

# YOUTH, CLIMATE & SOCIAL COHESION

THE VIBRANT ROLE OF YOUTH IN PROMOTING SOCIAL COHESION AND RESILIENCE IN  
KHYBER PAKHTUNKHWA THROUGH INFORMAL SOCIAL PROTECTION MEASURES

# Islamic Relief Pakistan

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As part of one of the world's largest faith inspired charity, Islamic Relief (IR) in Pakistan has transformed the lives of millions spanning over a period of 25 years.

Since 1992 we have transformed the lives of 9 million people living in remotest parts of the country including Punjab, Balochistan, Khyber Pakhtunkhwa, Azad Jammu & Kashmir, Sindh and Gilgit Baltistan.

Whether it has been the earthquake of 2005 in AJ&K or the floods of 2010 in Punjab and Sindh, our teams have worked on the front lines providing lifesaving assistance to the affected.

IR Pakistan aims to address the deep-rooted issues in the country associated with poverty, education, health, water and sanitation and sustainable livelihoods through long term and effective partnerships with the government, private sector, INGOs, academia and media.

We are committed to address the climatic challenges being faced by Pakistan through effective and long-term partnerships with other stakeholders. Islamic Relief ensures that climate is a major consideration in all of our work. For example, in Balochistan, being an arid region, we provide farmers with seeds that require less water. Similarly, in Azad Jammu and Kashmir we have introduced kitchen gardening utilising waste water. We have also installed solar plants and windmills in Khyber Pakhtunkhwa and Balochistan to provide alternative energy solutions.

We are also working with the provincial and national government to develop and implement policy to address climate change. Additionally, we are also working with media and academia to raise awareness among people about the worsening effects of climate change on our country.

We envision a self-reliant, resilient and safer Pakistan by enabling and empowering its people to play their part; as we strongly believe in the abilities and skills of the people of Pakistan to bring transformational changes in the country.

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# Table of Contents

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1. Introduction.....	12
1.1. Background to the study .....	12
1.2. Objectives.....	13
1.3. Methodology.....	13
Quantitative Surveys .....	13
Qualitative Interviews .....	14
1.4. Outline of the Report.....	14
2. Climate Change in Pakistan, Khyber Pakhtunkhwa & Specifically in the Newly Merged Districts .....	15
2.1. Policy and Institutional Environment in Pakistan & Khyber Pakhtunkhwa .....	16
2.2. Khyber Pakhtunkhwa at a Glance.....	16
2.3. The Climate challenge in Khyber Pakhtunkhwa .....	17
2.4. Newly Merged Districts of Khyber Pakhtunkhwa at a Glance .....	19
3. Understanding of Climate Change in Study Area .....	22
3.1. Climate Change - Knowledge & Perceptions.....	22
3.2. Climate Change and Disasters.....	24
3.3. Climate Change - Reducible or Reversible .....	25
3.4. Most affected Sectors from Climate Change .....	25
4. Youth Role for Climate Action and Social Cohesion .....	26
4.1. Youth in Merged Areas .....	26
4.2. Climate Change Impacts on Youth.....	27
4.3. Youth's Access to Institutional Structures.....	28
4.4. Sensitization of Youth on Climate Change .....	28
4.5. Youth and Peace Building.....	29
4.6. Green Jobs for Youth .....	29
4.7. Challenges in Youth Inclusion .....	29
4.8. Avenues for Youth Action on Climate Change .....	30
Implement KP's Climate Change Policy in Letter and Spirit .....	30
Youth as Agents of Change .....	30

Climate Education .....	30
Youth Leadership Forums .....	30
Youth's Qausi - Institutional Engagement.....	31
Leveraging on Tribal Decade Strategy.....	31
Qabail Led Development (QLD).....	31
5. Climate Change and Gender Mainstreaming.....	32
5.1. Women Vulnerabilities in face of Climate Change.....	32
Reproductive Health .....	33
Psycho-Social Wellbeing .....	33
Violence against Women .....	33
Family and Domestic Affairs .....	34
Inheritance .....	34
Legal and institutional coverage for women protection .....	34
5.2. Gendered Impact of Climate Change.....	35
5.3. Avenues for Gender Mainstreaming in Climate Action.....	35
Inclusion of Marginalised Groups in Policy Processes .....	35
Women Leadership in Climate Action .....	35
Strengthening existing Institutional Mechanism.....	35
Focus on Indigenous Knowledge.....	36
Bottom-up Approaches .....	36
More Granular Understanding at Micro-Level .....	37
6. Nexus of Climate Change, Youth and Social Cohesion .....	38
6.1. Climate Change and Youth .....	38
6.2. Climate Change and Social Cohesion .....	39
7. Annexure 1: Districts' Profiles.....	40
8. References .....	43

