# Islamic Relief

## Climate Induced Migration in Pakistan: Global discourse, local realities and governance

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**Research report on Climate Induced Migration: Global discourse, local realities and governance**

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| CIM | Climate Induced Migration |
| EPA | Environmental Protection Agency |
| ERRA | Earthquake Rehabilitation and Reconstruction Authority |
| FATA | Federally Administered Tribal Areas |
| GLOF | Glacial Lake Outburst Flood |
| IDMC | Internal Displacement Monitoring Center |
| IDPs | Internally Displaced Persons |
| IOM | International Organization for Migration |
| IPCC | Intergovernmental Panel on Climate Change |
| KP | Khyber Pakhtunkhwa |
| MoCC | Ministry of Climate Change |
| NARC | National Agriculture Research Center |
| NDMA | National Disaster Management Authority |
| NGO | Non-Government Organization |
| PDMA | Provincial Disaster Management Authority |
| PEPA | Pakistan Environmental Protection Act |
| PMD | Pakistan Meteorological Department |
| PSDP | Public Sector Development Program |
| SDGs | Sustainable Development Goals |
| UNFCCC | United Nations Framework Convention on Climate Change |
| UNFP | United Nations Food Programme |
| UNHCR | United Nations High Commission for Refugees |
| WWF | World Wildlife Fund |
| SUPARCO | The Space & Upper Atmosphere Research Commission |
| SDPC | Social Policy and Development Centre |
| UNDP | United Nations Development Programme |
| DDMA | District Disaster Management Authority |
| FGD | Focus Group Discussion |
| MNA | Member National Assembly |
| MPA | Member Provincial Assembly |
| BISP | Benazir Income Support Programme |
| BRSP | Balochistan Rural Support Programme |
| HDI | Human Development Index |
| NWFP | North-West Frontier Province |
| LFS | Labour Force Survey |
| IMF | International Monetary Fund |
| PCRWR | Pakistan Council of Research in Water Resources |
| Taluqa | A subdivision of a district; a group of several villages |
| VOCAL | Voices Organized for Climate Advocacy and Lobbying |

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# Key Terms

**Climate Change:** the UNFCCC defines climate change as a change of climate that is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and that is in addition to natural climate variability observed over comparable time periods.

**Governance:** the use of the term governance is taken from UNESCO where governance is used in broad terms to mean more than the organs of the government. The culture and institutional environment in which citizens and stakeholders interact among themselves and participate in public affairs is also considered governance.

**Climate Migration:** the working definition by IOM comprises a singular type of environmental migration. It refers to the movement of a person or groups of persons who, predominantly for reasons of sudden or progressive change in the environment due to climate change, are obliged to leave their habitual place of residence, or choose to do so, either temporarily or permanently, within a state or across an international border.

**Climate Induced Migration:** For this research, climate induced migration is the term used to broadly refer to all movement of people due to climate change impacts resulting from both slow and rapid onset impacts. While the term displacement is often used to refer to temporary relocation of people in events of flooding and GLOF, the definition of Internally Displaced People constitutes those persons displaced by conflict. The term migration is specifically used to account for all climate related movements to stress the importance of the broad challenge.

**Circular Migration:** Circular migration or repeat migration is the temporary and usually repetitive movement of a migrant worker between home and host areas, typically for the purpose of employment. It represents an established pattern of population mobility, whether cross-country or rural-urban.

**Seasonal Migration:** IOM defines seasonal migration as the movement by a migrant worker whose work or migration for employment is dependent upon seasonal conditions and is performed only during part of the year.

**Internally Displaced Persons:** According to the Guiding Principles on Internal Displacement, Internally Displaced Persons (also known as IDPs) are persons or groups of persons who have been forced or obliged to flee or to leave their homes or places of habitual residence, in particular as a result of or in order to avoid the effects of armed conflict, situations of generalized violence, violations of human rights or natural or human-made disasters, and who have not crossed an internationally recognized border.

# THOSE LEFT BEHIND

Pakistan was severely hit by heavy monsoon rains and urban flooding during August and September of 2020. The fatal flooding resulted in 409 deaths and further injured 402 people, and approximatley 305,151 homes were partially or fully damaged. The province of Sindh was affected the most and received a historic level of rain.[1]

Women were the most affected as a result of the monsoon emergency. Women often work in the chilli, cotton, and wheat fields as laborers and when the floods destroyed the year's main crops; the floods took away their livelihoods. Even after the flood water drained away, most agricultural lands remained uncultivable, preventing farmers from planting for the next season. Affectees of the emergency highlighted that apart from the loss of livestock and livelihoods, they also suffer from a severe shortage of food supplies as well as the contamination of their only source of drinking water. They also raised concern over the lack of aid and assistance from the Government, welfare organizations and medical teams.

**"My village's name is Allah Bachaio Goth [Thatta, Sindh]. We are about 950 people in this village, and this village has 115 homes. [Because of the flood] half of the people have moved to a safe location but half of the people are still here. It rained for about a week that wreaked havoc in our village. We lost our homes, we lost our livestock, and 59 of our pets. There has been no casualty but there are a lot of sick people because of malaria. No one has reached for help yet. No medical team has reached here. Most of the people are laborers and farmers in this village. We cultivate rice and all of the crops are damaged. Our vegetables are also damaged. Every home has one or two cows or goats. 10-15 cows and goats have died due to rain. The ones alive have been moved to a safe place." – Ghulam Rasool**

**"It rained continuously for more than 8 days which has caused this [motioning towards her surrounding] destruction. The water level was at 3-4 feet. We had nowhere to go so we didn't go anywhere and moved to higher grounds. A lot of people moved to safe locations temporarily because their homes were in water but we stayed back. The rain water damaged everything we had: our homes, our furniture, kitchen utensils, and beddings. We are poor people, we don't have anything else. We have been here since birth. We are daily wagers and work in fields along with men and we earn Rs.200-250. Our men go to sea for fishing; sometimes they earn, other times they don't. We don't own any land for farming. Our drinking water tap is now underwater, it is also damaged after these rains but still works. We also drink water from the canal which is unsafe but there is no other option. We don't have anything to eat. We are eating red chillies, garlic and onion as there is nothing else to eat. We don't have any money to buy food. What else can we eat? We are daily wagers; if we get the work, we eat. Sometimes we don't even eat food. Our most urgent need is food. There are families who have not had a proper meal since the floods. There is so much water that we cannot migrate now, we will get ill and suffer more than we are suffering right now. There is so much water." - Kareema**

**"... We use tap water for drinking but after the rains, the water in the tap is contaminated. We don't have another source to drink water so we drink from that. We can't even afford to buy water from the market." - Fatima**

# Graphical Summary

The figure below presents a graphical summary of climate induced migration patterns in Pakistan as identified by respondents. The arrows represent the direction of the migration flow and not necessarily the exact locations of out-flow and in-flow of climate induced migrations.


*Figure 1: In-country climate induced migration patterns*

# Executive Summary

Climate change itself may not discriminate between the rich and the poor or on the basis of gender, age, race, or disability, but global political, economic, and social institutions can, and do, exacerbate the impacts of climate change on specific disadvantaged segments of society all over the globe, especially in the Global South.

The disastrous summer of 2021 was yet another eye opener for the global community to witness the consequences of climate inaction, and it was but a portent of what humanity can face in the coming decades if immediate and dramatic steps are not taken to cut carbon emissions and restore ecosystems.

Pakistan continues to be among the top ten countries most vulnerable to climate change in the Global Climate Risk Index. In 2020, the country took the fifth spot on the list.[2] High rising temperatures, increased intensity and frequency of weather related disasters and events, melting of the glaciers in the North (especially Himalayan glaciers) and increased the variability of monsoon rains are high degree impacts being faced by the country. Pakistan is subject to a vast array of natural and man-made assisted hazards, which have caused numerous waves of internal displacement and internal migration. An approximate of three million people in Pakistan are affected by natural catastrophes every year, which equates to almost 1.6 per cent of the total population of the country.[3] The Indus delta, which is the 5th largest delta in the world and a designated Ramsar wetland of Pakistan, has shrunk by 92 per cent[4] in the past two decades and more than 1.2 million people have migrated from the delta towards the mega city Karachi.[5] Pakistan also has the highest rate of urbanisation in South Asia and the UNFP division estimates that nearly half of the country's population will be living in urban cities by 2025.[6]

This research is a first in the series of studies aimed at generating highly critical debate on the increasing phenomenon of climate induced migration, based on evidence from the field. This particular research aims to highlight and acknowledge the presence of climate induced migrants in Pakistan. It makes arguments towards convincing the global community for the need to protect and facilitate migrant communities by adopting tailor-made strategies to mitigate and adapt to the impacts of climate change. As reflected in this study, climate change and migration are highly correlated, and it is imperative that we confront this link as several studies forecast that mass human displacements are expected to take place in the 21st century. Climate impacts, both rapid and slow onset, are compounded by a wide range of factors including social, economic, political, and even cultural aspects within a community, which may compel migration. Unplanned and forced migration in a country like Pakistan, with a population of over 200 million, all targeted towards the capital cities and already stressed urban centers will further compound climate risks. A warmer climate has now become inevitable, but how we respond to climate change will determine the magnitude of the costs and consequences that we will face.

The rise in global temperatures has already had observable impacts on the environment. The predictions that scientists had made around global climate change in the past are now coming true: glaciers are shrinking, ice caps, sea ice and frozen rivers are breaking up earlier than they are supposed to, sea level is rising, droughts and floods have intensified, animals and bird species are migrating and so are humans. According to IPCC, climate change threatens to continue to rise the global temperatures between 2.5 to 10 degree Fahrenheit over the next century[7] which compels us to ask key questions regarding the environment, climate change and human mobility.

The first set of questions are those that governments and policymakers in countries of origin should be asking with regards to the causes, scale, and pattern of movement: Who is migrating? When and where are they migrating from? Where are they migrating to? What are the unique push factors for migrating? What are the deciding factors for settling at a new destination? Are they crossing borders or traveling within their country of origin? Is migration temporary or permanent? Is migration forced?

The second set of questions are those that world leaders and policy influencers should be addressing: How can global legal frameworks cater specifically to the needs of climate induced migrants? Are the countries which are most vulnerable to climate change impacts being highlighted and provided with financial, development and adaptation assistance, since most of these countries are, after all, developing countries? How are nations preparing to meet the remapping of the world's population that climate change threatens?

This study reflects on one of the extreme consequences of climate change which is climate induced migration. It highlights some of the most dominating global perspectives and arguments around the causes and characteristics of climate change induced migration, which act as barriers in the constitution of public policies and international laws. It also highlights the need for investment in climate solutions that are desperately needed to protect the lives and dignity of people around the world, especially the ones disproportionately impacted by climate change. This study also makes comparisons between popular global perspectives and field realities by studying incidences of movements in three distinct regions of Pakistan, by presenting case studies that reflect upon variables that are rarely seen in climate induced migration analyses. These include not only socio-economic constructions but also political, religious, cultural factors that play crucial roles in an individual/ family's migration decisions.

The breakdown of the study is as follows: the complexity of the relationship between climate change and migration is highlighted in the first section, which sheds light on the greatness of the challenge globally, and the difficulties encountered in the prediction of the impact and magnitude of future migrations, as well as its appropriate policy responses. Section two presents findings from the literature review on the climate risk, migration, and general country profile of Pakistan. It tries to present a breakdown of the climate-migration nexus and an understanding of how climate change likely affects migration patterns within Pakistan. It also briefly explains the methodology that was adopted for this research study. Section three breaks down the findings of secondary data analysis on the globally recognized debates on climate induced migration in comparison to the local realities of Pakistan. Section four covers analysis of the primary data collected from respondents belonging to relevant Government departments and stakeholders to highlight the level of planning and response towards climate induced migration in the country. It presents scenarios of CIM and their governance response from three vastly different regions of Pakistan: Sindh, Khyber Pakhtunkhwa and Balochistan. Section five concludes the findings of the study by highlighting how climate change impacts exacerbate the vulnerabilities of already challenged communities, interfering with their way of life - through the damage of ecosystems, sea-level rise or frequent disasters - compelling them to make migration decisions that may not always be their own choice. Policy recommendations are given for Pakistan's Government and for the global community to take immediate action which includes: inter alia, tailor-made interventions depending on specific localities and types of communities, and informed policy responses keeping in view cultural sensitivity and other sacred values of vulnerable communities.

Dried up Karez (underground irrigation tunnels) in Purana Mian Khanzai

Abandoned homes in Purana Mian Khanzai

# DIFFICULT DECISIONS: CLIMATE INDUCED MIGRATIONS IN DROUGHT STRICKEN BALOCHISTAN

With a continuous loss of income and no other option at hand, Abdul Malik, a 55 year old Brahvi speaking Baloch, decided with a heavy heart to migrate to a new village along with his community of 102 households. They moved from Purana Mian Khanzai to to a new village, located in Panjpai, Quetta, which is in the outskirts of Quetta city. Migrating to a new place brought numerous challenges for him. **"I had to sell some of my belongings at very low prices because some resources could not be carried out to the new migrated region."** The village where they decided to migrate was also not abundant in resources, so the people already living there were not so welcoming. According to him, **"they were not open to the idea that 100 households migrated all at once, while resources in their own land were barely enough for their own use. With the migration of additional migrants, the situation would worsen."**

**"My native land was once agriculturally rich before the prolonged droughts. I used to live as a farmer and worked on my own piece of land where I had livestock and I grew crops. Water scarcity and extreme climatic conditions have resulted in loss of both of my source of income. After migrating, my villagers and I have become tenants."** Remembering his life before migration, Abdul Malik said that **"I am grateful to still be a farmer but I am a worker in other's fields."**

# 1. Introduction

During the 1980s and 1990s, climate change was predominately perceived as an environmental and scientific discussion, rather than a challenge facing populations across the world. Today, the impacts of climate change can be seen in a multitude of layers and is hard to ignore with its devastating interaction with other environmental and non-environmental issues. Climate change has had profound impacts not only when it comes to disaster risks and uncertainties, but also on human, economic, social, and political systems. The Intergovernmental Panel on Climate Change (IPCC) warned the world that the "greatest single impact of climate change could be on human migration", emphasizing the vast potential impact of climate change on humans.[8]

The relationship of the components - climate change and migration - has been explored in a number of ways, with some studies focusing on the impact on the environment due to refugee movements, while more recent studies have predominantly addressed the impacts of environmental changes on migration flows. The consequences of climate change on humans are multiple, complex and unpredictable, due to the fact that many factors of inter alia, social, economic, political, and ecological nature influence the mobility of people. Establishing a linear and causative relationship between climate change and forced migration has, therefore, been difficult.[9] Yet there are a number of different theories and schools of thought on the subject.

Forced displacement resulting from the adverse impacts of climate change is one of the biggest challenges of the 21st century that are currently being faced by the international community, especially by the vulnerable Global South. Every year, millions of people are displaced by climate related hazards including floods, tropical storms, droughts, glacial melting and GLOFs, salt water intrusion, melting permafrost, and overall environmental degradation.[10]

Some recent scientific studies have projected that as regions continue to get warmer and land becomes unproductive for humans, hundreds of millions of people from across the globe will be forced to choose between flight or death. A New York Times article series on global climate migration predicted that, by 2070, 19% of the world will become 'barely livable hot zones'.[11] A UNDP report predicted that there will be 200 million forced climate migrants by 2050.[12]

Although some experts have continued to dismiss these predictions as alarmist, there can be little doubt that the number of natural disasters has doubled in the last two decades. According to the Climate Centre, climate-related disasters have increased more than 80% over the last four decades.[13] Sudden-onset disasters and climate change-related incidences increasingly lead to the displacement of people. According to the Internal Displacement Monitoring Centre (IDMC), at least seven million people were internally displaced as a result of disasters across 104 countries as of 31st December 2020; 88.9 per cent of these disasters were weather related.[14]

According to another study, published in the Journal Proceedings of the National Academy of Sciences, plants, animals, and humans have always evolved to live in environments with particular temperature ranges but as the planet warms, these ranges are moving.[15] The study predicts that on current trends, the planet could experience a greater temperature increase in the next 50 years than in the last 6,000 years combined. This means that the extremely hot zones, such as the Sahara Desert, which currently covers less than 1 per cent of the Earth's land surface, could potentially grow to cover a fifth of the land on the planet.[16] In such a scenario, one in three people could be living outside the 'climate niche (optimal conditions for survival)', where humans have evolved and prospered for thousands of years.[17]

The hottest regions with the most extreme heat could encompass a much larger part of Africa, as well as parts of the Indian subcontinent. A study published in 2017 goes as far as to say that by 2100, temperatures could rise to the point where in some places, including parts of South Asia, exposure to the heat for only a few hours "will result in death even for the fittest of humans."[18] People living in those regions will be compelled to take any and all measures to survive the extreme heat, resulting in food shortages and even political turmoil, while others will be forced to migrate. People in South-East Asia have already started to flee their homes due to extreme droughts and changes in monsoon rainfalls that have affected agricultural practices.

