a food and livelihood security risk.

Similarly, climate change could have adverse impacts on Pakistan's nuclear facilities.<sup>18</sup> Droughts and heat waves are two examples of harsh weather that can harm Pakistan's nuclear facilities. For instance, prolonged hot weather and heat waves raise the temperature around nuclear power plants, which means that more water is needed to cool them.

Many nuclear power plants in Pakistan are just a few meters above sea level, hence flooding is a risk to nuclear power plants because it can harm their electrical systems, which disable their cooling systems and cause overheating, a potential meltdown, and the release of radioactive material.<sup>19</sup> For instance, the Fukushima Daiichi Nuclear Plant in Japan was severely damaged after being swamped by the country's tsunami in March 2011. This led to a catastrophic radioactive discharge that may have required the evacuation of 50 million people.

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<sup>15</sup> <https://homerdixon.com/environmental-scarcity-and-violent-conflict-the-case-of-pakistan/>

<sup>16</sup> <https://documents1.worldbank.org/curated/en/650851468288636753/pdf/Indus-basin-of-Pakistan-impacts-of-climate-risks-on-water-and-agriculture.pdf>

<sup>17</sup> The Impact of Climate Change on National Security of Pakistan, Daniyal Khan, Apr 7, 2022  
<https://timesglo.com/impact-of-climate-change-on-national-security-of-pakistan/>

<sup>18</sup> <https://hakaimagazine.com/features/are-coastal-nuclear-power-plants-ready-for-sea-level-rise>

<sup>19</sup> <https://www.ucsusa.org/resources/flood-risk-nuclear-power-plants>

## **NATIONAL SECURITY POLICY - ADDRESSAL OF THE PROBLEM OR MERE THEORY?**

Critics say that Pakistan's recently announced National Security Policy (NSP) does not take into account the impact of climate change or Islamabad's ability to address non-traditional security challenges. The NSP does not take into account the idea that strengthening institutional capacity inside the country is crucial to address the many and varied threats and challenges posed by climate change. However, it recognizes Pakistan's high vulnerability to the negative effects of climate change, such as extreme weather events that have become more frequent and jeopardized our water supplies due to the rapid melting of glaciers, and the intensity and timing of monsoons that are vulnerable to climate change. Despite, economic security being at the core of it, the NSP does not cover a mitigating strategy to address this vulnerability.<sup>20</sup> According to the NSP 2022–2026, the government of Pakistan has set a high priority on enhancing economic security to support both traditional and human security.<sup>21</sup>

Floods brought by climate change in Pakistan in 2010 and 2022 severely demolished homes, farms, schools, hospitals, and transportation infrastructure like roads and railway tracks. This led to economic instability in the country. Disasters caused by the climate are worsening the state's already dire economic condition. It would cost a significant amount of national resources for the Pakistani government to rehabilitate and restore the losses to the social and productive infrastructure, and means of livelihood.

### **Natural Disasters and Economy**

The 2022 monsoon season produced significant rainfall, devastating floods, and landslides, affecting millions of people. The floods affected all four of the country's provinces and approximately 15% of its population. The United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA) says that even six months after the Government of Pakistan declared a national emergency, approximately 1.8 million people are still living near contaminated and stagnant floodwater. Imagery from the UN Satellite Centre shows that this figure is down from 4.5 million people in January. Displaced people have started to return to their farms and abodes, but they are facing challenging circumstances to restart their livelihood activities. According to the post-disaster needs assessment, the flooding caused \$14.9 billion in damages and \$15.2 billion in economic losses. Estimated needs for rehabilitation and reconstruction in a resilient way are at least \$16.3 billion. The UN's development agency, UNDP, says an additional nine million people are at risk of being pushed into poverty on top of the 33 million affected by the devastating floods.<sup>22</sup>

Pakistan recorded its first super flood in 1950, followed by 1955, 1956, 1957, 1959, 1973, 1975, 1976, 1977, 1978, 1981, 1983, 1984, 1988, 1992, 1994, 1995, and then every year since 2010 — which also saw the worst flood in the country's history. <sup>23</sup>These floods collectively

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<sup>20</sup> <https://onsa.gov.pk/assets/documents/polisys.pdf>