# List of Figures & Tables

---

Figure 1- Perceived changes in average temperatures .....	22
Figure 2- Climate Change - Human Induced or Natural.....	23
Figure 3- Climate Change Induced Hazards .....	24
Figure 4 - Can impacts of Climate Change Be Reduced?.....	25
Figure 5 - Sectors Affected by Climate Change.....	25
Figure 6- Impact of Climate Change on Youth .....	28
Figure 7- Youth's Access to Formal Government Channels .....	28
Figure 8 - Avenues for Youth Involvement .....	29
Figure 9- Green jobs for Youth .....	29
Table 1 - Sampling Plan for Surveys.....	14

# Acronyms

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DC	Deputy Commissioner
DDMA	District Disaster Management Authorities
DRR	Disaster Risk Reduction
DOs	District Officers
FATA	Federally Administered Tribal Areas
FGDs	Focused Group Discussions
GBV	Gender Based Violence
GDP	Gross Domestic Product
GLOFs	Glacial Lake Outburst Flood
IRP	Islamic Relief Pakistan
IPCC	Intergovernmental Panel on Climate Change
KIIs	Key Informant Interviews
KP	Khyber Pakhtunkhwa
NGOs	Non-Governmental Organizations
NCCP	National Climate Change Policy
NWIE	North Waziristan Initiative for Economic Up-lifting
NMDs	Newly Merged Districts
QLD	Qabail led development
RIDA	Resilient Initiative for Development and Adaptation

# Foreword

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Pakistan has been receiving wake up calls about the rapidly changing climate and extremely unpredictable weather patterns. The country has been host to droughts, long dry spells, extreme rainfalls and snowfalls and most recently a flood that affected roughly 33 million people.

The country can't bear the financial, emotional and human cost of climatic changes happening at an alarming pace. Even the enchanting wilderness is being affected in a way no one ever imagined of. As it continues to reshape our planet, forecasts paint a disturbing image of the future.



With 64 percent of the population under 30, the youth bulge of Pakistan has huge potential to drive the country out of complex issues like climate change. Our current and future generations are facing a paradox, realizing the grave consequences, we are harnessing the power of youth through multiple initiatives. In the given existential challenges, Islamic Relief is of the view that young people should shape their own futures.

Through 'Voices Organized for Climate Change, Advocacy and Lobbying' (VOCAL), a nationwide campaign, we are bringing all stakeholders including media, civil society, academia and government to unite for a decisive climate action. Giving them a voice, we want them to be part of the decision-making process in a meaningful way.

For returnees in erstwhile FATA, life has been a challenge beyond imagination. Upon arrival, destroyed infrastructure and rubble welcomed them. Since the merger, development has been the priority for Islamic Relief. With youth and children at the heart of our work, we consider them to be the change-maker for their areas where once chaos ruled.

'The Vibrant Role of Youth, Climate and Social Cohesion and Resilience in Khyber Pakhtunkhwa through Informal Social Protection Measures' is a study carried out by Islamic Relief to better understand the ground realities of prevailing issues in the newly merged tribal districts alongside supporting the policy makers to promote unity and come up with sustainable solutions.

Banking upon the youth, the study also highlights the prospects through which the local communities can take the lead in taking control of their lives.

With challenges mounting, these efforts and contributions by Islamic Relief are directed to make Pakistan a Climate Resilient country and equipping it with the right skills and knowledge to create better and safer tomorrow.

**Asif Sherazi**

Country Director,  
Islamic Relief Pakistan

# Executive Summary

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Pakistan is facing unprecedented consequences of climate change and in the words of UN Secretary General Antonio Guterres, “the world has never seen a climate carnage on this scale<sup>1</sup>, as witnessed in extended monsoon of 2022. Climate action and climate justice are the emerging phrases to deal with in this precarious situation. Their impacts are more pronounced in impoverished areas such as the two districts under study.

This study looks at how youth and women engagement can be strengthened to empower local communities through participatory approaches. The “Resilient Initiative for Development and Adaptation” (RIDA) and the “North Waziristan Initiative for Economic Up-lifting” (NWIE) projects by Islamic Relief are currently engaging communities through participatory and gender inclusive approach with gender mainstreaming, disaster risk reduction, protection, and climate change as crosscutting themes. The aim of conducting this study is to generate insights for further strengthening the interventions of Islamic Relief by analysing the understanding and impacts of climate change in the two target districts i.e., North Waziristan and Khyber.

A mixed approach has been employed to achieve the study objectives. A total of 404 quantitative household surveys have been conducted along with 04 Focused Group Discussions (one male and one female FGD at NMD Khyber and NMD North Waziristan each) in addition, qualitative Key Informant Interviews (KIIs) have been conducted with Gender and Child Protection Cell at PDMA KP, Creative Innovative Unit, Department of Science and Technology (DOST) KP, Directorate of Youth KP, Social Welfare Department KP, University of Peshawar and Institute of Management Sciences Peshawar.