Vast internal migrations that take place within countries are hardly ever noticed and rarely discussed on international platforms. These are the migration events that impact the poor and the most vulnerable who circulate in millions between villages and cities, in search of work or in an attempt to escape a natural hazard. Literature and research on migration have traditionally focused on the variability in socioeconomic conditions of migrants and have only recently begun to incorporate additional factors, such as, access to finance and capital, access to finance and capital, governance, and the environmental conditions experienced by migrants. There are serious gaps in the global understanding of such migration trends and a lack of attention to critically important policy and protection issues regarding these migrants. As the impact of the global climate change crisis becomes ever more apparent, it is increasingly important that debate around migrant protection and climate induced migration is highlighted.

Currently, there is no universally accepted definition of climate migrants and there is an absence of international legislation that recognises and protects the rights of climate migrants; although some developing countries have formalised their own national migration policies. After the agreements made at the UN Climate Conference in Paris in 2015 (the 'Paris Agreement') recognised 'climate migration' and 'climate migrants' in their draft text, the International Organization for Migration (IOM) acknowledged the existence of climate migrants. The IOM's working definition of climate migrants is 'non-normative' and 'non-perspective' and is not considered a legal standard, but advocates support for migrants in their plight as they escape climate change impacts.[19]

Pakistan's Climate Change Policy of 2012 contains just one clause that addresses migration as a policy measure. This clause talks about 'curbing rural-to-urban migration' by developing short term 'agro-based towns in rural areas and periphery urban areas.'[20] The Framework for Implementation of Climate Change Policy (2014-2030) also mentions climate induced migration as a threat to Pakistan and sets out a clear strategy to "develop infrastructure and support facilities in smaller agro-based towns and periphery urban areas to check rural-to-urban migration" through "the provision of modern amenities in rural areas to discourage rural to urban migration", "development of industrial

estates and large scale agricultural farms to provide job opportunities to the rural population near their homes", and provision of "necessary infrastructure and services to remove agricultural settlements to encourage movement of goods rather than labor out of there". There is also a proposed action to "encourage resettlement/relocation of villages outside the flood plains", however, further reflection and indepth study of the subject is needed to focus attention on forced climate induced migrations.[21] Pakistan does not even have a migration policy that can be updated to include the recognition and facilitation of climate induced migration.

Climate change is altering migration patterns throughout the Global South, but it is the poorest and already vulnerable people that are most impacted. Three in every four people living in poverty are dependent on agriculture and natural resources for their survival. The increased competition over scarce water resources and food, exacerbated by climate change, is a matter of life and death for poor communities. The impacts of climate change do not affect everyone equally. Women disproportionately bear the burden of the impacts of climate change, which are often aggravated in times of conflict and political instability. Many studies have highlighted how natural disasters increase women's vulnerability to sexual exploitation and exposure to violence because of structural inequalities present in societies that deny them agency over resources and finances.[22] Women bear the greater burden of climate change impacts because of their traditional roles as caretakers and providers of food, water, and family welfare within the households, as well as work responsibilities that are mostly confined to agricultural labour. When crops are damaged because of climate change, women have limited opportunities to make a living. Addressing negative gender norms at every level of planning and programming, whether it be livelihoods, nutrition, water management, or any other area, is critical to avoid conflicts. If women do not have agency, control, or the decision-making power over their resources, those same resources are not as efficiently utilized, and their benefits are not shared to generate sustainable livelihoods that can help guarantee peace and the achievement of sustainable human development.[23]

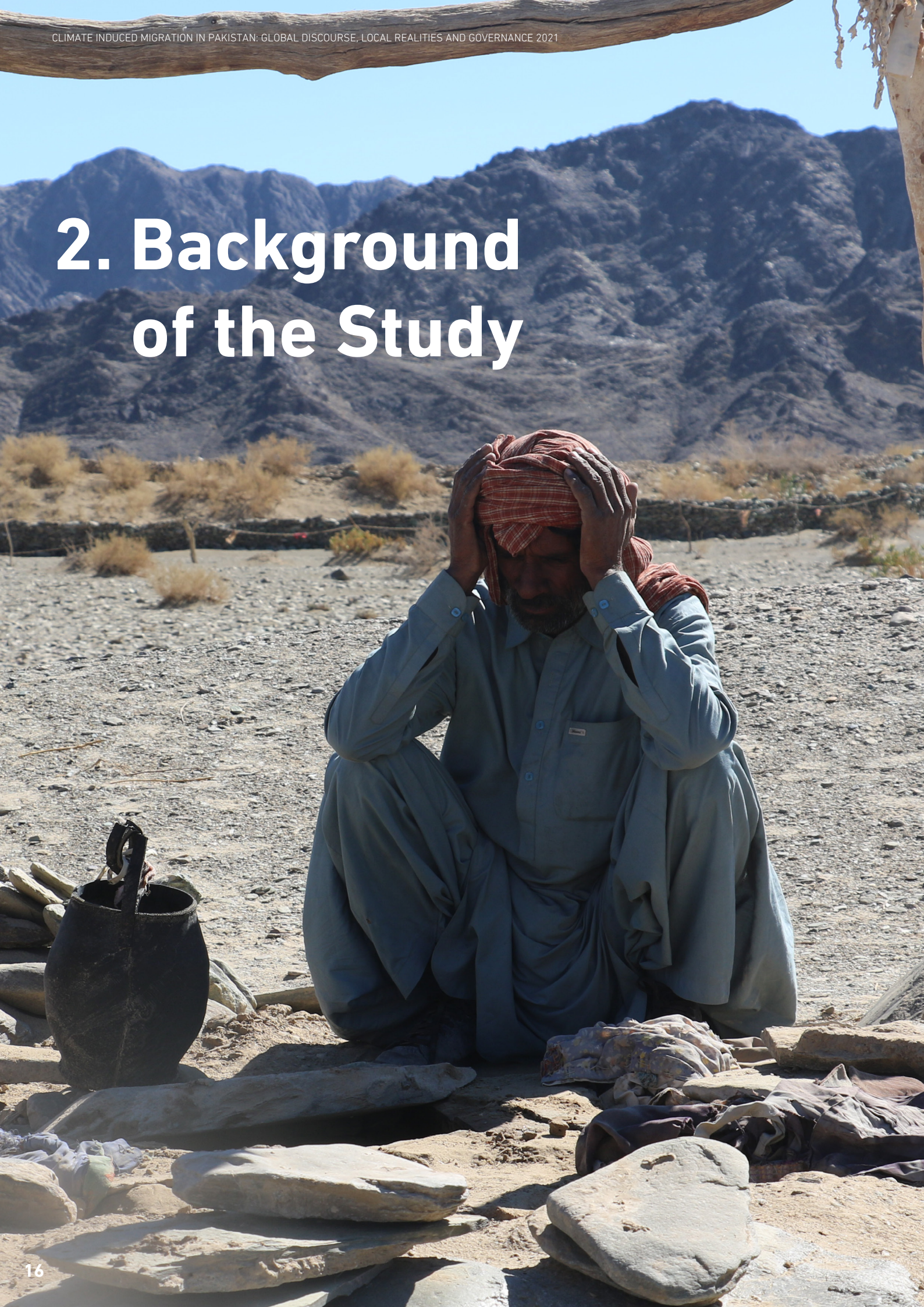
Climate change induced migration is a complex phenomenon but it can be loosely grouped into three categories: (1) individual migrants who make a conscious decision to migrate due to diminishing economic opportunities and access to food and water caused by climate related factors; (2) planned relocation of entire families/livestock etc; and (3) unplanned displacement due to climate change impacts.[24]

Global temperature increases have already led to observable impacts on the environment. Scientific predictions regarding the likely impact of climate change are now occurring: glaciers are shrinking, ice caps, sea ice, and frozen rivers are breaking up at a quicker rate, sea levels are rising, droughts and floods have intensified, animals and bird species are migrating and so are humans. According to the latest IPCC report, global temperature is expected to reach or exceed 1.5°C of warming, averaged over the next 20 years. Long term best estimates (between years 2081-2100) is expected between 3.3°C to 5.7°C.[25]

This research report pieces together the relationship between climate change and migration. It also provides evidence of climate induced migration in Pakistan and highlights governance and policy issues relevant to meeting the challenge that arises with and from climate induced migration. It sheds light on internal displacements that result from climate change and environmental issues that are not being sufficiently addressed in the current global discourse on climate induced migration.

The complexity of the relationship between climate change and migration presents challenges in predicting the impact and magnitude of future climate induced migration and the required policy responses. The first part of this report presents findings from the literature review, explaining the impacts of climate change on migration globally, with specific emphasis on how migration patterns within and from Pakistan are likely affected by climate change. It presents scenarios of climate induced migration and related governance responses from three vastly different regions of Pakistan: Sindh, Khyber Pakhtunkhwa, and Balochistan.

# 2. Background of the Study



## 2.1 Climate Change, Migration and Pakistan

### 2.1.1 Pakistan's country profile

The Islamic Republic of Pakistan is located in South Asia, situated between the Karakoram mountain range, the Himalayas and China in the North-East, Afghanistan in the North-West, Iran in the South-West, the Arabian Sea in the South and India in the East. In the West, the Khyber Pass and Bolan Pass have previously served as traditional migration routes between Europe and the rest of South Asia.

The country covers an area of 796,095 $km^2$ and, in 2021, has a population of more than 220 million people, making it the fifth most populous country in the world. The geographical area of Pakistan can be divided into five major regions: the Himalayan and Karakoram ranges and their subranges, the Hindu Kush and Western mountains, the Balochistan Plateau, the submontane plateau (Potohar Plateau, Salt Range, Trans-Indus Plain and Sialkot area); and the remarkably flat fertile Indus River Plain, which is cultivated by the River Indus that flows from Tibet/China and enters Pakistan through Gilgit Baltistan and drains southward into the Arabian Sea. There are further subdivisions within each major division, including a number of desert areas. Approximately three-fifths of the country's land mass consists of mountain ranges, inhospitable plateaus and complex valleys, while the other two-fifths consists of flat plains.

The country is divided into four provinces (Punjab, Sindh, Balochistan. and Khyber Pakhtunkhwa), one federal territory (Islamabad Capital Territory) and two autonomous administrative territories (Azad Jammu and Kashmir and Gilgit-Baltistan). Each administrative division is ethnically and linguistically distinct, shaped by historical evolution and ecological factors. Cultural, religious and social differences have from time to time led to conflicts, often in remote areas which are virtually ungovernable by the central authorities. The results of this study are focused on the Sindh, Balochistan, and Khyber Pakhtunkhwa regions.

With a Human Development Index (HDI) of 0.557, Pakistan ranks at the lower end of the medium development category (currently 154th out of the 189 countries assessed by The United Nations Development Programme (UNDP).[26] According to the Multidimensional Poverty Report, 38.8 per cent of the Pakistani population live in multidimensional poverty, with significant variations in development levels between rural and urban areas; one in every ten people living in an urban area is multidimensionally poor compared to five in every ten people living in rural areas.[27]

### 2.1.2 Pakistan's Migration Profile

To understand the status of and reasons for migration patterns within Pakistan, it is important to reflect on the history and geography of the country which has a significant role in influencing migration patterns today. In the late nineteenth and early twentieth century, mass migration in the Subcontinent occurred as a response to the establishment of agricultural colonies and canal networks, constructed for irrigation purposes. The British established cantonments in parts of Bahawalpur, Peshawar, Karachi, and other areas which attracted migrants and subsequently grew into mega urban settlements. The farming communities, or the 'cultivating castes', were also settled by the British in regions like Faisalabad (Eastern Punjab) and later in parts of Bahawalpur (a princely state at the time) and Bahawalnagar. Similarly, after the construction of the Sukkur Barrage, people from Punjab settled in areas of Sindh (Sukkur and later in Sanghar) and the construction of Ghulam Muhammad Barrage was followed by migrations of people from Punjab to Badin (Sindh)[28]. Most people in the North-West Frontier Province (NWFP) region, now called Khyber Pakhtunkhwa, made migrations into Peshawar and other cantonments in the same province, while cantonments in Karachi and Bahawalpur received migrations from Punjab.

Following the creation of Pakistan in 1947, there was an influx of migrants to the country, followed by accelerated rural to urban migrations, where approximately two million people mainly settled in Punjab and Sindh as the population grew rapidly. The pace of urbanisation then continued slowly until the early 1950s. The next great wave of migration took place during the separation of East and West Pakistan, creating irregular migrants out of former citizens. The third landmark cross-border migration followed after the Afghan crisis in 1978, where approximately three million refugees settled in parts of Karachi and various regions in Balochistan and the Khyber Pakhtunkhwa. The influx of Afghan immigrants, especially in the Pakistani Pashtun province, resulted in high outward migration flows of Pakistani nationals leaving to work in oil rich countries.[29]

These waves of migration were not one-off events but instead continued to attract cross-border movements into Pakistan. Several internal migration streams followed before people permanently settled down.[30]

The rural-urban and cross-border migration patterns were set mainly as a result of the three historic streams outlined above. The current movement of people can be traced to the same patterns, where people move for work, to reunite with family or to meet family in ancestral lands, or due to shared cultural, religious, and traditional values.

The causes of migration in Pakistan, in particular internal migration, lack thorough research and analysis primarily due to lack of data. But a handful of research on patterns of inter and intra-province migration present interesting results that help to shed some light on the patterns of current climate induced migration in Pakistan.

Contrary to popular belief, unemployment and differences in earnings between origin and destination are not the only influence in rural-urban migration decisions; economic growth and inequality are also significant factors. "Macro-economic variables of interest include health, education, marriage, infrastructure, informational and migrant networks at the destination, as well as poverty, population density and landlessness at the place of origin."[31] The provision of public utilities, such as electricity, clean-piped water, and gas, are also essential considerations in the migration decision.