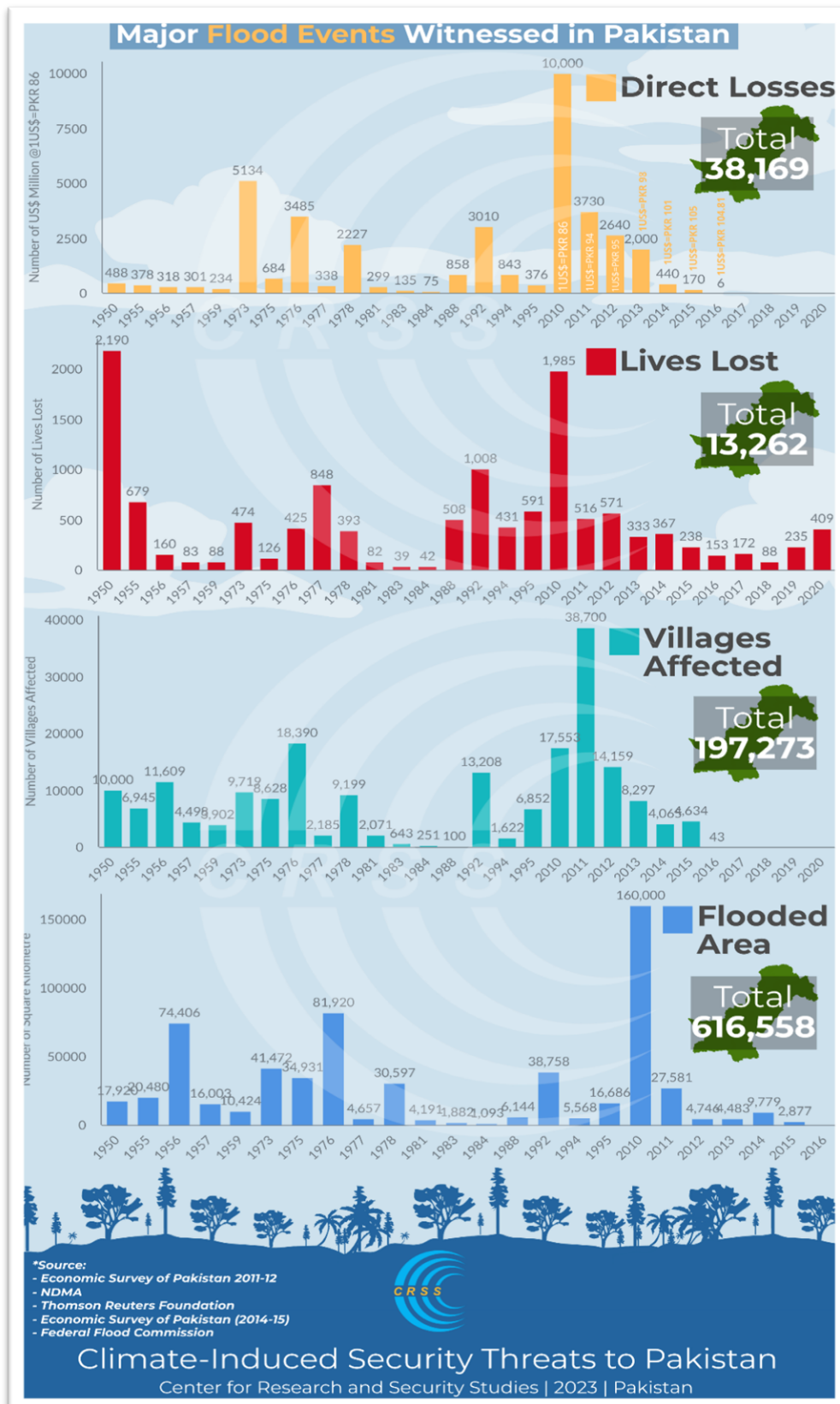
<sup>21</sup> <https://thediplomat.com/2022/01/pakistans-national-security-policy-prioritizes-economic-security/>

<sup>22</sup> <https://www.worldbank.org/en/news/press-release/2022/10/28/pakistan-flood-damages-and-economic-losses-over-usd-30-billion-and-reconstruction-needs-over-usd-16-billion-new-assessme>

<sup>23</sup> <https://cci.gov.pk/SiteImage/Misc/files/Policies/National-Flood-Protection-Plan-IV-NFPP-IV-1.pdf>



affected 616,558 square kilometers of land, snatched 13,262 precious human lives, and caused losses worth over Rs39 billion to the national economy.



The 2022 floods had a considerable negative impact on output, which varies significantly by location and sector, aggravating the country's already dire economic circumstances. In 2022, the loss in gross domestic product (GDP) due to the floods was estimated to be roughly 2.2% of FY22 GDP. The largest predicted decline in the GDP, at 0.9 percent, was projected in the agricultural sector. The damage and losses in agriculture have spillover effects on the industry, external trade, and services sectors.

#### **SECTION IV - THE RISE OF VIOLENT NON-STATE ACTORS (VNSAs)**

Violent non-state actors (VNSAs) likely have additional opportunities to exercise power as a result of climate change and the responses to it. This is mostly because climatic impacts may weaken state legitimacy and capacity, increase competition for resources, make regressive policies necessary, and limit state capacity. Nonstate actors might use violence in response to these changes, either to change state behavior or to take the place of the state in some contexts.

There are numerous instances throughout recent years where a state's failure to provide essential services allowed VNSAs to flourish. Drought in Syria in the late 2000s caused food shortages, which created the stage for protests that started the Syrian civil war. When there were water shortages in Iraq in the late 2000s, the state's poor provision of public goods threatened the country's stability. Beginning in 2006, energy shortages in Nepal caused the country's post-war process to stall. Many people suffered in two separate incidents in late 2021 in drought-stricken Iran between water-strapped farmers and the authorities.



<sup>24</sup>Sometimes it is not the injustice of the disaster response but the simple inadequacy of it that opens doors for VNSAs. When devastating floods struck Pakistan in July 2010, some victims felt that the government was not doing enough for them. Islamist groups such as the Tehrik-e-Taliban Pakistan (TTP) and Laskhar-e-Taiba (LeT) stepped in to provide meals, water, and medical care, leading then-president Asif Ali Zardari to warn that these extremists would “take babies who become orphans and put them in their camps, train them as the terrorists

<sup>24</sup> [https://images.carnegieendowment.org/images/article\\_images/20221213-Gordon\\_graphic\\_V2\\_6630d42c-aa93-4865-8bdd-19cbb39f4091.jpg](https://images.carnegieendowment.org/images/article_images/20221213-Gordon_graphic_V2_6630d42c-aa93-4865-8bdd-19cbb39f4091.jpg)

of tomorrow.”<sup>25</sup> But, on the other hand, a combination of both food and water insecurity allows VNSAs to exploit the public under such catastrophic circumstances as the affectees are left destitute. To provide for their families and ensure their basic existence, the vulnerable ones join organized criminal networks and engage in smuggling and trafficking.

When comparing the effects of climate change on the global north vs the global south, the main distinction is wealth redistribution. The wealthy are taxed in developed countries, and their wealth is redistributed to those in need. They are following the principles of equity in taxation and wealth redistribution. In developing countries, on the other hand, the elites who have fostered structural inequities run the country and impose laws that benefit them. The rich create rules and laws that protect them, while the proletariat is suppressed, according to conflict theory in criminology, and the VNSAs take advantage of this inequality under such norms.

Countries that are hard hit by climate change already have many structural inequalities in terms of income, unemployment, resource distribution, and wealth consolidation, so when climate change occurs, people with resources begin hoarding, leading to unequal resource distribution due to scarcity. Anarchy and civil conflict ensue resultantly.