Khyber Pakhtunkhwa is prone to various climate induced disasters due to its unique topography. Moreover, the environmental and climatic changes have increased the vulnerabilities of the province to monsoon induced flooding and cold waves from the Persian Sea which caused the heavy a snowfall in some parts, while prolonged rainfall in other parts of the province. Generally, the NMDs are classified as arid and semi-arid climate zones. The area receives little precipitation, averaging below 300 mm annually. Almost 43.6% of the cultivated land in Merged Areas is irrigated, while the remaining farmland relies exclusively on rainfall. Water scarcity has been quoted as the most critical impact of climate change by respondents in the two districts jeopardising future food security, decreased forest cover, increasing poverty and increased drudgery for women. This also affects hygiene and sanitation situation particularly for women as piped drinking water resources are available in urban centres for only 19% of the population. Around 32% of the population has no access to clean drinking water.

Overall the water challenges include low coverage of drinking water, a lack of proper infrastructure (resulting in flash floods), a lack of watershed management (leading to loss of useful top soil), overexploitation of groundwater and low recharge (resulting in lowering of the water table, that is mainly abused by subsidized power and solar pumps): inefficient use of irrigation water (50 % of irrigation water being lost through seepage, evaporation, and a lack of precision land levelling), limited capacity to operate and maintain water infrastructure (communities have no capacity and government departments mandates also overlap), little resource allocation (financial constraints is the limiting factor in development and extension of water resources in NMDs), a lack of drought mitigation measures (no local or regional level plans) and lack of reliable data (baseline data not available and no effective data monitoring of water and other natural resources).

The study reveals that people generally have a good understanding of the impact of climate change, but little knowledge of how to adapt to these changes. The key findings of the study are presented below:

- Despite low literacy levels, the, people of both districts have a relatively sophisticated understanding of climate change and its impacts. Interestingly, 86% respondents of North Waziristan and Khyber districts reported that average temperatures have changed over the past 10 years. Interestingly more women (86%) than men (76%) believe that average temperatures have increased.
- There is a general understanding that climate change affects quality of life. Over 55% of residents in both districts believe that climate change induces negative impacts on their quality of life while 37% suggest that the effects are positive. When looked at from a gender lens, more women (78%) than men (33%) believe that climate changes are detrimental to their existing lifestyles.
- Formal Education is not a strong predictor of a better understanding on the impacts of climate change. A majority of illiterate population (70%) reported negative impact of climate change on their quality of life than literate population (32%)
- For residents of the two districts, climate change is both anthropogenic and natural. The survey shows that 53% believe that climate change is human induced, as against 20% who believe that it is natural. More of young than older population believe climate change is human-induced
- There is a relative disconnect between populations knowledge of climate change and disasters. Only 55% of the population believes that frequent disasters are an outcome of climate change. For the rest of the population, they are a natural occurrence. More youth (60%), however, believe that frequent disasters result from deteriorating climate conditions in their localities against 41% elder population
- Population understanding of climate change is limited only to water-related calamities. More than half of those who believe that climate change causes frequent disasters, 61% believe that climate change causes major flooding, 10% believe climate change is responsible for hill torrents, while 16% related hailstorms to climate change. Another 45% believe that droughts too are

caused by climate change. There is little understanding amongst population about climate change connection to food security, energy, and health outcomes (Nexus approach), for example.

- The surveyed population largely finds themselves unable to reduce impacts of climate change on their lives. Only 22% of the respondents believe that they can play a role in reducing or reversing the impacts of climate change. This perception is same across both districts however varies between men and women where more men (25%) believe that they can play a role compared to women (9%). Young people (18%) are more optimistic that they can play a role, than the elderly population (11%).

Like the rest of Pakistan, NMDs too are experiencing a youth bulge where 43.6% of the population falls in the youth category (between 15-24 years). Youth bulge offers new opportunities, as well as it poses numerous challenges. Given the sluggish economic growth rate of the country, creating employment opportunities is increasingly becoming a difficult task for the Government. A high incidence of poverty in NMDs, further limits the economic inclusiveness of the youth. The study recommends some avenues for youth inclusion on climate action such as implementation of KP's climate change policy in letter and spirit, recognising youth as agents of change, more nuanced focus on climate education, youth leadership forums, initiation of a quasi-institutional engagement of youth with government channels, and a general indigenous model of 'Qabail-led development' approach.

In terms of challenges faced by women, the locals cited water shortages effecting reproductive health and psychosocial wellbeing. Women's access to productive resources is limited, while cases of gender-based violence in the face of disaster are comparatively higher than normal. The report recommends some key avenues for gender mainstreaming in climate action such as inclusion of women in policy processes, promoting women leadership in climate action, strengthening existing institutional structures, more focus on indigenous knowledge for better adaptation and more granular understanding of women needs at the micro level. No doubt, these measures would require reliable data to mainstream gender-based challenges into policies and programs on climate adaptation.

# 1. Introduction

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## 1.1. Background to the study

Climate change continues to be a threat to safety and prosperity of people, especially for the most vulnerable communities as witnessed in the catastrophic floods of 2022 which submerged a third of Pakistan. Weather extremes cannot be mitigated alone by reducing emissions or investments to take account of future climate induced risks. There is a need to leverage the existing social and economic protection systems so that these impacts do not worsen future resilience of the people.