According to estimates from the 2014-2015 Labour Force Survey (LFS), the number of Pakistani people involved in internal migration is roughly four times the number of people moving abroad. This means that approximately 13 per cent of the Pakistani population are internal migrants. The main motivations are marriage (35 per cent), migration with family (21 per cent) and employment purposes (16.5 per cent).[32] According to a recent IOM report, a quarter of the total migration flows are from rural to urban.[33] According to Mahmud et al. (2018), 60 per cent of all internal migrations within Pakistan are towards urban centers (either from a rural district or from another urban district).[34] According to another study by Arif (2005), 40 per cent of internal migrations are from rural to urban areas, a majority of which are undertaken by males (60 per cent) for economic reasons.[35]

Another detailed study by Memon (2005) outlines that approximately 21 per cent of the total migrants are economic migrants, while the rest migrate with family or for marriage. The province of Sindh receives significant inflows of net migration from other provinces. Punjab also receives migration from Khyber Pakhtunkhwa, Sindh, and other districts of Punjab, while Balochistan has experienced migration outflows, especially to Sindh. Khyber Pakhtunkhwa outstrips Punjab as the main source of inter-provincial migrations, mainly because a large number of migrants from KP have settled in Punjab.[36] A study by Khatak (2004) focuses on migration patterns within Khyber Pakhtunkhwa. He found that the majority of people in Khyber Pakhtunkhwa migrated to other districts within the province. Most of these were young people who migrated for non-economic reasons and only 8.4 per cent migrated for business purposes. Naeem (2004) found that outflows of migrants from Punjab were greater than inflows into Punjab by other regions. Rukanuddin and Chaudhry (2004) highlight migrant patterns from Sindh and observed that two-thirds of the migrants moved within different areas of Sindh, while the remainder moved to other provinces for economic reasons.[37]

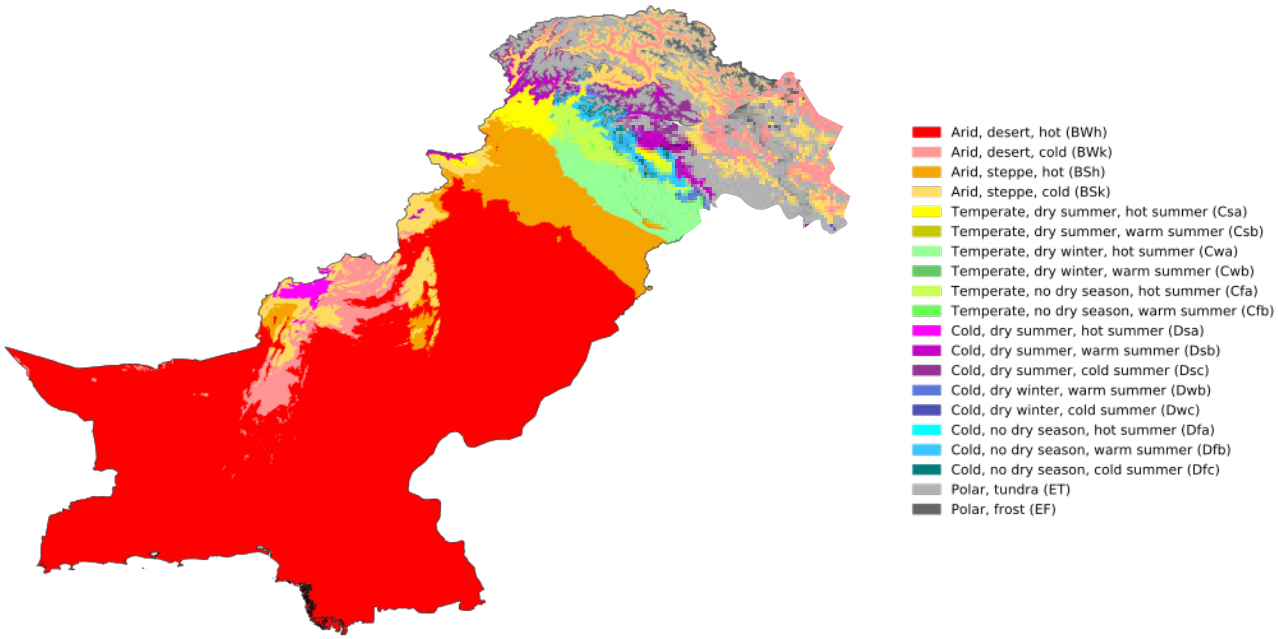
Pakistan is also subject to a vast array of natural and man-made assisted hazards, which have caused numerous waves of internal displacement and internal migration. Approximately three million people are affected by natural catastrophes annually, which equates to approximately 1.6 per cent of the total population.[38]

### 2.1.3 Pakistan's Climate Risk Profile

Pakistan's climate is as varied as the country's topography: dry and hot near the coast and along the lowland plains of the Indus River and progressively cooler in the Northern uplands and Himalayas. The high population density and vastly diverse terrain make Pakistan especially vulnerable to climate change impacts.[39] The Eastern regions of the Southern half of the country mainly receive precipitation through monsoon rains in the summer (June to September), while the Western and Northern regions of the Southern half receive precipitation mainly through Western weather disturbances in the winter season (December to March). Most regions of the country receive very little rainfall, with the exception of the Northern regions, where monsoons can bring rain upwards of 200 millimeters a month from July to September.

In 2020, Pakistan ranked as the fifth most vulnerable country to climate change in the Global Climate Risk Index.[40] High and rising temperatures, increased intensity and frequency of weather-related disasters and events, melting of the glaciers in the North, especially the Himalayan glaciers, alongside the increased variability of monsoon rains, are but a few of the high degree impacts facing the country.[41]

**Köppen-Geiger climate classification map for Pakistan (1980-2016)**




*Source: Köppen-Geiger climate* classification maps[42]

*Figure 2: Climate classification map of Pakistan*

According to a report by the International Monetary Fund (IMF), Pakistan ranks third on the list of countries facing water shortages.[43] According to the Pakistan Council of Research in Water Resources (PCRWR), the country is at the brink of reaching 'absolute scarcity' of water by 2025.[44] A holistic study of past environmental trends shows that the Indus Basin has been affected by droughts since the 19th century. Climate change threatens to make droughts much worse and frequent than before.

In the province of Sindh, coastal communities are bearing the brunt of sea intrusion. The land is being degraded, water resources are polluted and mangrove forests are diminishing. As a result, local communities are facing food insecurity and loss of livelihoods that force them to migrate to other parts of the country and across borders.[45] Similarly, parts of the Balochistan province, especially District Badin, have been impacted by climate change in the form of extreme sea intrusion as far as 85 km up the fresh water channels, causing extreme water shortage for consumption. Thousands of people have migrated away from this area as agricultural production has decreased from 82,200 hectares in 2001–2002 to 61,900 hectares in 2016.[46]

### 2.1.4 Pakistan's Climate–Migration Nexus

All over the world, for centuries people have undertaken seasonal or circular migrations as a way of life. The majority of these people come from rural agricultural backgrounds who migrate in search of employment and return home when the season is right for crop production activities. In the past decade, climate change has increasingly disrupted this system and forced communities into permanent migrations. Climate change creates migrants in a number of ways, including when climate change induced disasters displace people for shelter; sea level rises, forcing people to move inland and events like deforestation, overgrazing and drought-like situations destroy crops and kill livestock, leaving no choice for farmers and their families but to migrate elsewhere for work.[47]

The same is true for Pakistan, which is a developing country comprised of mostly dry and arid land, where the majority of the population, directly or indirectly, relies on the agriculture sector for their livelihood and daily sustenance. The sector not only employs half of the labour force but is also the largest source of the country's foreign exchange earnings.[48]

According to officials and local experts, extreme weather patterns, shrinking viable land for agricultural production, sea erosion and lingering dry spells have caused widespread migration within Pakistan in the past decade. Seasonal migrations are turning into long-term migrations. Displaced communities sometimes do not return back. Forced migration is becoming more common as people have no option but to migrate, and in some instances, people would rather die than be forced to move.

Increasing patterns of migration in various parts of the country have become an area of concern. The increased frequency and intensity of extreme weather events threaten food supplies and jeopardize livelihoods, separating families and driving entire households away from their place of residence. All of these effects increase the risk of poverty, hunger, and conflict, particularly among the most vulnerable.

Climate induced migration is not restricted to any one region in Pakistan. The patterns of forced migration can be seen all over the country. In Khyber Pukhtunkhwa, the challenges are multi-faceted; which are exacerbated by cross-border conflict spill-over. Its different regions are exposed to GLOFs, flash flooding, riverine flooding, and droughts. In Sindh, as outlined above, coastal communities are bearing the brunt of sea intrusion. Recent reports suggest that, on the current trajectory of rising sea level, Karachi will be completely submerged by 2060, and Thatta and Badin districts could be submerged by 2050.[49]

Drought is another major concern for Pakistan. Moderate to severe drought conditions have continuously prevailed in parts of South-West Balochistan, Southern Khyber Pakhtunkhwa, South-East Sindh, and Southern Punjab for at least the last six years. Sindh and Balochistan provinces are the most affected by recurring droughts, to the extent that the situation is rapidly becoming one of the worst natural disasters that Pakistan has ever witnessed. Upland areas of these affected provinces have witnessed minimal to no summer rainfalls, leading to a severe shortage of water resources and drying up of tube wells and springs. This has resulted in a drop in the underground water table in the low lying regions and valleys. Water unavailability disrupts the entire social fabric of communities, leading to food, health, and economic insecurities, compelling people into conflict over scarce resources and ultimately forcing them to migrate out of their regions.[50]

In the case of Balochistan and Sindh, lengthy dry spells have led the rural population to migrate to barrage areas in order to seek employment, food, and water for their families and livestock. According to Pakistan's Meteorological Department (PMD), 33 per cent of the population from the districts of Chagai, Noshki, Kharan and Washuk have migrated away from their land.[51]

Similarly, the Chitral district in Khyber Pakhtunkwa is one of the districts that have been severely affected by the impacts of climate change, as water scarcity and infertility of land in this area forced its resident communities to migrate out of their homes. People in Gilgit Baltistan have also been forced to migrate due to frequent torrential rains and flash floods. Continuous droughts in 26 districts of Sindh and Balochistan[52] are further examples of how climate change is capable of causing humanitarian disasters, where the prolonged El Nino droughts in the regions have affected more than five million people. The drought in Thar dessert caused the death of 257 children in the first quarter of 2019.[53] In Jacobabad, Sindh, the temperatures rose to such great levels – over 52 degree Celsius – that they surpassed the threshold of "too hot for human tolerance."[54]

Each region of Pakistan is dealing with different effects of climate change. High dependency on agriculture and fishing and unplanned urbanisation, compound with adverse climatic impacts, force people to migrate towards cities. A warmer climate has now become unavoidable, but how we respond to climate change will determine the magnitude of the costs and consequences that we will face. For a nation that lacks resources, resilience to disasters and good governance, the stress that climate change induced migration will bring will shake the country's stability and stir conflicts. Figure 2 shows maps of three regions, showing land cover loss or built-up (urbanisation) of land covered by buildings and other man-made structures which clearly shows that migration has taken place towards all urban centers.

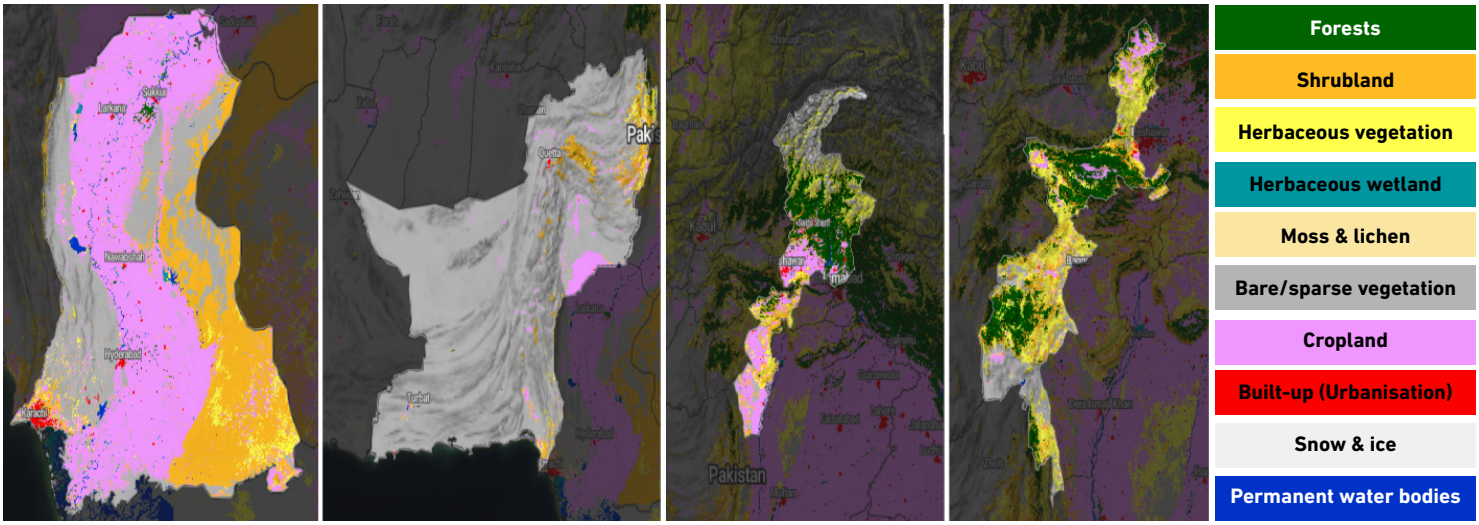



*Figure 3 : Land cover showing land loss or built-up in Sindh, Balochistan, and Khyber Pakhtunkhwa*

*Source: Copernicus Global Land Service*

## 2.2 Research Methodology

### 2.2.1 Research Overview

This research is the first in a series of preliminary studies aimed at generating vital debate based on evidence from the field. This particular report aims to highlight and acknowledge the presence of climate induced migrants in Pakistan and make arguments towards convincing the global community of the need to protect and facilitate migrant communities by adopting tailor-made strategies to mitigate and adapt to the impacts of climate change.

This study establishes the urgency of acknowledging the severe impact of climate change on people's mobility. Migrant communities from Khyber Pakhtunkhwa, Balochistan and Sindh province were identified and interviewed to build case studies that aim to push the agenda for climate change advocacy by identifying new governance mechanisms and social movements needed to fill existing gaps; alongside the economic implications of risks and costs associated with forced migration due to environmental changes. The research focuses heavily on the barriers to mainstreaming the issue of climate induced migration by presenting arguments and insights from the field to inform and challenge the most commonly debated issues and perspectives around climate induced migration.

The results obtained will be helpful in formalising a National Climate induced Migration Policy for Pakistan that will specifically highlight the definition of key terms like 'climate migrant' and 'climate migration' and address the facilitation and/or management of climate induced migration. Such a policy is intended to build on the clause in the National Climate Change Policy 2012 regarding 'curbing rural-to-urban migration'. This is crucial because climate migration is often confused with economic migration and presented as something that needs to be slowed or reduced, without exploring the depths and causes of the widespread migrations. To bring appropriate focus to people displaced due to climate change impacts, it is important that they are distinguished and facilitated accordingly.

### 2.2.2 Research Approach and Tools

This research employs a mixed-method approach and adopts an explanatory stance to present findings on climate induced migration in Pakistan based on the analysis of data derived from secondary sources, through literature review and primary findings. Primary data was collected through three preliminary research studies conducted in three different parts of the country with the support of; Abdul Wali Khan University in Mardan, Khyber Pakhtunkhwa, University of Sindh, Thatta Campus in Coastal Sindh and University of Balochistan in Quetta, Balochistan. The field teams of Islamic Relief Pakistan also worked extensively in the fields to identify and engage with the migrant communities and recorded their accounts as case studies from climate vulnerable regions of Pakistan. The secondary analysis looks at different global perspectives regarding climate induced migration and compares them to local realities of Pakistan. The primary analysis takes into consideration the perception of and planning for climate induced migrations in Pakistan as derived from a range of stakeholders, including relevant Government departments, non-governmental organisations (NGOs) and academics.

Data and information from the Khyber Pakhtunkhwa region was obtained through structured questionnaires, informal discussions, and meetings, and focus group discussions (FGDs) with 40 respondents from the Government, NGOs, and academia in selected districts. Field visits to disaster-prone areas were also carried out and recorded as case studies.