Noting the rise of VNSAs in correlation to climate change, Dr. Uzair Hashmi <sup>26</sup> (a public policy expert) says, “The state has already allocated resources to deal with issues concerning law and order, and there is an infrastructure in place to deal with terrorism. These are all the things that we intend to deal with in terms of predicted dangers, but climate change has unanticipated repercussions, such as the damage that the unprecedented rainfall and river floods in 2022 have caused. The state has to mobilize its resources to minimize and manage the effects of climate-related calamities.”

He further states that when a state’s workforce, defense institutions, and resources are occupied with dealing with climate-caused disasters, non-state actors, particularly violent non-state actors, have an opportunity to strengthen and increase their hegemony because the controlling mechanisms lose focus in this process - VNSAs are given an easy space to take over and exercise hegemony. As a result, climate change aids them in consolidating authority over the state and its inhabitants. Hence, they feed on a flawed security paradigm. “The state is battling on multiple fronts. On one hand, it is dealing with climate-related calamities, and on the other, with anarchies. Because resources are accumulated to tackle climate-induced disasters, the state’s responsibility to human security is jeopardized. Climate change has the potential to both exacerbate violent conflict and highlight the state’s failings in achieving its objectives of sustaining stability, peace, and human security.”, says Hashmi.

There are a handful of instances in Pakistan’s history where terrorist organizations have been reported to earn sympathy in times of climatic emergencies and draw recruits. For example, violent groups like Jamaat ud Dawah and LeT have significant philanthropic arms, and they have been reported to have helped locals and conducted relief activities in the aftermath of the 2010 floods. Insurgent organizations like the Tehrik-i-Taliban Pakistan (TTP), and banned outfits like Baloch Liberation Army (BLA) are known to have taken advantage of the crisis in

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<sup>25</sup> <https://carnegieendowment.org/2022/12/14/how-climate-change-helps-violent-nonstate-actors-pub-88637>

<sup>26</sup> <https://scholar.google.com/citations?user=Q3Momb0AAAAJ&hl=en>

2022 to enhance recruitment and build support among the devastated populace. Balochistan –one of the most affected provinces by the floods in 2010 and 2022 – has also seen an increase in recruitment efforts by Islamic State Khorasan (IS-K) in recent years, which is a threat to Pakistan and neighboring South Asian countries.<sup>27</sup>

### The Case of Balochistan

The prolonged Baloch rebellion for provincial autonomy and sovereignty over its natural resources is empirically due to Pakistan’s inept political and economic development policies concerning the provinces, but the rising insurgency thrives on climate change too. Owing to the increased sentiment of being neglected and taken for granted, several rebellious organizations emerged in Balochistan to secure fundamental rights for the Baloch community. Due to the political and economic disparities that are compromising national security, it is currently experiencing a highly vulnerable law and order situation and the warming climate does play a role in it. Drought in the late 1990s and early 2000s was poorly responded to by drilling tube wells in the province to replace the karez irrigation system, a traditional Balochistan irrigation technique. The elite and powerful lords had the means and capacity to obtain tube wells that extracted the water, taking the majority of the water supply for their property while leaving little water supply for the poor agriculture farmers, ruining their farms.

When people lost their water rights, they moved to cities in search of jobs or labor in the farms of the powerful lords who exploited them. This has infuriated the people of Balochistan, leading to a violent push for their rights. Insurgent and anti-state groups often take advantage of such opportunities and recruit farmers as foot soldiers for their anti-state violent objectives.

Climate change has significantly altered weather patterns in Pakistan's coastal belts, reducing fish availability in Gwadar and other coastal areas. Presently, the Haq Do Tehreek in Gwadar, founded by Moulana Hidayatur Rehman, is linked to the misappropriation of limited resources in Gwadar, Balochistan. The Baloch in this coastal area relies primarily on fishing for a living. Climate change has had an impact on both fish productivity and their habitats. Rising temperatures will affect the number, migratory patterns, and death rate of wild fish stocks, as well as which species can be farmed in particular places.

Given the scarcity of fish in the Gwadar Sea, illegal trawling by mafias, backed by political support, is stealing resources from the city's native fishermen. Locals have expressed their dissatisfaction, demanding an end to the illegitimate practice through their Haq Do Tehreek - Give us right movement. If the government of Pakistan fails to lessen the people's resentment, it may provide another opportunity for violent rebel factions to exploit the locals' wrath and energy against the state through violent means.<sup>28</sup>

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<sup>28</sup> <https://www.dawn.com/news/1728328>  
<https://www.oecd.org/greengrowth/fisheries/climatechangeandfisheries.htm>  
<https://thediplomat.com/2022/06/they-own-the-ocean-gwadars-struggle-with-illegal-fishing/>

The economic downturn and the flood calamity will cause poverty to increase, which will fuel extremism, violence, and terrorism. The country will suffer serious social ramifications if basic human requirements are denied to citizens. The state's political stability has been put in jeopardy by the triple threat of violence, stagflation, and climate devastation, says development expert Naseer Memon.<sup>29</sup>

## SECTION V – WHO PAYS THE HIGHEST PRICE?

Climate change affects everyone, but some are more vulnerable than others due to underlying injustices and unequal coping mechanisms. On the Human Security Index, Pakistan is ranked 144th. Among the Asian countries, it is placed first according to a recent assessment of 87 low- and middle-income countries on the Consultative Group on International Agricultural Research (CGIAR) researchers' hotspot index for gender inequality, agriculture, and climate change. These hotspots are defined as areas where climate hazards, women's exposure to climate hazards because of their involvement in agriculture, and women's vulnerability due to prevailing gender inequalities intersect.