While the whole Country is experiencing a downward spiral, the issues of poor WASH services, energy crisis, water scarcity, deforestation, and unsustainable land use are plaguing almost the entire belt of the Newly Merged Districts (NMDs) of Khyber Pakhtunkhwa. This is impacting vulnerable groups the most. There is a general demand of communities for improving environmental conditions but demands of population from across NMDs are not clearly articulated. Particularly important is the role of youth and women who could be agents of climate action and may well be galvanised into indigenous movement for climate justice. Their effective engagement can be ensured through, inter alia, education, culture, climate-responsive tourism, and sports. By linking youth's creativity to larger social goals like bridging divided communities and ensuring a real process of reconciliation, youth's creativity could be effectively mobilised.

It is also important to highlight that while enabling youth to lead a positive societal change, they are often treated as a group of people that must be guided in the right direction, rather than as a diverse array of population. This study sponsored by the Islamic Relief Pakistan examines how the energy of the young population, both men and women, could be harnessed to create purposeful movements to demand for climate actions, and participate in promoting life choices in complex local settings.

Islamic Relief Pakistan (IRP) is working in both humanitarian and development contexts in the Newly Merged Districts of Khyber Pakhtunkhwa particularly for the socio-economic uplift of the conflict affected communities of North Waziristan and Khyber districts. IRP has launched two development initiatives namely "North Waziristan initiative for Economic Up-lifting (NWIE) from November 2020 to October 2022" and "Resilient Initiative for Development and Adaptation (RIDA) from January 2021 to June 2023" to empower local communities through participatory approaches. Both the projects rely on social mobilization where targeted communities are engaged in project interventions through participatory and gender inclusive approach with gender mainstreaming, DRR, protection, and climate change as cross cutting themes. The capacity building aspects strives to make target communities resilient to future shocks. The targeted communities are being organized for collective efforts through participatory project approach, social events, and stakeholders' engagement to

create a socially beneficial and conducive living environment. It is understood that the restoration and promotion of livelihood assets, and efficient management of natural resources will have positive impact on the environment. Further, project activities will be appropriate, adaptable to local conditions and acceptable to targeted communities.

## **1.2. Objectives**

The overall objective of IRP in commissioning this study is to generate community-based research with academia and institutions on the impacts of climate change and the role of youth for informed and gender-inclusive decision-making in Khyber Pakhtunkhwa. This study aims to present an overview of the role of youth in promoting sustainable development and social cohesion in NMDs of KP, with climate change as the overarching theme. The recommendations of the study will likely inform policymakers, development partners, and civil society organisations of the crucial need to integrate voices of youth and other marginalised groups in environmental and climate policies in NMDs, and to propose ways to move forward with their active participation as decision makers.

## **1.3. Methodology**

The quantitative and qualitative techniques have been combined in a mixed approach. Along with a questionnaire survey, the data was gathered through interactions, interviews, and observation. The theoretical viewpoint is based on a review of the literature, including both peer-reviewed and by another sources, as well as reviews of related research studies and theoretical writings on the practical application of climate change. Additionally, youth-focused adaptation strategies highlighting their active participation in climate change adaptation, gender mainstreaming that is climate sensitive, and their contribution to building socioeconomic resilience in Khyber Pakhtunkhwa overall and NMDs in specific have been consulted.

### ***Quantitative Surveys***

A total of 404 questionnaires were filled from the respondents, split equally between men and women, where 73% were youth, and 27% older people. The following table shows key sample attributes where reported illiteracy is around 51% while 26% have studied till grade 5.

**Table 1 - Sampling plan for surveys**

<b>Variables</b>	<b>Groups</b>	<b>Count</b>	<b>Proportion</b>
<b>Gender</b>	Male	202	50%
	Female	202	50%
<b>Age</b>	Youth	294	73%
	Other Than Youth	110	27%
<b>Education</b>	Bachelors (14 years)	24	6%
	Intermediate (12 years)	13	3%
	Masters (16 years)	11	3%
	Matric (10 years)	44	11%
	Primary (5 years)	105	26%
	Illiterate	207	51%

### ***Qualitative Interviews***

A total of 04 Focused Group Discussions (FGDs) and 11 Key Informant Interviews (KIIs) have been conducted to support the quantitative surveys. FGDs were held with male and female of different ages separately in both districts and KIIs were conducted with public officials and civil society organisations to get a better understanding of the potential role of women and youth in climate action.

### **1.4. Outline of the Report**

Chapter 1 comprises of introduction, objective, and methodology of the study.

Chapter 2 outlines a broad-brush approach to climate challenges facing the province of KP, NMDs, and the two selected districts.

Chapter 3 is based on primary data and presents the understanding of the population in target districts with respect to climate change.

Chapter 4 and Chapter 5 are the main findings from youth and gender perspective. Both chapters end in providing avenues for climate action.