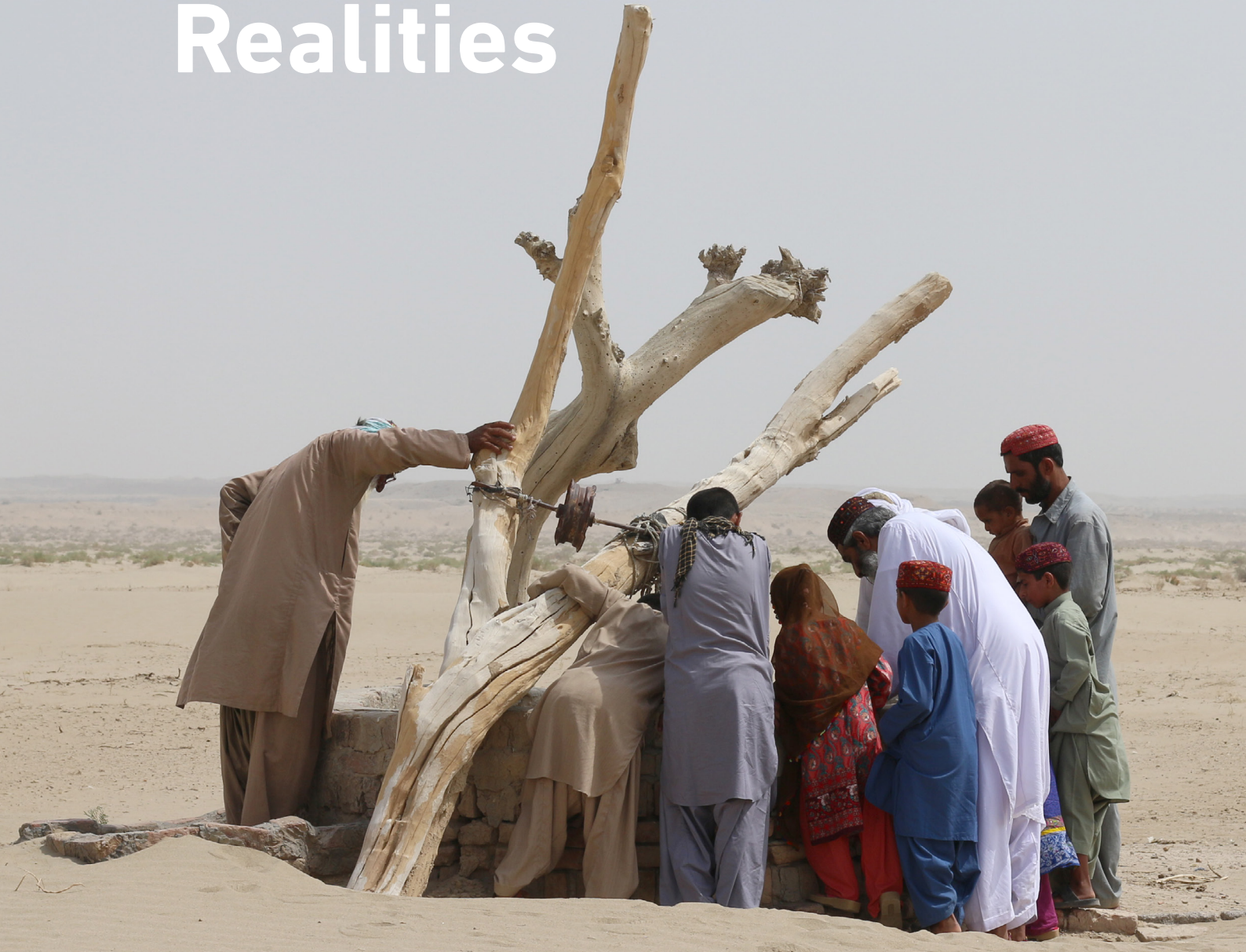
The findings from Sindh were collected through in-depth interviews with 53 respondents that include Members of the National Assembly (MNAs), Members of the Provincial Assembly (MPAs) and representatives of various Government departments, ministries, academia, NGOs and civil society. Insights were also gained through FGDs, seminars and consultation workshops with lawyers and media personnel from the coastal Sindh region. This detailed account was collected to gain a deeper understanding of the specific challenges of climate change in coastal areas and the status of migrant communities due to fast and slow-onset impacts of climate change and environmental damage. Case studies were also collected from migrant community members to gain insight into their experience and reasons for migrating.

The findings from Balochistan were obtained through in-depth interviews with seven highly qualified individuals, six of whom belong to relevant Government departments and semi-Government organisations who were directly or indirectly working in connection to climate change in the province. These stakeholders include the Research & Development Wing in Provincial Disaster Management Authority of Balochistan (PDMA), the Agriculture Extension Department, the Population Welfare Department, the Benazir Income Support Programme (BISP), the Planning and Development Department, the Livestock Department and the NGO Balochistan Rural Support Programme (BRSP).

### 2.2.3 Research Limitations

Primary field data was obtained through research partnerships with the three universities that conducted interviews with respondents in their regions and shared the findings with Islamic Relief Pakistan. During the study,it was observed that most of the respondents were hesitant to share details regarding the governance approach of their respective departments or ministries to address climate induced migration and future perspectives. The majority of the respondents however responded with their own point of view and spoke in a personal capacity. It is accepted that, without the permission of their departments or ministries, they were not allowed to talk in detail about the issues, policies, and approaches of those departments or ministries. There is considerable uncertainty in predicting climate change induced migration. Therefore, we do not know the exact magnitude or extent of the climate change factors responsible for pushing and pulling migrants. It is also important to know that due to limited understanding of the phenomenon, the individual perspectives, and perceptions of those affected by climate change vary considerably. It should also be noted that during the duration of the study, different regions of Balochistan faced extreme snowfall and flooding, which made it difficult to interview respondents from relevant departments who could not be reached in due time or were engaged with disaster relief. The occurrence of COVID-19 in the middle of the study also impacted the research teams in reaching the potential interviewees during the final stages of the research.

# 3. The State of Current Knowledge and Gaps: Global Perspectives versus Local Realities



There are a number of perspectives and arguments regarding the causes and characteristics of climate induced migration. Based on the literature review, it was observed that most analyses on climate induced migration are primarily hypothetical and vastly colonial in their approach. These dominating global perspectives and discussions act as barriers in the constitution of national policies, international laws and investment in climate solutions that are desperately needed to protect the lives and dignity of people around the world, especially those disproportionately impacted by climate change.

This study compares popular global perspectives and field realities by studying incidences of movements in three distinct regions of Pakistan, presenting case studies that reflect upon variables that are rarely seen in climate induced migration analysis. This includes socioeconomic constructions but also political, religious, and cultural factors that play crucial roles in an individual and/or family's migration decisions.

## 3.1 The Lasting Debate: Migrant versus Refugee Argument

The most contested perspective regarding human movements resulting from climate change impacts is that of climate migrant vs climate refugee. While there is no clear definition of the term 'climate refugee', it has become popular in the media in recent years, which is a misnomer; relying on a refugee framework for addressing climate induced forced migration risks accepting an uncritical link between population displacement and climate change. Climate change directly impacts human mobility when it takes the shape of rapid-onset disasters, but it has far-reaching consequences in the form of exacerbated social vulnerabilities which contribute to displacement. While addressing climate induced migration as a refugee crisis creates a sense of urgency, the framework does not adequately address the challenges. The term 'climate refugee' implies that people who fall under this definition may be entitled to refugee status – to enter and stay in a country because they have been forced to leave their homes due to climate change. However, climate change is not listed as a reason to enter a country to gain refugee status. Under the United Nations High Commissioner for Refugees (UNHCR) 1951 Refugee Convention, climate refugees may not legally be given the opportunities or a position as other refugees.[55]

Another important finding of research into climate induced migration is that the majority of people forced to leave their homes due to climate impacts do not leave their countries. This is a critical finding that is frequently left out of global discourse and platforms. Even though scientists predict that loss of natural resources due to climate change will result in conflict, most climate induced migrants flee their homes due to climate induced loss of livelihood opportunities and habitat, rather than the type of persecution mentioned in the Refugee Convention. With the exception of small island countries that are experiencing significant climate change impacts in the form of rising sea level, which will inevitably compel their inhabitants to migrate out of the country, while most migrants in climate vulnerable countries will opt for movements within the borders of their country of origin.[56] When most climate related displacements are internal, the term climate refugee becomes misleading and does not correspond with the scenario where countries will be expected to manage climate induced migration internally. This study of climate induced migration in highly climate vulnerable Pakistan sheds light on this stance and calls for focused attention to internal climate induced migrations.

In recent times, there have been rising anti-immigrant sentiments among some populations of the Global North, fearing that people from the Global South will stretch the welfare and healthcare systems in the Global North and bring with them a danger to existing values and belief systems, among other issues.[57] While this does not fall under the scope of this study and requires greater research of its own, it is important to note that the use of the term 'refugee' for communities forced to flee their homes due to climate change, coupled with the fact that most people facing migration do not want to be called "refugees" because of perceptions and attitudes associated with the term, may distort the discourse and detract from efforts to address the causes of climate induced migration. This will further widen the gap in the protection of such people. In Pakistan, for example, the term refugee is automatically assumed to mean the Afghan and Iran refugees who escaped conflict, many of whom remained within Pakistan.

Internally Displaced Persons (IDPs) in Pakistan face a similar case. Not very long ago, Pakistan was home to one of the world's largest groups of IDPs of more than five million. A decade-long militant insurgency in the Merged Districts (previously the Federally Administered Tribal Areas (FATA)) in Khyber Pakhtunkhwa and frequent natural disasters were responsible for the displacement of people; some of them multiple times. It was perceived that Sindh and Punjab discriminated against IDPs from one of the largest ethnic groups (the Pashtuns) who felt alienated and struggled to find work during this time.

Different regions of Pakistan represent the different 'sub-national' groups because of the ethnicity-province relationship. The migration patterns within the different regions have therefore been a topic of interest from a political economy perspective, where migration patterns take on the characteristics of a province's ethnic and political flair. This brief example provides a glimpse of what future displacement and forced climate migration can mean for Pakistan. It is all the more important to distinguish migrant and refugee communities because of the variations in the nature of support that they require.

## 3.2 Minimalist Perspective and the Baton of Responsibility versus Maximalist Perspective and Climate Securitisation

As mentioned earlier, the concept of climate induced migration dates back to the 1980s, when it was first introduced by concerned scientists and environmentalists. First identified as environmental-induced migration, two schools of thought led this concept to gain prominence. One school of thought, the Minimalists, who hold a skeptical perspective of climate induced migration, still believe that the term is hypothetical and written entirely in future and/or conditional tense.[58] The Minimalist perspective looks at environmental and climate change impacts as only one factor of migration or displacement and associated social, economic and political situations of a region under threat as major triggers that cause populations to move.[59]

The other school of thought, the Maximalists, who adopt an alarmist perspective of migration, predicted that hundreds of millions of people will migrate or be displaced by 2050 as a result of climate change (e.g. the Stern Review).[60] Unlike the Minimalist approach, this school of thought sees a direct relationship between climate change and migration.

These conflicting global discourses and theories resulted in diverting the attention of the impact that climate change poses as a human rights concern. Regardless of whether migration is seen as something resulting as a direct consequence of climate change, or as a single factor in a non-linear relation with economic, political and social factors, this study, without taking sides, presents different scenarios to explain how climate change impacts are not the same for everyone and that 'one size does not fit all'. A more holistic approach to the relationship between climate/environment and migration needs to be adopted, where unique scenarios call for unique attention to resulting migration patterns and, ultimately, their policy responses.

The separation of the climate induced migration debate into the Maximalist/alarmist and the Minimalist/skeptical perspectives are relatively old. Much has happened within the field since the 1980s and while some may argue that the migration scholars settled on an agreement to denounce the 'alarmist' discourse, the two perspectives continue to influence the decisions of the international community today.[61] Two striking and somewhat dangerous modern policy interpretations have emerged from the two contesting global perspectives which need attention. First, in academic circles, the Minimalist argument takes more prominence over the other and has taken on a Neoliberal nature that looks at 'voluntary' climate induced migration as adaptation by people to make their life safer and better. In consequence, climate migration as an adaptation strategy transforms 'the location of social agency' and puts the onus of responsibility to contribute to the resilience of communities on the vulnerable states and the people actually displaced to fend for themselves, minimising the climate change threat and also the responsibility of action from the international community.[62]

Second, while the Maximalists transfer the responsibility of climate response from the individual to the nation state and frame climate induced migration as a representative of their collective failure to address climate change and protect refugees as well as national security, the ways in which popular Maximalist views are being represented and translated by global policymakers are highly concerning. Global political debates regularly quote studies with harrowing figures of climate induced migrants, such as "200 million climate refugees by 2050" by Myers and Kent,[63] but instead of formulating plans to collectively and proactively plan for climate action and support vulnerable countries, climate induced migration is becoming a shorthand for 'securitising' climate change.[64]

By emphasizing climate change-related migration as a security threat, the resources and aid that the Global North should be using to build the resilience of the Global South, (the main victims of climate change despite having made a negligible contribution to greenhouse gas emissions), are instead focused on strengthening their border protection. The exaggerated framing of climate migration as a security threat to the North, especially since most studies explicitly mention climate migration will be between South-South,[65] implies a refocus of their efforts from solving the problems of climate migration and climate change in general, to the protection of their own citizens. While climate as a security concern is politically successful in raising the alarm about climate change, the approach being implemented takes away the "intellectual, political, financial capital from more fruitful and just policy measures."[66]

A threat of climate 'refugees' can best be solved by ensuring that the Global South have the required infrastructure in place to cope with the challenges of climate change and potential migration. The provision of relief, in this case, would be more efficiently deployed in a developed country.

Academic discussions and debates regarding the radical changes that climate induced migration could bring have been highly politicised to suit different countries' agendas and priorities. Instead of creating anxieties through immigration restrictions, this is the time to start urgently needed conversations about tackling the drivers of climate induced migration and reducing its impact.

## 3.3 Neo-liberal Response to Migration versus Cultural Determination

There is a serious shortage of non-white and indigenous representation in most climate change policies and discussions. A key reason for highlighting the various global perspectives and resulting 'suggested' coping strategies is to demonstrate how key global policy narratives, which are meant to influence vulnerable communities and countries impacted by climate change, fail to incorporate or exclude factors that are highly critical for everyday living and survival. These include culture, religion, social networks and indigenous knowledge and practice.

Over 80 per cent of the world's population affiliate themselves with one of the estimated 4300 religions, cultural practices, and traditions, or spiritual communities, which influence how those people view and treat the world around them – from what they eat and drink to where they live and travel, even the type of education and careers that they develop. This is because cultural and religious values are deeply embedded in the fabric of everyday life. This is particularly the case for Pacific Island communities and countries in the Global South, especially Pakistan.

Religious figures, leaders and elders of such communities play an important role in shaping mindsets, behaviours, and attitudes that members have towards the use and management of natural resources and the environment. Similarly, cultural heritage, cultural industries (formal and informal) and cultural tourism, among other aspects of a community, act as both a driver and an enabler of socio-economic and environmental dimensions of sustainable development. Whereas excessive urbanisation, relocation and any misguided development initiatives that act as a barrier and/or impact traditional life and livelihoods of a certain community can threaten the well being and social cohesion of many cultures.[67]

A thorough look into the lives of indigenous communities around the world helps us understand how they have lived as one with nature; surviving and adapting to the changing environment throughout history. It is highly important for the global community to understand that moving away from 'home' for most local communities is not as easy as portrayed by the Minimalist school. Migration for these communities may be the 'end point' of a long and hard process of adaptation to climate change that culminates in their decision to depart from their home regions.[68] The decision to move or forced migration can take a heavy toll on these communities who have always depended on their natural ecosystems and local environments for sustenance and communal cultural and religious traditions.

Pakistan has six major ethnic groups and other ethnic minorities and over 60 different languages are spoken in the country.[69] The country's constitution, or official documentation, does not specifically acknowledge indigenous communities but instead, they are recognised as minorities with religious, linguistic and/or ethnic identities.[70] The main unofficial indigenous people in Pakistan are the Kochis, Rabari, Baloch, Bakarwal, Kehal, Jogi, Kabootra, Sanyasi and Kalash.[71] The Kalash people of Chitral, in the Khyber Pakhtunkhwa region, who live in three remote valleys near the border with Afghanistan, are the only officially recognised indigenous people by the UNHCR in Pakistan. They have maintained their unique language, polytheistic faith and unique cultural identity in the face of considerable pressures to assimilate into wider society. Approximately 4,000 Kalash people continue to practice their traditional way of life, but climate change poses a threat to this because of GLOFs, snow melting and the impact that disturbed water channels have on agriculture and livelihood practices. The Kalash community are believed to be the descendants of Alexander the Great and have been living in their valleys for centuries.[72] To ask them to leave their way of life behind and migrate to some other part of the country as an adaptation strategy to escape the anticipated climate catastrophe would be a great injustice.