### Women

Women are more vulnerable since they are disproportionately poor, heavily reliant on natural resources, and frequently excluded from environmental decision-making. We may better understand why climate change is critical for women by looking at new data highlighting the crucial relationship between gender and climate change throughout Asia and the Pacific.<sup>30</sup>

**Relative Aridity:** Changes in relative aridity affect how dry or humid an area is and are measured by changes in precipitation and moisture evaporation. Aridification, which results in agricultural loss, increased food insecurity, decreased water quality, and loss of biodiversity, is caused, among other things, by factors such as the loss of forest cover and ensuing temperature increases. Additionally, the productivity, health, and economies of ecosystems are severely harmed by erratic rainfall patterns.

### Child Marriages

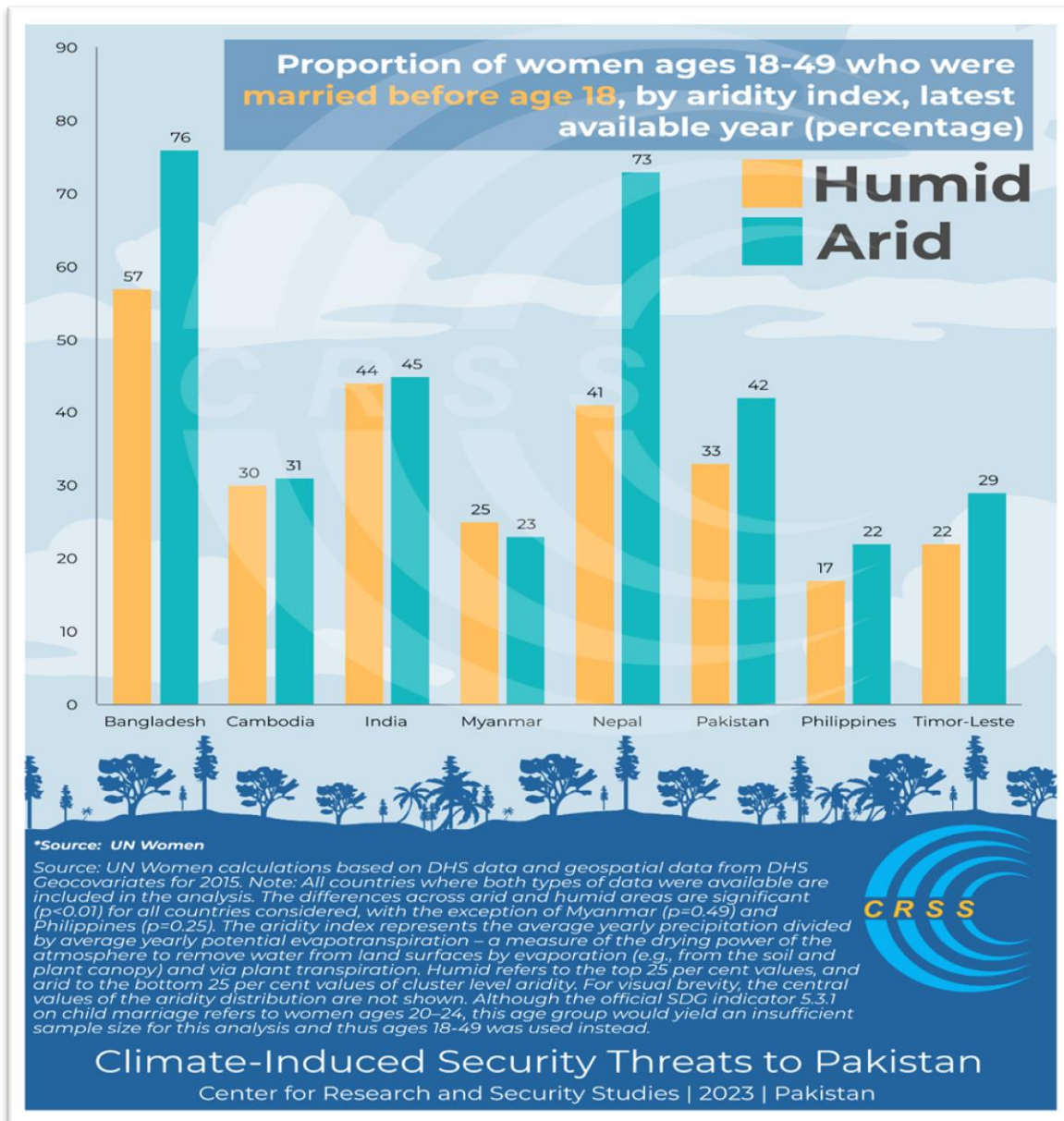
Child marriage is more prevalent in arid regions and regions that frequently experience droughts. To deal with decreasing agricultural yields, declining ecosystem productivity, spiking food prices, and other economic constraints during dry seasons, families may resort to child marriages. Most notably, in regions where the practice is socially and culturally acceptable, child marriage rates have increased. Pakistan has the 6th highest number of girls married before the age of 18 in the world. According to UNICEF, Pakistan has nearly 19 million child brides. The UN Children's Agency estimates that around 4.6 million were married before the age of 15 and 18.9 million before they turned 18.

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<sup>29</sup> <https://www.thenews.com.pk/tns/detail/1044146-the-problem-triangle>

<sup>30</sup> <https://data.unwomen.org/features/why-climate-change-matters-women>