Chapter 6 discussed nexus of climate change, youth, and social cohesion.

## **2. Climate Change in Pakistan, Khyber Pakhtunkhwa & Specifically in the Newly Merged Districts**

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The years 2015–2020 were the warmest on record. Scientists have claimed that anthropogenic activities are to blame for this rise in the number of climate change patterns. These changing climate patterns are causing strong social and economic consequences over the globe. The Intergovernmental Panel on Climate Change (IPCC) estimates that the global mean temperature may rise between 1.4 to 5.8 °C by the end of the current century. This huge increase is anticipated to have significant effects on people's lives and livelihoods<sup>2</sup>.

Considering the detrimental repercussions of climate change, Pakistan is no exception as climate change does not follow political/geographical boundaries. Extreme vulnerability to climate change impacts persists in Pakistan, as it does in many other developing countries. Even though the country has relatively low greenhouse gas (GHG) emissions contribution, it is nonetheless vulnerable to the consequences of climate change. According to German Watch for climate indexing, Pakistan has been listed among the top 10 countries most affected by climate change over the past two decades. Similarly, the country has seen 152 extreme weather events and lost 0.53 percent of its per unit GDP between 1999 and 2018, according to the Global Climate Risk Index annual report for 2020. The report indicates that the country has incurred economic losses amounting to \$3792.52 million. The 2010 mega flood alone killed 1,600 individuals, submerged 38,600 square kilometres, and cost around \$10 billion in damages. Similarly, the June 2015 heatwave in Karachi resulted in the deaths of almost 1,200 people. Recently, extensive rains in northern KP region for the months of June to August 2022, created huge hill torrents and riverine floods, resulting in an enormous scale destruction throughout the province. 17 districts in KP region were massively affected including Charsadda, Nowshera and D.I. Khan with reported losses of 306 human lives and large-scale damage to houses, livestock, roads infrastructure and crops. Similarly, May and June 2022 witnessed over 200 wildfire incidents, damaging pastures and forests over 14,430 acres in different districts of Khyber Pakhtunkhwa.

## **2.1. Policy and Institutional Environment in Pakistan & Khyber Pakhtunkhwa**

Pakistan's federal government has set several policies and initiatives to set its overall goals regarding adaptation and mitigation of climate change. The 2012 National Climate Change Policy (NCCP) serves as the nation's primary climate change policy document. It acknowledges the growing likelihood of future extreme natural hazards as a result of climate change and presents a comprehensive picture of the vulnerabilities faced by many economic sectors, ecological regions, and social strata. In 2022, Pakistan updated its national climate change policy in response to the threats posed by climate change. The national policy on climate change provides a framework for tackling the difficulties Pakistan faces or will experience as a result of the changing climate<sup>2</sup>. The policy was put forward by Pakistan's Ministry of Climate Change with the goal of making the country more resilient to the effects of climate change and ushering in a low-carbon society.

On provincial level, Khyber Pakhtunkhwa was among the first provinces in the country to adopt a Provincial Climate Change Policy in 2017 and has recently updated its provincial policy for 2022. This is done to address the myriad environmental issues that constitute a threat to human health, biodiversity, rural-urban migration, and lax environmental compliance. The provincial government presented six policy frameworks for implementation in 2022. The Policy is intended to serve as a high-level framework within which the Government of KP may implement the most important national and provincial priorities in regard to adaptation to climate change and the reduction of GHGs. Many non-governmental organisations (NGOs), Intergovernmental Organisations (IGOs) and civil society organisations (CSOs) are also active on a national and provincial scale, working to address climate change with federal and provincial governments and their various agencies.

## **2.2. Khyber Pakhtunkhwa at a Glance**

Through the well-known Khyber Pass, Pakistan's Khyber Pakhtunkhwa Province borders Afghanistan in the west, Azad Kashmir and the Northern Areas (the Kashmir region's Pakistani-administered areas) in the northeast and east, Baluchistan province in the southwest, and Punjab province in the southeast. The former federally administered tribal areas (FATA), which are located on the western border along the Afghan border, were recently merged into Khyber Pakhtunkhwa under the 25th Constitutional Amendment, which transferred complete executive authority to the Chief Minister KP and his cabinet.

Khyber Pakhtunkhwa is geographically divided into two zones: the northern zone and the southern zone. The boundaries of the Peshawar basin extend into the northern zone from the Hindu Kush. The northern zone has a cold, snowy climate with significant winter rainfall. With the exception of the hot summers in the capital Peshawar, it has pleasant summers with moderate rainfall. Peshawar to the Derajat basin are located in the southern zone. With little rainfall, it has relatively cold winters and hot summers.

Peshawar, the province's capital, stretches along the Kabul River to the north. Despite only making up one-tenth of Khyber Pakhtunkhwa's total covered area, it is home to about half of the province's total population. The iconic Khyber Pass, located west of Peshawar, provides a direct route from Afghanistan to the Indian subcontinent. The weather in Peshawar is warm and moderate. Peshawar experiences exceptional rainfall, with some amount of precipitation occurring even in the driest month of the year. The average temperature is 22.3 °C (72.1 °F). The annual range of precipitation is 817 mm to 32.2 inches.