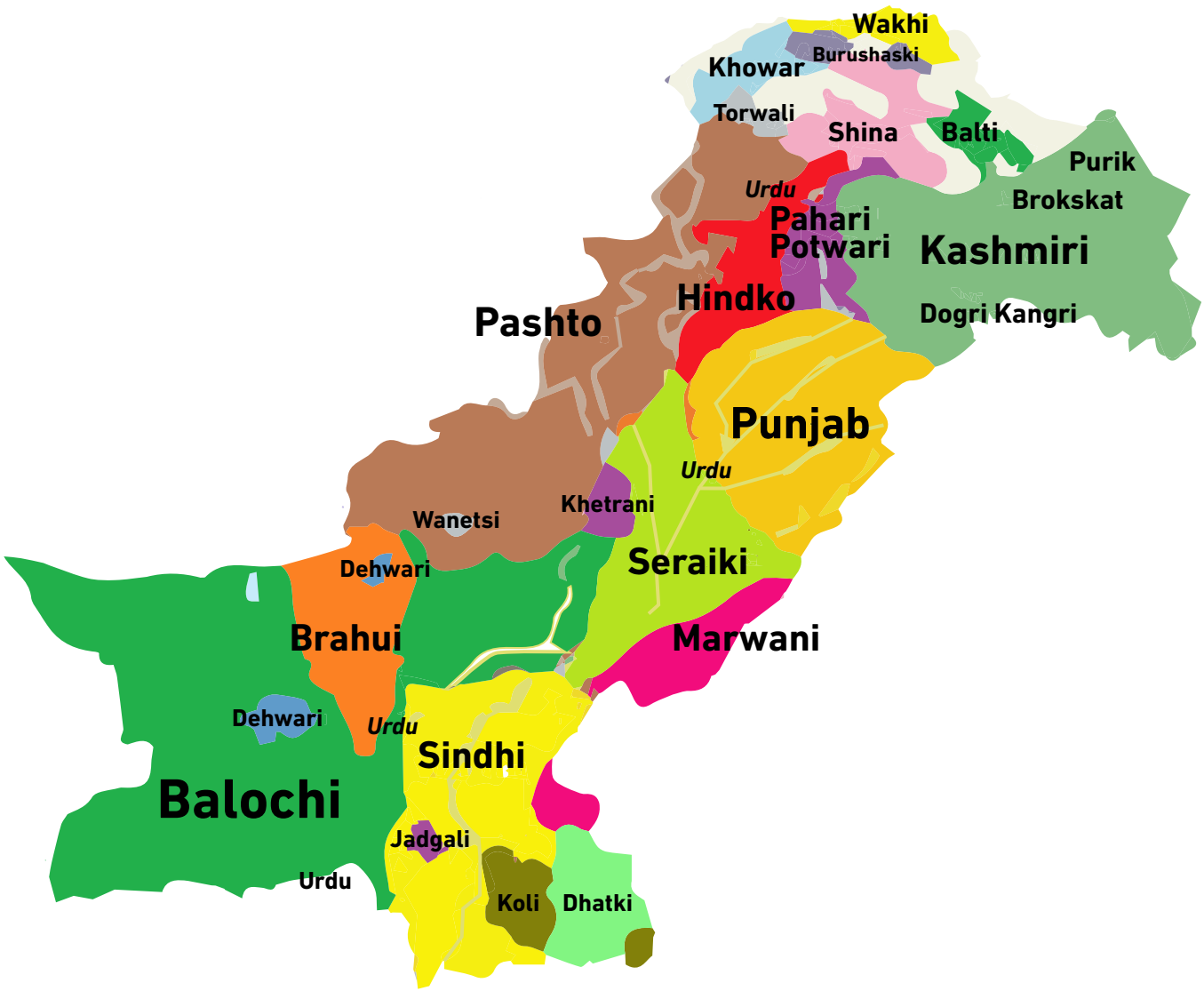



*Figure 4: Languages of Major ethnic groups of Pakistan*

Culture and societal norms were some of the most prominent reasons cited by respondents as barriers to people's movement in Pakistan and which even distinguish the duration and extent of everyday movements. Women are more vulnerable to climate impacts in Pakistan, as cultural norms restrict their movement; even in times of disasters where they can't abandon their homes. In remote agrarian areas, seasonal or circular migration has always been a way of life for communities, where the male members find alternative livelihood sources in off seasons and send home wages/remittances. This practice has increased because of increased climate disasters and loss of crops, compelling people to spend more time away from home; this puts an added burden of responsibilities on women back home.[73] [74] This is true for all remote regions, but especially in Khyber Pakhtunkhwa and Balochistan.

One respondent from Balochistan stated that, while deciding on the best suitable relocation sites for climate induced migrants, the communities themselves, with the help of the Government's assistance, might identify locations in terms of environmental and geographic suitability, as well as cultural conditions.

# CLIMATE CHANGE IMPACTS ON INDIGENOUS COMMUNITIES OF THE INDUS DELTA

Dr. Akhtar Hussain Samoo spoke to Islamic Relief on July 28, 2021 about the issues of climate change in the Indus Delta. During this talk, he mainly focused on climate change impacts on the indigenous people living in the area.

According to him, **"Taluqas of Thatta, Sajawal and Badin Districts constitute the Indus Delta. The total area of this delta is 15550 sq. km, and the population is 1724245, with a population density of 110.88/sq.km. Livelihood in the delta is dependent primarily on fishing 33%, agriculture 29%, and labour 17 %. However, despite that, poverty in the delta is 77%."**

Talking about the significance of the Indus Delta, he added that **"it is not only the world's fifth-largest delta but is also home to the world's largest arid zone mangrove forest system. The entire delta has extensive mudflats, marshes, estuaries, sand dunes, beaches, creeks, fertile peninsulas, wildlife sanctuaries, and Ramsar sites. However, the Indus Delta is considered as a red area where impacts of climate change are more visible than any other delta of the world where sea intrusion, according to an estimate, has been approximately 30 lac acres in the past 50-60 years".**

He outlined some of the key drivers of climate change. The most significant among them were **"threat of cyclone, droughts, torrential rains (unpredictable rain and cloud bursts), riverine floods, sea intrusion, loss of soil fertility, depletion of natural resources, an influx of population/ migrants, poverty, and agricultural disease outbreaks".**

He then talked about the indigenous communities living in the area and said that **"the people that live in the delta have existed there for centuries along the creeks in mudflats. They don't only have their historical and spiritual sites there, but have their own unique local festivals and distinct cuisines. Shah Aqeeq is the biggest spiritual site that people from all over Pakistan visit. The area also has some archaeological sites, and the most famous of them are Shah Bandar and Jhaki Bander fort, close to the historical port city of Bhambhore, which are in terrible condition due to excessive rains and floods. The tides erode those areas along the creeks that have no mangrove forests compared to the areas that have mangrove forests."**

Talking about the impacts of climate change, he highlighted how the communities living in the Delta, especially the indigenous communities are most vulnerable to climate change impacts. He said that the **"Pan (betel leaf) was the cash crop in the region in the past as the average temperature before climate change was 30-35°C. But now the temperature in summers usually goes above 40°C, which is not suitable for Pan Cultivation."** He added that **"flooding in Indus, erratic and torrential rains, sea-level rise, cyclones and storm surges of 1964, 1993, 1999, 2001, 2007, 2010 are most evident. Furthermore, due to climate change cyclone frequency and storm surge, coastal erosion and droughts are increasing day by day. The most alarming thing is the continuous rise of sea level, which is double or triple compared to the rate of other regions".**

Several case studies were collected from field visits to the coastal regions of Thatta, Sajawal and Badin in Sindh, which are dealing with the severe impacts of climate change. Fish farming communities are challenged because of the rising sea level and are forced to move to regions away from the coast to seek alternative livelihood sources. Communities have strong attachments to their land and it is difficult for them to migrate as they fear the loss of identity. The chief or head of the community stated that he felt humiliated because he feels like his position of influence is being lost. Rural communities encounter language and cultural barriers, as urban and coastal ways of life are very different, and they also face added difficulties in accessing even the most basic of services. For instance, a common response shared by the respondents during their interviews was "Thatta is one of the poorest districts but still, people in Keti Bander do not want to leave their home place". This is because of past experiences where communities from Keti Bander migrated to Rohri Goth and began fishing, but the host community created problems for them because they felt that their territory was challenged. Such migrations for minority communities will be even more challenging as they face future insecurity and threats to their political, cultural and religious identity. For example, it is difficult for Hindu communities to migrate as their temples are not available everywhere, hindering their ability to perform their religious rituals.

It is not always financial or social constraints that limit the movement of people who are at the forefront of climate change. Some communities are unable to fathom the idea of leaving their homes or life beyond their homelands, especially with its unique centuries-old culture and traditions.[75] Sometimes people may not move at all because of their faith that whatever happens to them is a trial from God. As the erosion of the coastline and frequent disasters puts pressure on people to move, it can also cause mental stress and fear of a new unknown place, along with the feeling of deprivation, loss of home and community.

The exclusion of these intangible aspects of society helps to create new patterns of exclusion and inequality in existing legal and institutional environments. It is therefore of paramount importance for global policymakers, development practitioners and climate change researchers to understand and highlight the detailed aspects of people's religious and cultural affiliations. This is important for the inclusion of vulnerable communities in climate discourse and practice and more fundamentally, respect for human rights and freedom of expression for all.

Due to the complex relationship between the environmental, socioeconomic, political, and cultural factors, it is impossible to answer whether climate induced migration is a result of the failure of mitigation and adaptation strategies or an adaptation strategy itself. While recent shifts in the global debate have been towards viewing migration as an adaptation strategy, the real picture is not as simple. That does not, in any way, mean that migration as an adaptation strategy cannot or should not be adopted. In regions where rapid-onset disasters are prevalent and, in some cases, may be an annual occurrence, it makes sense for communities to want to move away. Pakistan's 2010 flooding, which turned into one of the country's biggest humanitarian disasters, destroyed or damaged approximately 1.1 million[76] [77] homes and displaced between 11-20 million people. Many of the displaced communities returned to their home locations, but large numbers of people did not return and instead settled in major cities. The decision to move or to stay is considered to be based on what an individual or family holds most important. Most people returned home as soon as they could after the water subsided to secure their land, try to salvage any possessions that may have survived the floods, and replant their fields in time for the winter harvest. The decision of those who stayed at their new location can be based on a range of possible factors, including their increased vulnerability back home, where they had lost too many possessions or too much of their livelihood, or because they saw an economic opportunity for a comparatively better life at the location to which they were displaced.

The crux of the argument is that every individual has a right to a dignified life with the freedom to make the decisions that directly impact them. Consistently considering and seeking to understand the different factors, vulnerabilities and even strengths of communities is vital for developing and implementing tailor-made interventions based on awareness of the climate-migration relationship and which focus on either planned relocation or migration, resilience measures at home locations, or other unexplored options.

# MIGRATING INTO REGIONS OTHERS HAVE MIGRATED OUT FROM

## Story of Shah Wali:

Shah Wali, 21 years old Brahvi speaking Baloch farmer, narrates his story of migration. He migrated along with his family and relatives for the first time from Killi Hayatabad to another Union Council Panjpai, Quetta, which is at a 2 km distance. They left their native land with heavy hearts and settled in a nearby place with no community presence.

**"My circumstances forced me, my family, and majority of the people in my community to leave our own homes and agricultural lands, which lay barren, as we had no water for everyday use for our families and livestock. We migrated on foot for about 45 minutes to reach our destination which is 2 km away from our village. I have always been a farmer and I earned 20,000 per month from my fields. After migrating, I still do farming but in order to meet my previous income and to fulfil my family's daily needs, I sometimes have to do labor work."**

**"The place where we are currently settled is not much better than our native land because it is also severely impacted by drought. When we came here there was nobody living here. We got to know that the community that lived here has also moved away to be near a seasonal river."**

## Story of Sharaf Khatun:

Sharaf Khatun is another first-time migrator. She is a Brahvi speaking Pushtun woman of 52 years. Climatic vulnerabilities forced her to migrate from her old village of Mian Khanzai, which had a population of 808 people living in 101 households, to new Mian Khanzai which is 10 KM away from the old destination. Multiple socio-economic factors were responsible for their migration, but the chief among them was water scarcity and loss of agricultural productivity which significantly impacted the livelihood and employment of her community.

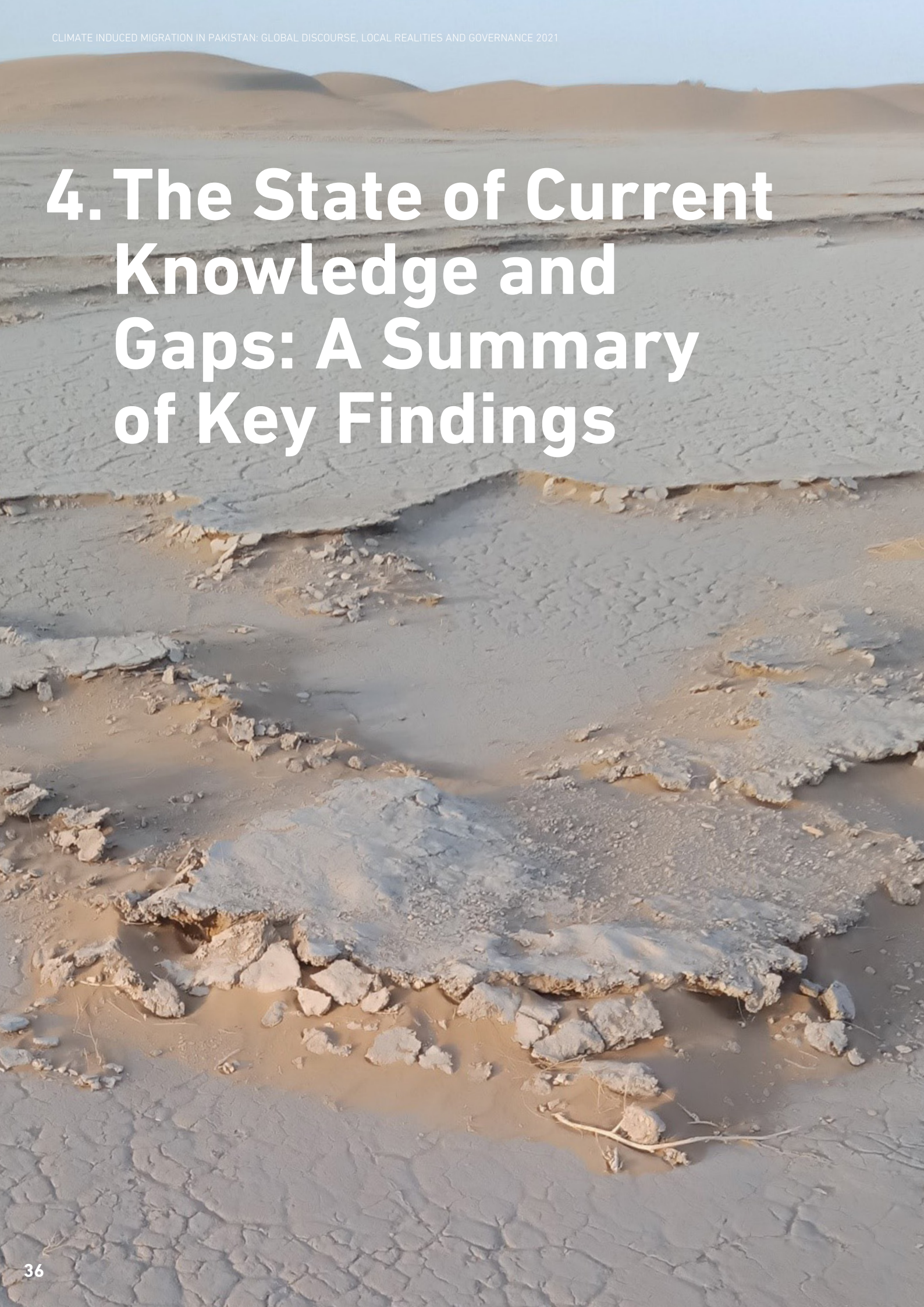
The region they decided to settle in does not have many settlements or communities, which compels us to believe that those who lived here before may also have migrated or relocated to another place. **"There weren't any people living in the new area. It seems that we ourselves are the new arrivals".**

**"Relocating to another area was not easy. We never wanted to leave our native land. The community had to let go of agricultural practices and engage in alternatives like daily wage labor, eggs selling, and small-scale agriculture. One upside of our migration experience is that now my community, who had lost all employment sources because of climatic conditions, has opportunities to provide for their families and, despite having to change their occupations, employment ratio jumped from 2 per cent to 6 per cent."**

Another significant impact of migration came in the form of the availability of some basic necessities and the schooling system for boys.