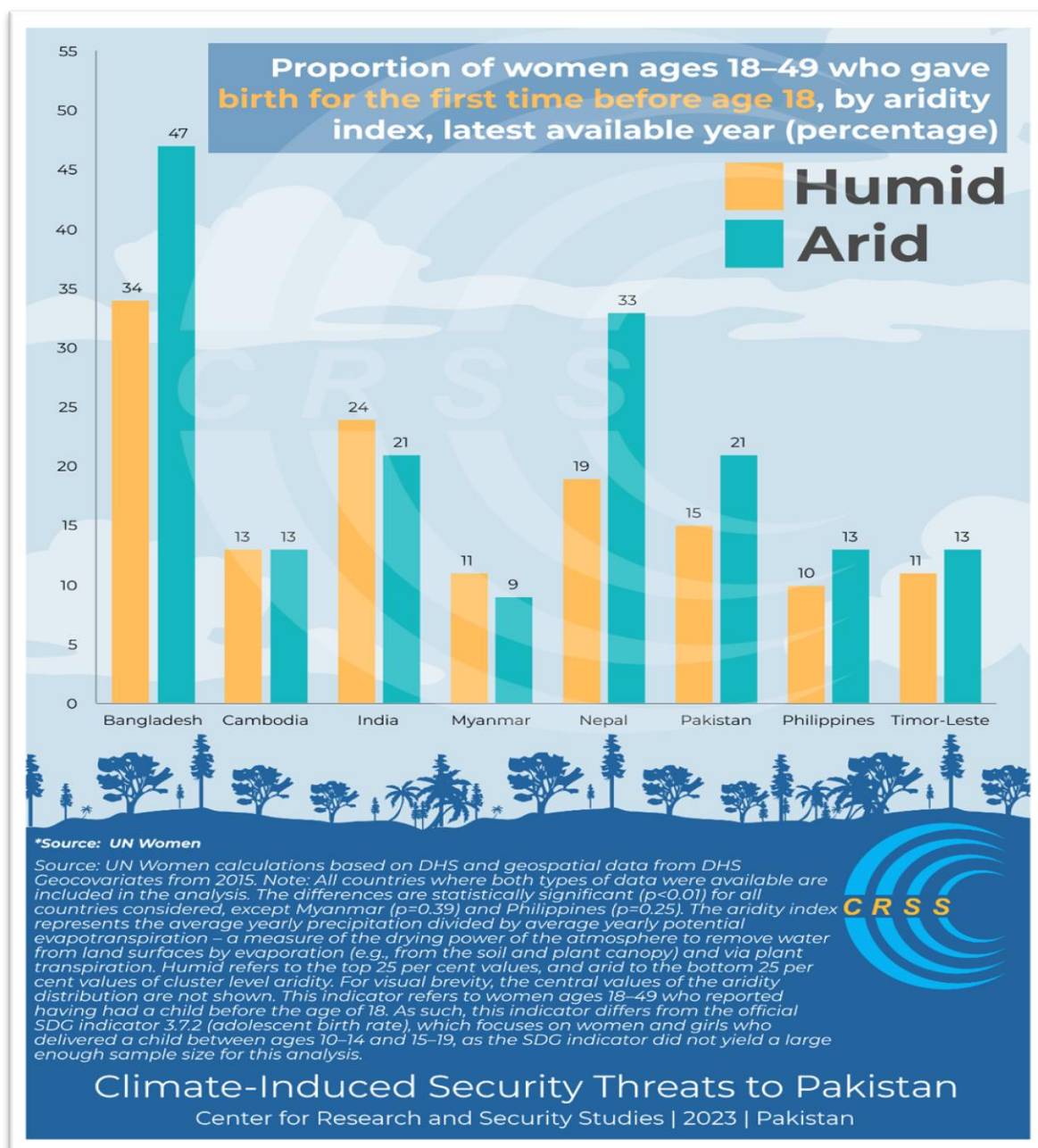


### Higher Adolescent Birth Rate

While there is evidence that environmental factors like aridity and proximity to water sources, as well as factors like limited access to family planning, inadequate reproductive health services, and cultural and religious beliefs, play a significant role in adolescent births. These factors matter especially in countries like Bangladesh, Pakistan, and Nepal, where child marriages are more common. Climate change may worsen existing rates in these countries.

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<sup>31</sup> <https://data.unwomen.org/features/why-climate-change-matters-women>



## Overlapping Crises

An increasing number of socioeconomic crises and numerous climate-related catastrophes emerge at the same time. Loss of livelihood, gender-based violence, mental health conditions, and economic insecurity may all get worse as a result of increased crisis-induced stressors.