Elevation affects the province's climate in different ways. The temperature rises toward the south, and the mountain ranges experience cold winters and cool summers. The province experiences variable precipitation, with an annual average of roughly 16 inches. The months of January through April are when precipitation is most frequent. Oak and pine are common on the northern mountain slope. Additionally, the region is dotted with vast grasslands.

Khyber Pakhtunkhwa is prone to various climate induced disasters due to its unique topography. Moreover, the environmental and climatic changes have increased the vulnerabilities of the province to monsoon hazards and western disturbance which caused the heavy snowfall in some parts, while prolonged rainfall in other parts of the province. With the exception of Peshawar Valley, which is hot in summer and cold in winter with moderate rainfall, the northern region of Khyber Pakhtunkhwa experiences cold, snowbound winters with heavy rainfall and pleasant summers. With hot summers, comparatively cold winters, and little rainfall, the southern zone is arid. The province's climate ranges from being extremely cold in the north, where District Chitral is, to being extremely hot in the south, where District D.I. Khan is. The Kabul River, Swat River, Panj Kora River, Bara River, Kuram River, Gomal River, and Zhob River are the principal rivers that traverse the province. Visitors from all over the world are drawn to it by its snow-capped peaks and lush green valleys of rustic natural beauty, and its art and architecture are unparalleled in the history of civilization.

Erstwhile FATA (Federally Administered Tribal Areas) were merged with KP in March 2017 and includes tribal districts namely, Bajaur, Mohmand, Khyber, Orakzai, Kurram, North Waziristan, and South Waziristan. These tribal districts especially North Waziristan was subject to flooding, drought, and the protracted humanitarian crisis since 2008. Continuous militancy and subsequent security forces operations compelled temporary displacement of over five million people to reside in different parts of the country, which devastated livelihood cycles of returnee community. Unemployment and lack of financial resources has further aggravated the sufferings of these communities especially youth towards anti-social actions.

### **2.3. The Climate challenge in Khyber Pakhtunkhwa**

The northwest Pakistani province of Khyber Pakhtunkhwa (KP) has a diverse topography. The Himalaya, Karakoram, and Hindu Kush mountains are located in the northern, north-western, and eastern parts of the province, while the southern part consists of agricultural areas and rangelands. Khyber Pakhtunkhwa is extremely

susceptible to the effects of climate change mentioned above. Critically the melting of glaciers, drought, floods, GLOFs, high winds, avalanches, and land sliding are all risks associated with climate change in KP<sup>3</sup>.

The following challenges are expected to strike the province in the coming years due to climate change:

1. The province of KP includes a complex river system, with numerous minor rivers pouring into the Indus River. These river networks make the region susceptible to flash floods during the monsoon season. Recent years have seen an increase in the frequency of floods in the KP region. Heavy rains cause flooding in the area nearly every year. The floods in these regions will affect the well-being of people from all walks of life, especially women and young people. They are likely to impact the emotional, intellectual, and physical development of the young people which could put the future of many families at stake.
2. The province's southern region, which is particularly prone to droughts, is where the vast majority of its crops are grown. The province's food supply may be jeopardised if droughts continue to plague the area. Drought is expected to become more common in the region as temperatures rise and precipitation decreases. Droughts will have a substantial impact on women and children, as women comprise a significant portion of the agricultural workforce. Children's health issues will be increasingly common owing to low water flows and poor water quality. Because about 80% of the people in the province rely directly or indirectly on agriculture for income, economic losses will also cause anxiety and depression<sup>4</sup>.
3. Food insecurity is one of the biggest and most prevalent problems brought on by climate change, with estimates of frequent emergencies and food shortages in underprivileged communities. Many poor rural women in KP depend on climate-sensitive resources for their survival and way of life. They also have a lower likelihood of receiving the education, opportunities, participation in decision-making, and access to resources needed to deal with these environmental changes, which will challenge their normal way of life, in particular for the people of newly merged districts (NMDs) where gender disparity is already significantly high. Young people are also going to be disproportionately affected due to their increased population size.
4. Climate change also poses a challenge to the efficient delivery of water services to homes, agriculture, businesses, and other sectors in KP. Increased precipitation as a result of climate change damages the water infrastructure as a result which the water supply deteriorates, having a direct impact on women due to the disruption of domestic activities.
5. A variety of challenges to human health and quality of life stem from climate change in the province. It can challenge the availability of safe drinking water, clean air, sufficient food, and secure shelter<sup>6</sup>. Climate change has also increased the likelihood of storms, floods, and droughts in KP, which could lead to migration of people toward the province's metropolitan centres. Lack of adequate housing, water and sanitation issues, and a rise in the spread of disease are all potential knock-on impacts in KP's densely populated regions. The provision of sewage

facilities is already a major problem in the province's newly merged districts (NMDs). For instance, just 14% of village councils in the district Khyber and 13% of village councils in the district North Waziristan have access to sewerage facilities according to Tehsil Development programs of District Khyber and Waziristan. Existing problems in the province, such as high mortality rates of children, maternal death rates and inadequate public health facilities and services, are anticipated to worsen as a result of climate change if appropriate actions are not taken.