**"The boys are regularly getting an education at an old Government school. They don't have any infrastructure in the school but its more than what we could have asked for. The girls don't go to schools because there isn't any building for them. Women aren't permitted to work outside of the home anyway. They make handicrafts and sell them".**

When asked about whether Sharaf saw herself living in the new areas, she replied: **"the new area is not ideal but it is far better than the previous one. Although all the facilities are not up to the mark here, we have don't have the option to return to our native village. We would eventually move to the city but at the present moment, we are better off in the new area and grateful that we have water running in our taps."**



# 4. The State of Current Knowledge and Gaps: A Summary of Key Findings

Different global perspectives and reflections regarding climate induced migration demonstrate that it is a contested topic that divides actors. As a result, the discussions and considerations of the issues, from the perspective of inclusivity and climate justice, are not thoroughly reflected at a policy level. While the global audience continues to debate the causes and impacts (and potential impacts) of climate change, victims on the ground continue to suffer because of lack of planning to protect them from those impacts. This research consolidates global arguments and presents case studies from one of the most climate vulnerable countries, Pakistan, while also reflecting on the current governance mechanisms in place to address climate induced migration. This research demonstrates the differences between the on-ground realities in communities that are most affected by the impacts of climate change, and the perspectives and prevailing narratives within the institutions that are responsible for supporting such communities and combatting the impacts of climate change.

To develop a deeper understanding of where Pakistan stands in terms of acceptance of climate induced migration and the tangible measures in place to respond to the needs of the vulnerable migrant communities, this study focused on collecting views from different stakeholders, including their perspectives and differences in their views on how to address these challenges.

The study focused on collecting primary data to support the argument that climate induced migration needs urgent attention. This was obtained by interviewing stakeholders, including government and semi-government officials and specialists from relevant departments and organisations. The results attained are divided into two sections: Stakeholder Perception of Climate induced Migration and Institutional Arrangements for climate induced migrants.

## 4.1 Stakeholder Perceptions of Climate induced Migration

The table below consolidates the results and analysis of the primary data obtained during this study. Initially, none of the respondents expressed any knowledge about the concept of climate induced migration, although all of them were in agreement that environmental disturbances were some of the biggest factors that negatively affected human mobility and migration.

*Table 1: Stakeholders' perceptions of climate induced migration*

| STAKEHOLDERS' PERCEPTIONS | KHYBER PAKHTUNKHWA | SINDH | BALOCHISTAN |
|---|---|---|---|
| **STAKEHOLDERS** | 40 respondents from Government, NGOs and Semi-Government departments. | 53 respondents from Government, NGOs and Semi-Government departments. | 7 Respondents from Government and Semi-Government departments. |
| **UNDERSTANDING OF MIGRATION** | Migration is a common practice by communities and is generally associated with economic reasons and to escape disasters like flooding. | Migration is a common practice in coastal communities who relocate for economic opportunities and to escape disasters like flooding and sea intrusion. | Migration is a common practice. Communities have always migrated for economic opportunities and to escape disasters like floods and droughts. |
| **PUSH FACTORS IDENTIFIED** | Flash floods, GLOFs, droughts, famines, water scarcity, deforestation, storms and conflicts. | Sea erosion, sea intrusion, extreme weather events, poverty, loss of livelihoods and deteriorating infrastructure. | Droughts, extreme weather events, flooding, water scarcity, political tensions, economic loss and opportunities. |
| **PULL FACTORS IDENTIFIED** | Economic opportunities (new and alternative sources of income), education and health facilities. | Education opportunities, health facilities, electricity and better livelihood options. | Economic opportunities, health and education facilities. |
| **MOVEMENT PATTERN** | Rural to urban. | Coastal/rural towards mega cities. | Rural to urban. |
| **MIGRATING COMMUNITIES** | Farmers, nomads, communities living along rivers and drought affected regions. | Fisher folk, farmers, nomads and communities living along the coast. | Farmers, nomads communities living along sea and drought affected regions. |
| **UNDERSTANDING OF CIM** | None | None | None |
| **UNDERSTANDING OF ENVIRONMENTAL DISRUPTIONS** | Yes | Yes | Yes |
| **UNDERSTANDING OF CIM (AFTER CAUSE AND EFFECT DISCUSSION)** | 30% of respondents perceived climate change induced disasters are the main push factors for migration. | 50% of respondents perceived climate change induced disasters are the main push factors for migration. | 42% of respondents perceived climate change induced disasters are the main push factors for migration. |
| **TEMPORARY VS PERMANENT MIGRATION** | Mostly seasonal or temporary migration for gaining employment lost as a result of disasters (droughts, floods) or extreme weather conditions. | Both. Seasonal or temporary migration for gaining employment lost as a result disasters or extreme climate. Permanent migration due to rising sea level and loss of assets. | Mostly seasonal or temporary migration for gaining employment lost as a result of disasters (droughts, floods) or extreme weather conditions. |
| **FORCED VS PLANNED RELOCATION** | Mostly planned. Some people choose to leave for better economic opportunities. In events of GLOF and flooding, communities have no choice but to migrate. | Mostly planned. Some people choose to leave for better opportunities. Some people have no choice due to sea intrusion and loss of fish. | Mostly planned when drought conditions prolong. Some communities are forced to migrate because of flooding or desertification and water scarcity. |
| **MOST VULNERABLE SEGMENT / MIGRATING COMMUNITIES** | Poor farmers, women, children, persons with disabilities, communities in flood prone regions and GLOF regions. | Fisher folk, women, children, persons with disabilities and communities living along the coast. | Poor farmers, women, children, persons with disabilities, communities living in prolonged drought regions and flood prone regions. |
| **CHANGES IN MIGRATING PATTERNS** | Difficult to distinguish. | Increasing with sea intrusion and frequent flooding. | Difficult to distinguish but increased in drought hit regions. |

Historically, migration in Pakistan has been associated with differences in rural-urban labour productivity and human development, which was the most popular reason outlined by respondents for migration all over Pakistan. While the respondents distinguished between droughts and frequent flooding in Khyber Pakhtunkhwa, prolonged droughts and occasional flooding in Balochistan and frequent flooding and sea Intrusion in Sindh, migration patterns were initially only seen as movement resulting from economic needs. However, it was observed that respondents from all three regions confused the challenge of migration taking place due to climate change and environmental reasons with migration taking place due to economic reasons. Due to clear evidence of sea level rise in Sindh, the respondents from the region were quickly able to establish the links between climate patterns and migration of communities.

### 4.1.1 Snapshot A: Khyber Pakhtunkhwa

This snapshot explores the knowledge of respondents in regards to the main push and pull factors for migration in Khyber Pakhtunkhwa.

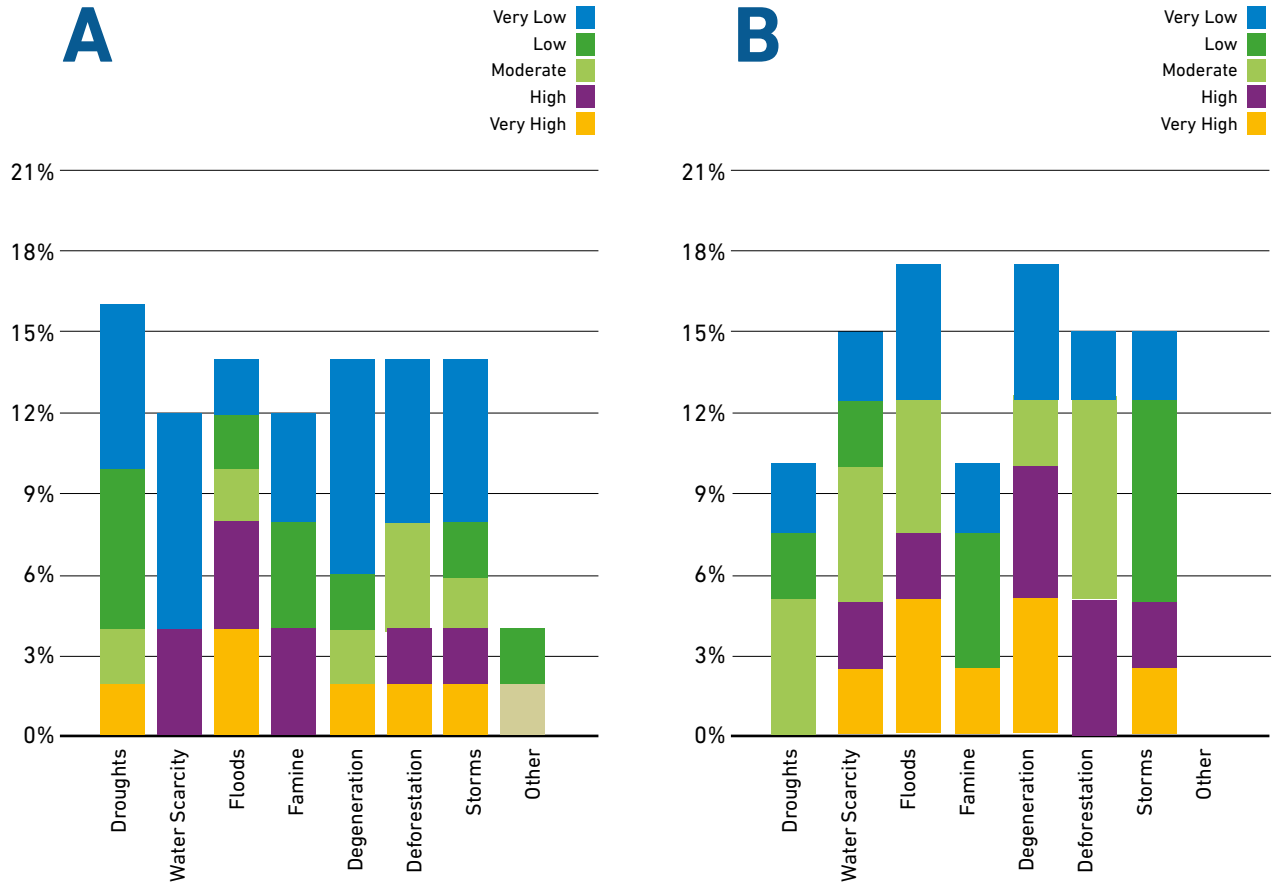



*Figure 5: Incidences of climate induced temporary (A) and permanent (B) migration in KP (low to high scale).*

The respondents identified a number of push and pull factors for migration within Khyber Pakhtunkhwa, including climate change induced disasters, extreme weather patterns, livelihood opportunities, conflicts, war on terror, unemployment, education, health and job opportunities. However, some respondents did not recognise environmental disturbance as a major factor for migration and only 30 per cent of respondents perceived that climate change induced disasters are the main push factor for migration. It is interesting to note that while the stakeholders did not initially establish linkages between migration and climate change when asked to rate the causes of temporary and permanent migration from low to high scale (outlined in Figure 4), floods, droughts, land degradation and water scarcity were ranked highest in terms of both temporary and permanent migration patterns in Khyber Pakhtunkhwa. A majority of the respondents also expressed the view that floods and land degradation are the main causes of migration, which is consistent with the arguments generated during the field based investigation. During an in-depth discussion, the respondents recognised that besides economic, social and political factors, climate change and environmental disturbances have largely forced people to migrate, causing situations of climate induced migration. Consequently, the respondents identified flash floods (30 per cent), GLOFs (3 per cent), droughts (18 per cent), water scarcity (3 per cent) as the main push factors for migration in Kyber Pakhtunkwa while other reasons like natural disasters and conflicts were identified by other provinces.

According to the respondents from Khyber Pakhtunkhwa, the complex nature of Pakistan (in particular Khyber Pakhtunkhwa), where at any time a number of factors are simultaneously at play, including lack of employment due to agricultural land loss, natural disasters, rural-urban divide, water scarcity and political tensions, makes it difficult to distinguish incidences of climate induced migration from other causes. When asked to identify the patterns of migration, the respondents from Khyber Pakhtunkhwa were of the view that migrations have always been seasonal or temporary in nature, when communities move for employment or to escape flood affected areas. Variations in weather patterns in the province from the South (Dera Ismail Khan) to the North (Chitral) were quoted as examples that play a role in influencing migration patterns. The respondents repeatedly mentioned that frequent migration occurs from rural to urban areas due to weather conditions and explicitly linked seasonal migration with climate change-related disasters. 47 per cent of the respondents stated that seasonal migration happens mainly in extreme climatic areas, such as those subject to extreme winters in the North of Khyber Pakhtunkhwa (e.g. Chitral, upper Dir, upper Swat, upper Kohistan, Kaghan valley and so on) and extreme hot weather in the provincial South. Other reasons given by respondents for seasonal or temporary migration by particular people were economic in nature, including government officials, fishermen, nomads for employment or movement of people from tribal areas for political or economic reasons (mostly relating to male members who subsequently returned home).

# MIGRATION ALONG ALTITUDINAL GRADIENTS: TWO WORSE CASE SCENARIOS OF FLASH FLOODING IN KHYBER PAKHTUNKHWA

The Khyber Pakhtunkhwa region experiences the worst impacts of climate change which trigger household level displacements along the networks of Kabul and Indus rivers every single year. A majority of the people living in districts along the river banks, which constitute the alluvial plain and the economic hub of the province, are naturally engaged in the agriculture sector and are directly affected by climate change impacts. Two main impacts of flash floods were identified during the field visit - firstly, erosion of lands and houses on the river banks during the downpour of monsoon rains and strong flow of river in fragile gradient throughout Khyber Pakhtunkhwa; secondly, waterlogging in plain areas of Khyber Pakhtunkhwa along the river banks due to the increase in groundwater table that drastically reduces the crop yields.

**"The flash floods of 2010 and 2015 were among the most disastrous in the history of Pakistan where River Swat, Panjkora, Kunhar, Indus, Kurram, Tochi and many other rivers and small streams in Khyber Pakhtunkhwa had seen devastating outcomes as a result of torrential rains. In Northern Khyber Pakhtunkhwa, the flash floods of 2010 in River Swat completely eroded houses and cultivable lands in upper Swat, from Fatehpur to Uttror, leaving behind several households to migrate permanently due to the unavailability of inherited lands for reconstruction of new houses in the village. Many communities migrated to other areas including Mingora and down to lower altitudes of the country. Several households in upper Swat were associated with agri-business and aquaculture sector since long and there was no cultivable land left for growing crops and fish farming. Scarcity of resources to revive the aquaculture sector compelled people to migrate. The remaining communities along river Swat, especially in the Bahrain area, constitute of reconstructed houses and commercial buildings that are still vulnerable and can be washed away anytime with the onset of flash floods. Similarly, in Southern Khyber Pakhtunkhwa, 2010 flash floods in Kurram, Tochi and Indus rivers washed away houses in several districts in North Waziristan, Bannu, Lakki Marwat and D.I. Khan, where several communities migrated from these regions. As a result, in the coming years there will be a massive episode of climate induced migration from these areas". – Dr. Shams Ali Baig**

From the field visit, the community farmers were asked about the causes of reduction of crop yields on the river bank or even the disappearance of several crops or crop patterns. It was recorded that the increase in the intensity, frequency and prolonged duration of flash floods in river Kabul's network caused water logging that progressively decrease crop yields affecting people's lives drastically.