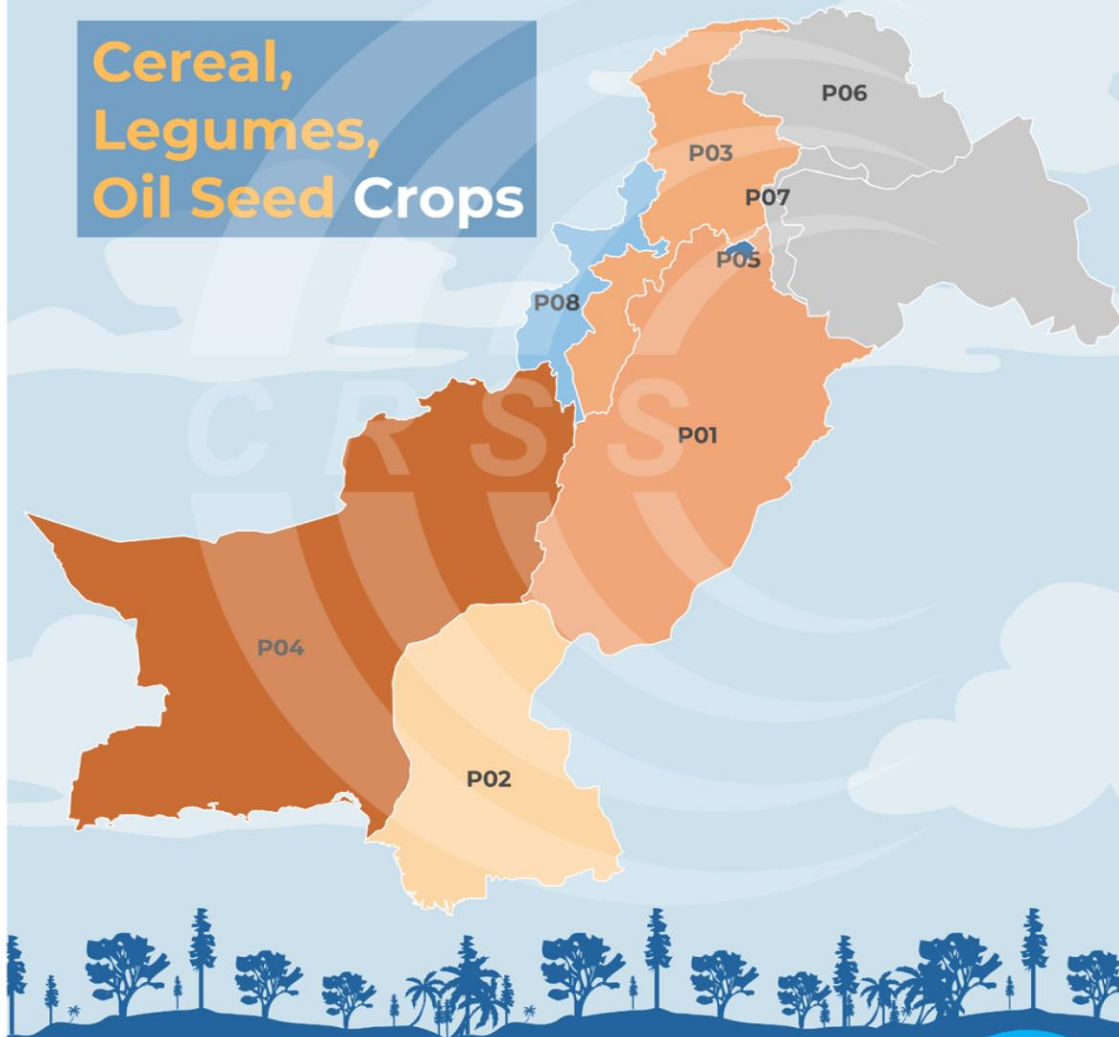
## Women in Agriculture

Women farmers in Pakistan were particularly heavily suffered by the recent floods due to a mix of climate dangers, working conditions, restrictive gender norms, and a heavy reliance on agriculture. About 7.2 million women are working in agriculture in Pakistan, making it the country's largest employer of female workers. But the majority of their employment is still

unofficial, unrecognized, unpaid, and undervalued. Their susceptibility to climatic negative impact is made worse by pervasive gender inequality and strict gender standards, the 2010 floods being evidence of that. Women made up 49% of the 1.5 million internally displaced individuals in the Sindh province at the time. In the flood-affected areas, the maternal death rate was 381 per 100,000 live births.

An investigation at the provincial level identified Balochistan, Punjab, and Sindh as the country's hotspots. In these areas, women farmers produce an enormous quantity of rice and oil seeds. They are frequently the only ones responsible for weeding, cleaning, and storing seeds, as well as dairy farming. This puts them at risk of suffering under current floods and future climate disasters.

## Cereal, Legumes, Oil Seed Crops



\*Source: CGIAR

### Map

This crop-specific climate-agriculture-gender inequality hotspot map at the subnational level in Pakistan shows Balochistan scoring very high, and Punjab and Khyber Pakhtunkhwa scoring high for women involved in cereal, legumes or oil seed crops.

### Legend

Dark blue is relatively low hotspot score; dark orange is high hotspot score.

Names of the regions are:

- P01: Punjab
- P02: Sindh
- P03: Khyber Pakhtunkhwa
- P04: Balochistan
- P05: Islamabad (ICT)
- P06: Gilgit Baltistan
- P07: AJK
- P08: FATA



## Climate-Induced Security Threats to Pakistan

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## Intimate Partner Violence

The drivers of violence against women are complex, but social norms, economic hardship, psychological stress, and situations of displacement, for instance, are known to increase the incidence of violence against women. Big data analysis shows that, in contexts where various crises overlap (e.g., two or more environment-related crises, or an environment-related crisis and a pandemic, conflict, etc.), women and girls are more likely to use Google and other search engines to seek violence-related help. Although this doesn't necessarily equate to proportional increases in the incidence of violence against women, it signals that the problem may worsen during those times.

It is observed that frequent climatic catastrophes have also led to a rise in cases of physical and sexual violence in Pakistan. The women have to bear the beating of their husbands due to their frustration concerning poverty and poor living standards. Physical violence against women is now considered normal in rural parts of the country.<sup>33</sup> Moreover, bathrooms in camps are so far away that sometimes miscreants rape the girls in bushes that are not reported to protect their family's reputation and honor.

## Period Poverty

Climate crisis also entails period poverty for the adult female population. As a result of 2022 floods, more than 8 million girls and women were left without the necessary resources or facilities to properly manage their menstruation. During the catastrophe, they resorted to using "plastic bags, leaves, damp newspapers, damp rags and old clothes" due to the lack of proper menstrual products.<sup>34</sup> Raheema Panhwar, the provincial coordinator for WaterAid, a non-profit group that works in the area of sanitation and hygiene, says that while the floods inflicted pain and misery across communities, it was the women who often suffered the most.<sup>35</sup> "Many girls face trauma and anxiety, particularly those who started their periods for the first time. They feel shame and fear because they don't have any knowledge of how to manage their periods. And there is no adequate support from the family due to circumstances," she said.

## Gender Dynamics

Gender dynamics play an eminent role in climate change and security-focused policies. Experts say that since climate change and security institutions remain overwhelmingly male-dominated, they frame issues mostly in masculinist terms. Similarly, Pease notes that "the politics of climate change are shaped by masculinist discourses.