6. Khyber Pakhtunkhwa is frequently affected by a wide range of disasters, the most frequent of which are floods, due to its geographic and topographical conditions. Climate change has increased the frequency of extreme weather events. Recently, extensive rains in northern KP region for the months of June to August 2022, created huge hill torrents and riverine floods, resulting in an enormous scale of destruction throughout the province. 17 districts in KP region were massively afflicted including Charsadda, Nowshera and D.I. Khan with reported losses of 306 human lives and largescale damage to houses, livestock, roads infrastructure and crops. Similarly, May and June 2022 were marked by over 200 wildfire incidents, damaging pastures and forests over 14, 430 acres in different districts of Khyber Pakhtunkhwa. The cause for most of these incidents remain unknown, but reportedly some of the blazes were started by the local community on the speculations that the Government will compensate paying for the burnt trees and other property. A few of fires attributed to the dry weather conditions.
7. Apart from climate change, the Newly Merged Districts (NMDs) of Khyber Pakhtunkhwa have also suffered great challenges as a result of the regional conflict caused by the increased activities of extremists and militants. Consequently, this severely affected people of all socio-economic backgrounds causing migration, poverty, unemployment, poor governance, and the disintegration of families and communities. Young people were hit particularly hard, with many being killed, injured, orphaned, kidnapped, neglected in terms of education and health care, subjected to sexual violence, and left with lasting psychological and physical scars.

#### **2.4. Newly Merged Districts of Khyber Pakhtunkhwa at a Glance**

The Merged Areas are classified as arid and semi-arid climate zone, the area receives little precipitation, averaging below 300 mm annually. In the recent past (2015-2017)<sup>5</sup>, less than average rainfall and extended dry spells have affected subsistence farming. Irrigated agriculture has shifted from surface water to more reliance on groundwater resources.

Climate change has also had a negative impact on poverty, health conditions, soil quality, and soil organic matter. About 97% of the people in the Merged Areas live in rural communities and rely on small-scale livestock rearing and subsistence agriculture as their main sources of income.

Majority of farms have small land holdings that is under 2.5 acres, however some exception exists where size of land holding stretches to 150 acres<sup>8</sup>.

Most farmlands are irrigated from perennial and flood water streams with traditional flooding methods. Small watercourses are constructed by families, clans, or tribes with temporary arrangements to irrigate small land. The temporary infrastructure arrangements are subject to frequent disruption as result of poor maintenance and heavy sediments carried in the water. Majority of residents practice subsistence farming and live in a joint family arrangement, with an average household size of 9.3 people<sup>6</sup>. Their living standards can be classified as poor, with their income meeting only the basic needs. This is why Islamic Relief's RIDA project started supporting farmers with land levelling, tunnel farming, and lining of irrigation channels etc. (see Box 1)

Increased temperatures, droughts, and erratic rainfall exacerbate the ecosystemic degradation of pasture and agricultural areas. This decreases the population's access to food in the combined area and raises the possibility of conflict between groups utilising the natural resources, with water at the centre of that. In Merged Areas, irrigation is used to cultivate nearly 43.6% of the land, while rainfall is the only source of moisture for the remaining farmland<sup>7</sup>. A variety of delivery systems, including dug wells, tube wells, surface irrigation networks, lift pumps and communal canals, are used to supply water in irrigated areas. Participation of farming communities in planning and execution of irrigation schemes is low. In most places, there are disparities in water access. In dry conditions, for example, watercourse outlets at the tail end of channels that irrigate water-intensive crops only

#### **Box 1: IRP interventions under NWIE project in NMD North Waziristan**

- Training of COs/youth on gender mainstreaming in livelihood programming
- Conduct age, gender, and diversity analysis
- Develop Gender Action Plan
- Awareness raising campaign and advocacy on gender inclusion in livelihood at district/provincial levels
- Women small-holder farmers equipped through market-based skill development training, Kitchen gardening, and provided poultry and livestock
- Rainwater harvesting ponds constructed
- Irrigations structures constructed and/or rehabilitated

#### **Box 2: IRP interventions under RIDA project in NMD Khyber**

- Land Levelling for 200 farmers focusing unirrigated barren lands (1 Acre per farmer)
- Lining/rehabilitation of Irrigation Channel 10000 RFT
- Advance Micro Irrigation for 5 Acre
- Constructed 20 rain water harvesting structure
- Orchards to 15 farmers (1 Acre per farmer)
- Tunnel Farming for 100 formers

draw a small portion of the water they were intended to receive. Low irrigation efficiency and ineffective conveyance systems are some of the causes of this. According to estimates, up to 75 percent of the area that is irrigated and served by communal gravity water channels experiences significant water losses. Despite freshwater as an essential need its availability is limited (Tribal Decade strategy, 2019). This is particularly true for Khyber District.