**"Extreme climatic events including flash floods and extreme wind in the summer every year has forced the nomadic and other poor people living along river banks in southern Khyber Pakhtunkhwa to migrate to other areas. On one side, the flash floods directly washed away houses on the river banks and on the other side it increased the underground water level, commencing the water logging phenomenon. As most of the communities are highly dependent on agriculture for the provision of basic livelihoods and the water logged area is not suitable for agriculture productivity, such a situation compelled them to migrate to other areas of KP and Punjab". - Dr. Hafiz Mumtaz from Gomal University, D.I. Khan**

**"The farmers during the field visits argued that they don't have any alternative option for improving the crop yields and feared the conversion of agricultural land into submerged land with no economic values. Several households moved to uplands during the peak flow in summer and returned back to their areas once the flooding period was over. However, most of the people complained that even in the rest of the season, the land is not as productive as it used to be a decade ago. Thus, migration to some upland areas would be the better option in the future if the present conditions prevail." – Dr. Shams Ali Baig**

### 4.1.2 Snapshot B: Sindh

70 per cent of respondents from Sindh were aware of migrations taking place in the region along the coast, as this has traditionally been a way of life for communities whose main occupation is fishing and farming. It is interesting to note that, even though many respondents from Sindh did not possess concrete knowledge about climate change as a concept or a phenomenon, it was agreed and feared that the sea level is rising and that communities are at risk of sea intrusion and associated challenges. Upon clarification of the impacts of climate change, 50 per cent of the respondents were of the opinion that environmental changes have and continue to affect communities directly in the form of frequent disasters, such as flooding and cyclones. In such cases, communities have no choice but to migrate to cities like Karachi, Hyderabad and/or Thatta city. However, some families stay in close proximity to their homes and come back to their original places when the hazards have passed.

40 per cent of the respondents expressed the view that most community members migrate to other cities when their livelihood options get exhausted in their own communities, as a result of damage to agricultural land, fishing prospects and related small businesses such as net making, which represent a major proportion of the coastal communities' income and local trading. Again, it was highlighted that most community members migrate to nearby villages and cities and often return to their original place, where mostly male members of the family move to make a better living for their families. According to 75 per cent of the respondents, the most vulnerable people living in the most disaster prone regions, involved in fishing, the agriculture sector, and other low paid trades, are often those who migrate to other regions. They move to nearby small urban centers to protect their families and make a living through trade from the skills and capital they have available, or to mega cities depending on their resources. Some of the vulnerable tribes in coastal communities identified by respondents were Jat, Baloch, Mallah, and Sholani, among others. 25 per cent of respondents were of the view that industrialists, businessmen, and people working in the non-profit or government sectors made frequent temporary migrations to other cities.

From the analysis, it can be derived that climate change and/or environmental consequences are perceived by respondents as a standalone challenge and not seen as a multidimensional issue that affects their communities in the form of loss of employment and resources. However, research teams in the fields observed how climate change has affected communities in both direct and indirect ways, which again compels us to emphasize the challenges of confusing climate induced migrants with economic migrants.

When asked about the status of migration in Sindh, respondents stated that there were no exact figures relating to current migration or way of knowing the exact status of migration; but instead, during the past few decades, the number of migrating people has consistently increased due to frequent disasters and loss of livelihood opportunities. When respondents were asked if the reasons for migration have changed during this time, 50 per cent answered yes, as frequent disasters have increased the patterns and rate of migration. During periods where there are no climate-related disasters, the rate of migration may slow down but it never stops due to the fact that the sea level continues to rise. 20 per cent of respondents expressed the view that they had not noticed any change in migration patterns or reasons for migration. The remaining respondents did not provide any comment.

### 4.1.3 Snapshot C: Balochistan

All respondents from Balochistan exhibited familiarity with migration in the country and, specifically, in their region as it is very commonly observed. According to 28 per cent of respondents, communities make rural-urban migration because of pull factors including education, health facilities, and employment opportunities. In the big cities, 28 per cent of respondents stated that the residents of drought affected areas are confronted with adverse economic conditions which push them to move from their native lands. Due to prolonged and intense droughts and water scarcity and/or unavailability, the migration pattern has drastically changed in the last several years. The nomads and farmer communities are the most affected as they depend directly on agriculture, groundwater and grazing pastures. The push factors that compel people to leave their place include lack of water resources and over-population, while the pull factors include the availability of more jobs and access to water supplies in the cities.

During discussions regarding the impacts of climate change, 42 per cent of respondents were of the view that changes in climate are normal and fluctuations in weather patterns are constantly taking place. They also expressed the view that these climatic changes do have an impact on the socio-economic conditions of communities, where people lose their assets and sources of income, pushing them to move to developed cities. 28 per cent of respondents stated that there are countless factors that families consider as part of their decision to migrate from far flung areas to cities, but migration is mostly seasonal in the region.

Other than environmental degradation, the biggest factors for moving are unemployment and the availability of better facilities in urban areas. Those who migrate to urban areas mostly belong to middle class families, migrating from various districts of Balochistan, whereas 57 per cent of respondents were of the view that it is the poorest community members who migrate to urban centres for employment. It is common practice for the poorest migrants to end up in urban slums or in the street as beggars. 14 per cent of respondents asserted that 25-35 per cent of the rural population are engaged in this lifestyle.

Respondents also stated that migration does not occur merely due to environmental degradation, but also because of political turmoil and other security threats. People migrating from their home to remote areas also confront security issues. 100 per cent of the respondents agreed that, in situations where only the male members from a poor family migrate from rural to urban areas, women and children are subjected to risk in the form of social insecurity and malnutrition as they are left behind in eroded and water scarce areas. Women in Balochistan are believed to be more vulnerable during disasters, as cultural norms restrict them from abandoning their homes. In such cases, challenges include diminished security, access to health services in case of disease (as women need to be accompanied by men to reach health facilities), loss of their relatives and social networks and even psychological impacts.

While the concept of climate induced migration was not known, 42 per cent of respondents possessed adequate information about climate change impacts and were able to identify their effects on migration. The respondents stated that there was a strong relationship between climate change and migration and identified a wide array of push and pull factors for migration. The respondents were also able to identify the complex relationship between the direct and indirect consequences of climate change on communities, including disasters such as droughts and floods and the impact on livelihood sources such as degradation of agricultural land or loss of livelihood due to harsh weather conditions, limited water availability and the spread of diseases. Due to overlapping factors, it was difficult to distinguish environmentally-induced migrants from economic migrants, as in the case of Khyber Pakhtunkhwa. Quetta, Sibbi, Loralai, Khuzdar, Hub Chowki, and Uthal in Balochistan were identified as the primary destinations for displaced climate induced migrants. Mastung, Kalat, Surab, Pishin, and Karezat were identified as climate hotspots from which people were moving away to settle in urban areas. Most migrant communities were identified as those who had lost almost all of their agricultural business, such as those whose orchards had dried up due to continuous drought, environmental degradation, and continuous ground water table depletion, implying that in such hard conditions people are forced to migrate for survival.

As outlined above, most of the respondents considered environmental changes and migration practices as normal occurrences. Following the discussion with respondents on climate change and the establishment of a relationship between the two factors, respondents were asked about the various origins and destinations of migrants who moved due to climate change factors. Analysing perspectives from various official stakeholders on climate induced migration in Balochistan, the majority of the respondents expressed the view that when local administrative authorities fail to deal with environmental risks, the vulnerable people as a common response, opt for personal adaptation strategies and, therefore, migrate. Due to frequent political changes and insecurities in the province and a lack of knowledge regarding the relationship between climate change and climate induced migration, these migrants may be grouped together with IDPs, transferring from rural to city areas and even across national borders.

While the majority of respondents in Balochistan did not possess concrete knowledge about climate change and associated challenges, especially with regards to climate induced migration, when asked to rank different factors from lowest to highest in terms of their impact on migration patterns in the country and, specifically, in Balochistan, environmentally driven factors were ranked highest. Drought was identified as the main cause of migration, whether temporary or permanent. This ranking seems plausible as most of the agricultural and livestock dominant districts in the province have been severely affected by drought for the last two decades. All male members of the households migrate to urban areas to earn a living as they experience drought periods resulting in low production from agriculture and livestock. Drought was followed by deforestation as the second highest reason for migration, followed by land degradation (Table 2).

*Table 2: Ranking (1-5) incidence of temporary and permanent migration by respondents from Balochistan*

| **Cause of migration** | **Rank: 1 (low) - 5(high)** | | | |
|---|---|---|---|---|
| | Pakistan (overall) | | Balochistan | |
| | Temporary | Permanent | Temporary | Permanent |
| **Droughts** | 3.8 | 3.5 | 4.5 | 3.5 |
| **Water Scarcity** | 2.0 | 2.0 | 2.5 | 1.0 |
| **Floods** | 3.5 | 1.0 | 3.5 | 1.0 |
| **Famine** | 2.8 | 2.5 | 3.0 | 1.3 |
| **Land degradation** | 3.5 | 2.0 | 3.0 | 1.0 |
| **Deforestation** | 3.5 | 3.5 | 3.5 | 3.0 |
| **Storms** | 3.5 | 2.0 | 3.0 | 1.3 |

## 4.2 Institutional Arrangements for Climate Induced Migration

This national study reflects on how climate change influences human mobility and is forcing people to make long-term and permanent migrations. The longer it takes to tackle the causes of climate induced migration, the greater the resulting economic, social, political and institutional challenges will manifest.

The stakeholders' perceptions table above suggests that knowledge among stakeholders responsible for disaster response and recovery regarding the direct relationship between human mobility and climate change impacts is next to negligible in all three regions. It was only after breaking down specific climate change impacts on various sectors and establishing cause and effect relationships that the stakeholders were able to answer questions directed at them and to suggest possible solutions.

To obtain in-depth analysis and the views of relevant authorities of the planning and institutional arrangements at a provincial level, to cater to the needs of communities and local people engaged in climate induced migration, this study compiles quotes from prominent government officials and stakeholders on selected themes. This highlights the gaps identified in the current institutional arrangements to support communities and mitigate disasters at the provincial level.

*Table 3: Quotes from stakeholders regarding their knowledge about existing laws and institutions for catering to the challenges and needs of climate induced migrants*

| Theme | Quotes from Stakeholders |
|---|---|
| Knowledge about CCM and policies/laws governing climate impacts in Pakistan | *"There are international laws like the 1951 Geneva Convention & 1992 United Nations Convention, which recognise that migrants do come from degraded environments. However, there are neither any policies/institutions nor any projects to address and facilitate climate induced migrants in any aspect of climate change. The institution of Provincial Disaster Management Authority (PDMA) doesn't provide any service to children and people of special needs, nor does it provide any training on family planning to migrants but there are certain NGOs which are currently working on this issue."* – Representative of PDMA Balochistan<br><br>*"There are no policies that cater to climate induced migrants in their needs but some agencies have limited activities to address malnutrition and agricultural challenges in Balochistan. In this regard, the agriculture department has played its part in spreading awareness pertaining to low delta crops as well as trickle irrigation systems to combat the effect of climate change on the socio-economic condition of rural people. There is no specific policy/training that can cater to the needs of women and girls in such scenarios. Along with the government, the NGOs have also paid less attention to fully address the issues of climate induced migrants."* – Representative of Agriculture Department Balochistan<br><br>*"Most of the countries have committed to the reduction of greenhouse gases. Pakistan's national and provincial climate change policies also cater to climate induced migrants and their needs: in various aspects related to their economical and infrastructural needs. But there are no specific policies in place to facilitate the relocation of people owing to damages and losses. In this regard, Balochistan Rural Support Program involves services to women and girls' protection as well as services to children and to people who have special needs."* – Representative of the Balochistan Rural Support Programme (BRSP)<br><br>*"I don't believe there is any such policy that ensures the safety of assets of migrating communities but there must be a policy that can protect their belongings. There is nothing particularly for minorities in the region as the coastal community has a lot of Hindu community inhabitants."* – Representative of an NGO, Balochistan<br><br>*"The national climate change policy does not address such important issues. There could be few policies regarding this but the implementation is close to zero with regards to climate induced migration."* – Representative from Sindh<br><br>*"Climate change policy is there but it does not directly address climate change induced migrants; educational institutes have started teaching about climate change like marine biology, environmental science and research is going on."* – Representative of Academia, Sindh<br><br>*"In case when some policy clauses talk indirectly about climate migration, the implementation is lacking. It may be due to the lack of human resources, funds, and awareness, coordination and communication gaps."* – Representative of PDMA Sindh<br><br>*"International frameworks like UNFCCC deals with climate change and associated problems and the Paris Agreement tends to bound all the signatories to work on reduction of emissions and collaborate on climate change issues. In our country, there is no facility or policy regarding relocation taking place due to climate change. All non-profit agencies provide temporary relief to communities affected by disasters."* – Representative of the Pakistan Environmental Protection Agency (EPA)<br><br>*"The Office of the United Nations High Commissioner for Human Rights (OHCHR) highlights the obligations and responsibilities of States and other duty-bearers to address all dire needs of vulnerable communities."* – Representative from Sindh |

Knowledge about institutions supporting CCM communities

*"PDMA has provided dumpsters and other types of machinery to dry the living areas of affected communities. PDMA makes efforts to rehabilitate coastal migrants. It also provides settlements to the disaster affected community in relief camps." – Representative of PDMA Sindh*

*"Government has not taken appropriate actions regarding climate change mitigation or migration due to climate change. However few aid agencies played an important role in meeting emergency needs in Pakistan during the 2005 earthquake and 2010-11 floods. Therefore, their role was highly appreciated by civil society and the Government."- Representative of Academia*

*"The institutions like the Population Welfare Department must be providing assistance to climate induced migrants. Their setup is not as operational as it should be but there isn't any seriousness regarding climate induced migrants. Many organisations are working on environment related issues but they are not providing data, maybe because it is possible that their work is limited." – Representative of Population Welfare Department, Sindh*

*"PDMA timely sends flood, rain and cyclone alerts to the local administration and community, but media propagates a lot. In Thatta, when a cyclone hit, their District Disaster Management Authority worked to settle and address issues of migrants. PDMA received information from the meteorological department and sent rain or cyclone alerts to the local administration. They timely informed the coastal community but the community did not leave and vacate their houses." – Representative of PDMA Sindh*

*"PDMA sends alerts about high tide and low tide to the local community and fishermen societies. It takes on board all the stakeholders and provides tent facilities to migrants. With the coordination of its Sindh Resilience Project, medical camps are staged, food is provided, some money is also given, safe drinking water and all basic home like facilities, groceries and utensils are also given to the IDPs. Portable washrooms are also staged and water suction pumps are provided to dry the soil." – Representative of PDMA Sindh*

*"During monsoon or flood, PDMA teams work in the disaster hit area,- where urban areas are flooded, the drainage system needs to be made better, there is a mushroom growth of irregular settlement and construction. PDMA has a warehouse where all kinds of items are kept to help IDPs. Organizations like WWF, SUPARCO and other government departments are also helping PDMA regarding cyclones, high ride, low tide, tsunami and other disasters." – Representative of PDMA Sindh*

*"Departments like PDMA and Population Welfare Department setup are not as operational as they should be with regards to migrant communities. There is very less seriousness of institutions towards climate induced migrants." – Representative of Academia, Sindh*

*"Migration is quite common in Khyber Pakhtunkhwa, done by people in search of better economic opportunities or by people moving due to flooding. Different government and non-governmental organisations like ERRA, NDMA, PDMA, Relief and Rehabilitation Department are present to facilitate them." – Representative of EPA Khyber Pakhtunkhwa*

*"The Meteorological Department collects climate data and analyses and predicts weather patterns. Currently the GLOF project is ongoing in Northern areas and the department collects data about flash floods and rapid melting of snow. There are also institutions like PDMA and NDMA, provincial and local Governments who can help people who are migrating due to climate change. The national and Khyber Pakhtunkhwa's climate policies are taking into account all the necessary steps for the protection of environment. They will reduce this problem." – Representative of Meteorological department, Khyber Pakhtunkhwa*

*"There are no special facilities for migrating people. They are using the same infrastructure as residents of the location." – Representative of Meteorological department, Khyber Pakhtunkhwa*

*"In Khyber Pakhtunkhwa there are enough projects directly or indirectly related to climate change issues. There are 121 in number and 7.5 % of the total budget is being spent on climate related projects. The general population does not consider environmental degradation as the basic cause of migration." – Representative of EPA, Khyber Pakhtunkhwa*

*"PDMA is working on GLOF projects but Climate Induced Migration is something new to us." – Representative of PDMA, PK*

*"Climate migration has been accelerated to an alarming extent. National and Provincial climate change policies do cater to people affected by climate change but not so effectively. NGOs are more effective than governmental institutions in this issue. There is always a conflict of interest between organisations that have a similar mandate and as a result, the communities suffer." – Representative of Concern Worldwide, Khyber Pakhtunkhwa*