An unwarranted increase in responsibilities, coupled with economic, social, and cultural barriers, leaves women inequitably affected by climate change. During a 2019 Oxfam study,

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<sup>33</sup> Memon, F. S. (2020). Climate Change and Violence Against Women: Study of A Flood-Affected Population in The Rural Area of Sindh, Pakistan. *Pakistan Journal of Women's Studies: Alam-E-Niswan*, 27(1), 65-85

<sup>34</sup> <https://borgenproject.org/period-poverty-in-pakistan-heightens/#:~:text=The%20floods%20had%20numerous%20knock,to%20properly%20manage%20their%20menstruation.>

<sup>35</sup> <https://www.aljazeera.com/news/2022/11/29/women-survived-pakistans-floods-but-face-worsening-health-crisis>

researchers found that in the coastal districts of Sindh, a growing and mismanaged water crisis forces women to trudge an average distance of two kilometers, sometimes multiple times a day, to collect water from wells and scattered hand pumps. In 2016, UNICEF calculated that women and girls globally spend 200 million hours, or 22,800 hours in a year, — every single day — collecting water.<sup>36</sup> Walking longer distances to collect water not only intensifies the workload for women but also exposes them to a greater risk of harassment and sexual abuse. The International Union for the Conservation of Nature states that women and children are 14 times more likely to die than men during disasters.



(Women from flood-affected areas wait to get free food distributed by a charity, in Chachro, near Tharparkar, a district of southern Sindh province, Pakistan, September 19, 2022 [AP Photo/Pervez Masih])

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<sup>36</sup> <https://water.org/our-impact/water-crisis/womens-crisis/>



## Policy Recommendations

Based on thorough research, and insightful key informant interviews conducted for this report, the Center has extrapolated the following set of recommendations to ameliorate Pakistan's climate-focused mitigating approaches, with human security at the heart of it:

- **Climate-Resistant Infrastructure and Socio-Economic Welfare – a State Priority**

GoP should introduce climate-resistant housing in vulnerable and affected areas. Besides, it should uphold the social and economic needs of the people living in these areas. For that, it is essential to bring education and health reforms, and livelihood opportunities to them. The focus should be on Water, sanitation, and hygiene (WASH) related infrastructure.

- **Disaster Preparedness, More Equipped Health Facilities, and First-Line Respondents**

Government should boost the capacity of local governments, and relevant rural and urban institutions, and increase the number of emergency health and disaster management workers. Women health workers should also be increased in number and equipped with better training and resources to respond more swiftly in natural emergencies.

- **Urban Planning and Rural Development**

Urban planning and rural development can play a significant role in mitigating climate change. Some potential strategies can be:

- **Green infrastructure:** Urban areas in Pakistan are expanding at an unprecedented rate, and this expansion is often accompanied by deforestation and other environmental degradation. Incorporating green infrastructure into urban planning can help mitigate the impacts of climate change. This can include creating green spaces, planting trees, and using sustainable building materials and designs.
- **Sustainable transportation:** Developing sustainable transportation systems in both urban and rural areas can help reduce carbon emissions. This can include promoting public transit, cycling, and walking, and reducing the use of private vehicles. In rural areas, promoting the use of low-emission vehicles and clean energy sources can also be effective.
- **Renewable energy:** Investing in renewable energy can help reduce Pakistan's dependence on fossil fuels and mitigate climate change. This can include promoting the use of solar, wind, and hydropower in both urban and rural areas. This is a herculean and cost-consuming task, but prioritizing the installation of such plants must become a national priority. The government of Pakistan should find a way to utilize a part of loss and damage (L&D) to conduct mass installation of these plants for a greener, and climate-resistant Pakistan.
- **Sustainable agriculture:** Rural development can play a crucial role in mitigating climate change in Pakistan. Promoting sustainable agriculture practices such as agroforestry, crop

rotation, and conservation tillage can help reduce carbon emissions, improve soil health, and increase agricultural productivity.

- **Water Management and Friendly Cross-Border Relations**

The increasing global warming and unprecedented climatic catastrophes call for not only improving and carefully using the country's water reserves, but also extending an olive branch to neighboring countries. Indus and Kabul rivers and the conflict with India over Kashmir direly require Pakistan to sit with its Indian and Afghan counterparts and formulate an all-encompassing shared-water treaty that benefits the entire region and averts future disputes over the resources.

The government should also ensure increased inter-departmental coordination among the relevant water management authorities on provincial and inter-provincial levels to smoothen out the flow of water and avert the risk of flooding.

- **Strengthen Social Safety Nets**

To prevent social unrest and displacement, Pakistan could strengthen its social safety nets, including programs that provide food and shelter to vulnerable populations. This could help prevent riots and other forms of civil unrest and promote social cohesion.

- **Improve Resource Management**

To prevent conflicts over resources, Pakistan could improve its resource management practices, including those related to water, land, and energy. This could involve implementing better regulations, investing in new technologies, and working with neighboring countries to develop shared resource management strategies.

- **Build resilience**

Pakistan could build resilience by investing in education, healthcare, and other social services that help communities withstand the negative impacts of climate change and other threats. This could help reduce the potential for violence and conflict in the long term.

- **People-Centric Approach to Mitigate Conflict, Maintain Peace, and Sustainable Development**

Distribution and allocation of resources must be made per the demographic and geographic needs of each region/province. This had been made possible because of the 18th Amendment, but certain political biases and decisions affect its effective implementation. Decision-making on provinces must include the rightful and legitimate representatives and spokespersons from each province. Moreover, developmental projects should include the consensus of the concerned parties. Inclusion and due approval of all stakeholders in such matters are crucial to the prosperity and stability of the country.

- **Address Grievances and Promote Dialogue**

To promote peace and prevent climate change from getting further rooted in the sociopolitical fabric, the decision-makers could address the grievances of those who remain crestfallen due to being deprived of their basic rights (and hence resort to violent means to achieve their targets or avenge on the state), and promote dialogue between the government and local communities. This could involve addressing issues related to economic development, political representation, and access to resources. By promoting dialogue and addressing grievances, Pakistan could help build trust and reduce the potential for conflict in the region.

- **Increase Women's Participation in Climate Decision-Making**

Pakistan could work to increase women's participation in climate decision-making at all levels. This could involve creating opportunities for women to participate in climate planning and policy-making processes, as well as ensuring that their voices are heard and their perspectives are taken into account.