*"Documentation of migrating communities is done by PDMAs, NDMAs with the help of DDMAs but not all cases are recorded due to accessibility. In Pakistan, every ethnicity can be found in every province." –Representative of Concern Worldwide, KP*

*"It is not in any government department's mandate to approach the Climate Induced Migration issue but they respond to affected populations of flood and drought. Organisations also respond through services for vulnerable people." – Representative of Concern Worldwide, KP*

| | |
|---|---|
| Planning for mass climate induced migration | *"Climate induced migrant communities should be treated differently because when people are compelled to migrate because of unfit surroundings or disaster incidences, they only take their families and a few necessity items with them." – Representative of Academia, Sindh*<br><br>*"Public sector organisations, such as PDMA and Social Welfare Department, should devise criteria to determine climate migrants. Mitigation and adaptation strategies should be initiated to prevent migration. If concrete steps are not taken to reduce the risks of climate change, then we may see migration of vulnerable communities in large numbers." – Representative of Meteorological department, Khyber Pakhtunkhwa*<br><br>*"Local administration must look after migrant communities' properties and the state must focus on adaptation." – Representative of Social Policy and Development Centre (SDPC)*<br><br>*"Poor economy is an issue but anticipating planning is a good adaptation strategy." – Representative of EPA, Khyber Pakhtunkhwa*<br><br>*"Migration may be reduced if the Government provides all the basic facilities to the people i.e. economic opportunities and basic facilities like water." – Representative of Meteorological Department, Khyber Pakhtunkhwa*<br><br>*"Migration occurs due to natural calamities and migrants choose places which are fertile and have employment opportunities. Natural calamities are increasing and people should be facilitated to migrate." – Representative of Agriculture Research Department, Khyber Pakhtunkhwa*<br><br>*"Structures of success for social protection should be established for climate induced migrants following international laws with contextualizing local settings." – Representative of Academia, Sindh*<br><br>*"Temporary displacement is the solution; permanent migration should be discouraged. Once it is safe for migrant communities to return, they should be sent back to their hometowns, upon their willingness. But sometimes due to fear of recurring disasters and relocation, communities may be hesitant to move back to their home locations." – Representative of Concern Worldwide, Khyber Pakhtunkhwa*<br><br>*"Host communities must welcome them and should provide for them, and make shelter and food arrangements for them; civil society must help migrants." - Representative of Academia, Sindh*<br><br>*"Host communities must show acceptance; state and local administration must provide temporary settlement. The state must ensure education and take measures to address health issues of migrants. Tailoring, beauty parlor, business and training of other lucrative professions can be given to migrants communities." - Representative of Academia, Sindh*<br><br>*"Firstly, temporary migration and rehabilitation of coastal migrants is required. Climate change induced migrants must be registered; they must be settled in sheltered housing where their basic needs must be fulfilled. An area must be marked for their settlement." - Representative of Academia, Sindh*<br><br>*"People are involuntarily migrating and they should be entitled to all basic facilities that any rural or urban citizen of Pakistan has in the area of settlement. States must ensure that any measure or legislation that governs or affects migration is consistent with their human rights law obligations and does not adversely affect the full enjoyment of their human rights. Not only should migrants be given easy access to facilities and settlement in new localities, their ancestral and indigenous rights should also be acknowledged." – Representative of Academia, Sindh*<br><br>*"Policy interventions should focus on strengthening the government's existing disaster management programs at a national, provincial and local government level. High-risk districts should be routinely updated on impending disasters and provided with relevant training." – Representative from Khyber Pakhtunkhwa*<br><br>*"The Government needs to understand and start taking relevant measures accordingly in its policy direction and planning processes. This may be in the shape of improving disaster risk reduction measures, or better opportunities for alternative livelihoods."- Representative from Khyber Pakhtunkhwa*<br><br>*"Climate migrant cell should be established at a provincial level to categorise the climate migrants. Integrated efforts should be initiated to cope with the situation, taking on board different public sector organisations/departments, such as PDMA and Social Welfare Department, who should devise a criteria to determine climate migrants."- Representative from Khyber Pakhtunkhwa*<br><br>*"Educating people and imparting training is a long-term strategy to support migrants effectively. Vocational skill training will result in less dependency on natural resources and hence, less environmental degradation, which ultimately will have positive impacts on the environment and local climate conditions." – Representative from Khyber Pakhtunkhwa*<br><br>*"A chapter on climate change induced migration may be included in national and provincial climate change policies for awareness." – Representative of EPA KP*<br><br>*"Climate change is a global issue and needs global collective efforts. Pakistan should also play its role and provide support mechanisms through public-private sector engagement to help people migrating." – Representative of EPA Khyber Pakhtunkhwa* |

# 5. Conclusions and Recommendations

## 5.1: Conclusion

The complexities of climate change mean that it compounds existing issues regarding human mobility and further complicates efforts to detangle the various factors influencing and affecting migration. Nevertheless, as this research highlights, it is essential that efforts are made to study the dimensions of climate induced migrations, as it is a human rights and security concern. Every individual has a right to a dignified life, decent livelihood opportunities, and safe and legal mobility. Countries in the Global South, such as Pakistan, have a negligible carbon footprint but suffer the most severe climate change impacts. Therefore, when climate disaster strikes, or declining ecological conditions impact and force communities to migrate, it is the international community's collective responsibility to ensure the safety and protection of those communities, as well as to support their sustainable development. This can be safeguarded through the formation of legally binding frameworks and investments that build the resilience of developing countries.

It is important to note that the lack of knowledge regarding climate induced migration among key stakeholders can also be a result of traditional migration practices in the country. The climate induced migration patterns identified by the respondents of this research are in the same direction as the migration streams that have historically taken place in Pakistan. In Sindh, people are moving from coastal regions (Kharo Chan and Keti Bander) towards the big cities. Temporary migrations to escape flooding are turning into permanent migrations, where vulnerable people are forced to settle in urban slums in nearby cities like Thatta, while those with resources are moving towards mega cities like Karachi. GLOF events and flash floods are recognised as the main climate hazards in the Northern and Central Khyber Pakhtunkhwa zone, while droughts have been the key threats to the people living in Southern Khyber Pakhtunkhwa districts. The Northern parts of Khyber Pakhtunkhwa have a very long history of GLOFs, but in the last two decades, both the intensity and frequency of these events have increased. Over the last 17 years in particular, the district of Chitral (villages like Yarkhon Lasht, Brep, Sonoghor, Bindo Gol, Reshun, Booni and Golen) experienced more than 13 glacial outburst floods in different valleys, displacing several households and forcing them to live in temporary shelters for years. Moreover, some households migrated from their native valleys permanently. Climate induced migrations in the Khyber Pakhtunkhwa region are mostly towards the capital city of Peshawar and nearby urban cities.

Due to ever long-lasting and repeated spells of drought, the people in Balochistan are increasingly undertaking seasonal and more permanent migration. Consistent with traditional migration patterns, the people of Balochistan are either moving towards the capital city of Quetta or towards other urban centers like Hub Chowki and further towards Karachi in Sindh. Communities from Khuzdar are migrating towards Sindh, while people from Barkhan and nearby regions are moving towards Punjab.

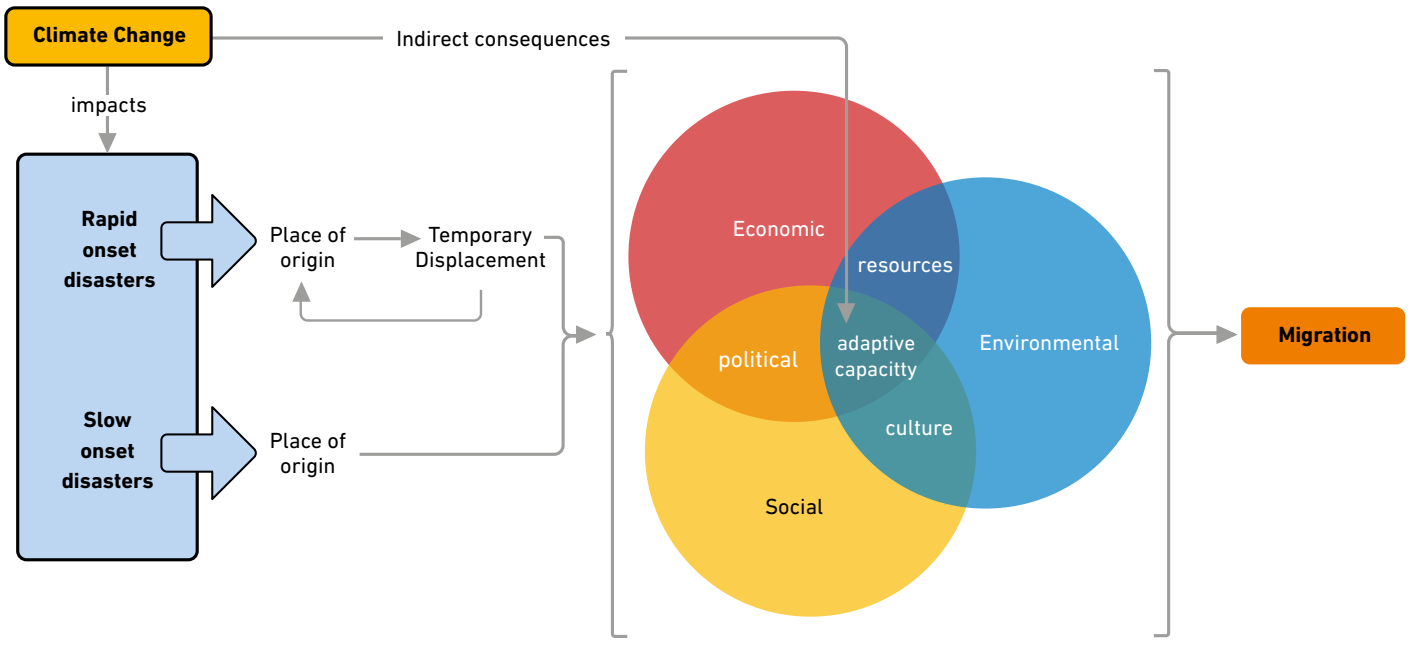



*Figure 6: Graphical description of factors that lead to migration decision*

While it may seem natural to move to big cities for livelihood opportunities and a better standard of living, as it has traditionally been the case for many communities, increasing unplanned movements in the form of climate induced migrations will continue to exert pressure on already hard pressed urban cities, aggravating urbanisation challenges for Pakistan. As reflected in this study, climate change and migration are highly correlated. It is imperative that we confront this link as several studies forecast that mass human displacements are expected to take place in the twenty-first century. Climate impacts, both rapid and slow-onset, are compounded by a wide range of factors including social, economic, political and even cultural aspects within a community that may induce migration. Unplanned and forced migration in a country like Pakistan, with a population of over 200 million (with ethnic divisions, poverty and limited resources, among other factors), all of which are in the direction of the capital cities and already stressed urban centers, will further compound climate risks. A warmer climate has now become inevitable, but how we respond to climate change will determine the magnitude of the costs and consequences that we will face. For a nation that lacks resources for building resilience to disasters and good governance, the stress that climate change induced migration will bring will have the potential to shake the country's stability and stir conflicts.

## 5.2: Recommendations

Based on the findings obtained from the study conducted in three different regions of Pakistan, the preliminary suggestions on policy options can be divided into two categories to focus attention on mechanisms to address and manage climate processes and adaptation to climate events;

**For the International community:**

1. Acknowledge that the concept of climate induced migration is not limited to transboundary movements, but also includes internal and localised migration within a country, which is mostly found in less developed, vulnerable, and desert regions and from landlocked and island countries.
2. Develop consensus among policymakers and scientists/academia for a wider understanding of the underlying factors behind climate induced migration.
3. Mainstream climate induced migration responses within climate change planning, response and financing.
4. Create partnerships and work with the existing system of the United Nations Framework Convention on Climate Change (UNFCC) to take a lead and build consensus to formulate a legal definition of 'climate migration', especially internal, as opposed to the existing concept of refugees. Propose protection measures to ensure equal economic opportunities for climate migrants without any social stigma and a blueprint for assisting climate migrants as a guiding principle that can be used by parties.
5. Strengthen joint analysis and sharing of information to better map, understand, predict and address migration movements, such as those that may result from sudden-onset and slow-onset natural disasters, the adverse effects of climate change, environmental degradation, as well as other precarious situations.
6. Develop adaptation and resilience strategies against sudden-onset and slow-onset natural disasters, the adverse effects of climate change and environmental degradation, such as desertification, land degradation, drought and sea level rise, taking into account the potential implications for migration.
7. International frameworks and agreements, such as the Sendai Framework for Disaster Risk Reduction, should incorporate climate induced migration in their agenda and goals and address the needs of climate induced migrants in their priority actions.
8. Ensure that climate induced migrants have support and access to basic services.
9. Ensure that support provided to climate-vulnerable communities is well informed and culturally sensitive.
10. Minimise the structural factors that increase people's vulnerability and compel them to migrate by ensuring continued commitment to and implementation of Agenda 2030, the Paris Agreement and the Sendai Framework for Disaster Risk Reduction.
11. Acknowledge that religious and cultural heritage are key to a family's resilience in climate policies.
12. The climate finance to be provided under the Paris Agreement to the Global South should include the provision for climate induced migrants. Ensure that migrant and vulnerable communities have access to the required resources to facilitate the migration or restoration of their livelihoods.

**For Pakistan:**

1. Develop or update existing climate change and disaster preparedness and contingency plans with increased focus on vulnerable communities, and utilize disaster risk reduction measures as part of climate adaptation strategy, including disaster/climate risk financing interventions.
2. Identify capacity gaps and build the capacity of policymakers and key stakeholders regarding climate induced migration, backed by policy coherence and horizontal and vertical coordination and data sharing mechanisms among key departments.
3. Raise awareness among vulnerable communities and propose indigenous and localised adaptation measures.
4. Ensure inclusive economic opportunities are available to vulnerable communities, along with alternative skill development interventions, climate-resilient agriculture measures and support for small and medium-sized enterprises.
5. Develop and implement tailor-made strategies at the regional/sub-regional level, based on assessments of local needs.
6. Provide adequate infrastructure, including better access to roads, communication, transport, health, education, housing, sanitation, electricity and clean drinking water facilities for vulnerable communities.
7. Develop a 'national climate migrants database' and establish a monitoring mechanism to collect and utilise disaggregated evidence-based data on climate migrants.
8. Ensure protection of the sources of livelihood of the vulnerable communities, including fisheries and agriculture.
9. Expand the scope of social safety net programs, like EHSAAS, to include the needs of climate-affected populations.
10. Strengthen the protection and conservation of the Indus deltaic region, as large populations of vulnerable communities rely on deltaic resources for their livelihood.
11. Strengthen institutional structures to monitor and develop relevant policies and plans for climate migration at both provincial and national level.
12. Develop specialised policies for education and capacity building of women and children to enhance their resilience to climate disasters.
13. Invest in cost-effective climate-resilient/nature-based solutions, infrastructures and ecosystem restoration measures in high risk areas to reduce climate change induced migration.
14. Invest in inclusive early warning systems that are accessible to local communities, especially to women.
15. Manage rapid urbanisation, and reduce overburdened existing urban centers, by developing intermediate climate-smart towns and cities. Provide resources and connect communities to the market through appropriate channels, such as by effectively involving local communities in local government and developing peri-urban and urban slums.
16. Create public-private partnerships to raise awareness and conduct scientific research with the help of academia to help solve challenges, conduct environmental assessments and work on green components and spaces as key elements in urban planning.
17. Adopt a climate change financing framework to integrate climate change in budgeting and planning to mitigate the impacts of climate change and address the issues of climate change induced migration. The country should develop a formal mechanism to tap into the available climate finance from international sources to reduce the burden on national exchequer.
18. Monitor and collect data regarding internal migration and cross-border migration due to ecological deterioration and permanent migrations resulting from rapid-onset climate induced disasters for informed decision making.
19. Adopt a multi-sectoral approach with increasing resilience, and sustainable development being cross-cutting themes, for supporting vulnerable communities.
20. Strengthen mechanisms for the return and rehabilitation of migrants to their original place and provide skills development programmes for migrants.

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