- **Provide Climate Information and Education to Women, and Address Gender-Based Violence**

The government could provide women with access to information and education about climate change, its impacts, and adaptation strategies. This could help women better understand the risks they face and empower them to take action to protect themselves and their families. Besides, it is necessary to address gender-based violence, which can increase during climate-related disasters. This could involve providing support services for survivors of violence, increasing awareness about the issue, and addressing the root causes of violence against women.

- **Support Women's Livelihoods**

Pakistan could support women's livelihoods through programs that promote sustainable agriculture, provide access to credit and finance, and support entrepreneurship. This could help women build resilience to climate change and reduce their vulnerability to its impacts.

Overall, the stakeholders can take a gender-sensitive approach to climate change, recognizing that women are often more vulnerable to its impacts and can play a critical role in building resilience to climate change. By addressing the specific needs and concerns of women, Pakistan can help ensure that all members of society are protected from the human security threats posed by climate change.

- **Modern Agrarian Technologies**

The country's dependence on agriculture keeps its food security at a high stake. The government should equip the deprived, rural farmers with updated knowledge and modern methods to reap better vegetation and prevent damage to the crops in case of flooding.

- **Ensuring Labor/Farmer Rights, Increased Accountability of Stakeholders**

Legislation should be put in place to ensure the minimum wage and continued livelihood for farmers in times of natural and prolonged disasters. Besides, non-governmental, rights organizations should strengthen advocacy on labor unions, especially for rural workers and farmers. Such a grassroots practice will have an immense impact on familiarizing the respective individuals with their rights, and further gain the attention of the actual plenipotentiaries (government stakeholders and landowners) to address the recurrent problems and enhance prospects and culture for accountability on their part.

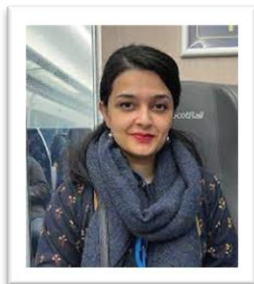
## Conclusion

The overall empirical data paints a gloomy picture, but there are certain aspects to celebrate – providing a margin of hope to move forward. Pakistan has taken some steps to address climate change, such as launching the National Climate Change Policy in 2012, setting up a Climate Change Council and Authority, and committing to the Paris Agreement. Pakistan has been a party to the United Nations Framework Convention on Climate Change (UNFCCC) since 1994 and has participated in all of the COP meetings since then. In COP 21 held in Paris in 2015, Pakistan joined the international community in adopting the Paris Agreement. Pakistan has also made significant efforts to address climate change at the national level, including the launch of the Billion Tree Tsunami project and the Clean Green Pakistan Initiative. These initiatives aim to increase the country's forest cover and reduce carbon emissions by promoting clean energy, waste management, and sustainable transportation. In COP 26 held in Glasgow in 2021, Pakistan pledged to achieve net-zero greenhouse gas emissions by 2050 and submitted its updated Nationally Determined Contributions (NDCs) to the UNFCCC. Pakistan's updated NDCs included a target to reduce its greenhouse gas emissions by 30% by 2030 compared to business-as-usual projections.

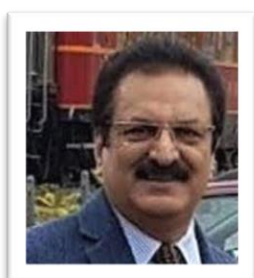
At COP 26, Pakistan was also allocated a loss and damage (L&D) fund which is designed to help developing countries cope with the impact of climate change, including the loss of life, damage to property and infrastructure, and the displacement of people. The allocation of funds to specific countries is determined by a range of factors, including the scale and severity of the damage, and the level of economic development. It is up to the international community to decide how much funding to allocate to the Loss and Damage fund, and how to distribute it among the countries most in need.

Pakistan's progress towards climate mitigation is slow and its climate vulnerability is anticipated to spike in the coming decades. Hence, to effectively utilize the afore-stated achievements and become climate-resilient and peaceful, it needs to take more aggressive measures to mitigate and adapt to the impacts of climate change. This can be achieved by investing in renewable energy, promoting sustainable agriculture practices, implementing effective disaster risk reduction measures, strengthening climate resilience in vulnerable communities, and other measures stated in the policy recommendations.

## PROFILES OF EXPERTS



**Zahra Khan Durrani** is a multidisciplinary researcher, climate change advocate and sustainability advocate, and public policy analyst who specializes in the field of climate change, humanitarian action, social protection, and gender equality within the sustainable development agenda. Her education and work experience provided her with a solid foundation and skill set in sustainable development. She holds an M.Phil. in Development Studies from Pakistan Institute of Development Economics and a Bachelor in Development Economics from Quaid-i-Azam University.



**Dr. Najam Khurshid** has over 35 years of in-depth experience in Sustainable Development, Environmental Management, Water Resource Management, Climate Change Resilience, and Biodiversity Conservation. He has developed ESIA, ESMF, and environmental and social management plans for World Bank, and KfW Bank, and USAID Funded Projects.



**Dr. Salma Malik** is an educationist and a researcher, with over 25 years of experience. Her research interests are fairly diverse, including, strategic and security studies, politics of war and defense, security sector reform, conflict mitigation, human security, gender issues, the impact of pandemics, South Asian Studies, confidence building, Kashmir, arms control, etc. She is the author of forty academic papers.



**Dr. Uzair Hashmi** holds a Ph.D. degree in Political Science and Public Administration from Middle East Technical University, Turkey.

He has published his work on international politics, language policy, classical public administration, and neo-Marxist political thought. He is passionate about exploring the role of non-state actors, particularly civil society, in public service provision, and the participatory role of citizens in public policy. Dr. Hashmi joined the Government and Public Policy department as an Assistant Professor in February 2021. Before joining NUST, Dr. Hashmi had vast work experience with the public and corporate sectors. Dr. Hashmi has been involved full-time in research from 2014 to 2020 as a Fellow Researcher at Middle East Technical University, Turkey, and the University of New York, Albania.



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