Both, primary and secondary data suggests huge issues of capacity, infrastructure, resource allocation, and non-availability of reliable data with regards to managing water resources of NMDs. Key challenges include:

- **LOW COVERAGE OF DRINKING WATER** (about 32% of NMD population have no access to clean drinking water including 16% who use surface water)
- **LACK OF PROPER INFRASTRUCTURE** (resulting in flash floods)
- **LACK OF WATERSHED MANAGEMENT** (leading to loss of useful top soil)
- **OVEREXPLOITATION OF GROUND WATER & LOW RECHARGE** (resulting in lowering water table and mainly abused by subsidized power and solar pumps)
- **INEFFICIENT USE OF IRRIGATION WATER** (50 % of irrigation water being lost through seepage, evaporation, and lack of precision land levelling<sup>11</sup>)
- **LIMITED CAPACITY TO OPERATE AND MAINTAIN WATER INFRASTRUCTURE** (communities have no capacity and government departments mandates overlap)
- **LITTLE RESOURCE ALLOCATION** (financial constraints is the limiting factor in development and extension of water resources in NMDs)
- **LACK OF DROUGHT MITIGATION MEASURES** (No local or regional level plans)
- **LACK OF RELIABLE DATA** (baseline data not available and no effective data monitoring of water resources)
- **RECOVERY OF WATER TARIFFS** (no mechanism for drinking and agriculture water tariff collection)

**Box 3: Case Study on Agriculture support:**

**Zaray Khan**, a 56-year-old male and father of seven hails from Miran Shah, NW District where agriculture farming is considered as subsistence and not profitable venture especially after the displacement of people post 2010. **When Zaray Khan** repatriated back to his land in 2017, there wasn't much remaining. However, under NWIE project, he got hope and support in agricultural tools, input, and training. He levelled his land according to the guidelines provided during trainings and used humid acid as organic fertilizer for wheat crop. The IRP NWIE project helped him resurrect his small land farm.

To understand the context of the two under study districts, consult Annexure 1 for more details.

# 3. Understanding of Climate Change in Study Area

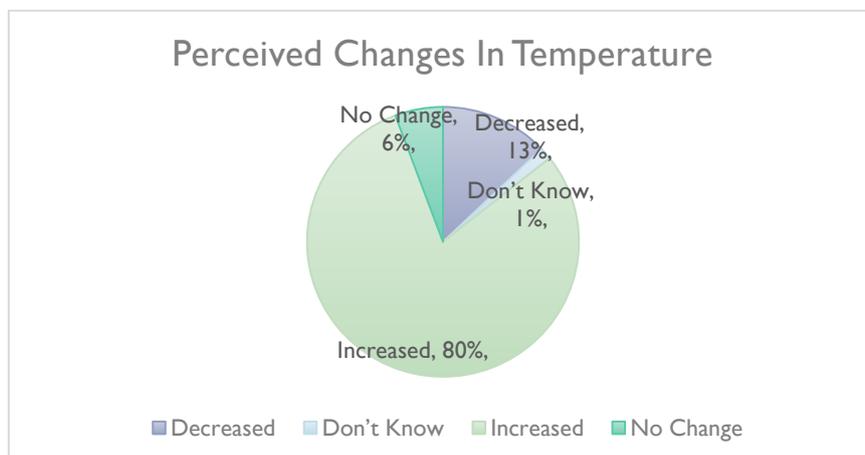
This section is based on primary data collected from the respondents of the target districts through 404 questionnaires, 04 FGDs and 11 KIIs. The section covers findings obtained through people-centred structured interviews and narratives-based approaches to study climate impacts, adaptation strategies, and resilience measures by the youth of NMDs. It reveals how the climate affects the psycho-social wellbeing of individuals. The results also show that people attempt to adapt in a variety of ways, such as by changing their agricultural practises, but they encounter significant obstacles to taking effective adaptation action. Understanding how young people view climate change and taking into account their suggestions when creating resilient projects and planning for adaptation can assist policy-makers in creating a more inclusive, all-inclusive, and comprehensive climate resilience framework in the future. The section analyses primary data by age, gender, education status and location of the respondents on various themes related to climate change. Under every subsection is a summary headline statement (in red CAPs) substantiated by statistics/description from field data.

## 3.1. Climate Change - Knowledge & Perceptions

**DESPITE LOW EDUCATION, PEOPLE IN BOTH DISTRICTS HAVE A RELATIVELY SOPHISTICATED UNDERSTANDING OF THE CLIMATE CHANGE AND ITS IMPACTS GENERALLY.**

For example, over 86% respondents of North Waziristan and Khyber districts reported that the average temperatures have changed over the past 10 years. According to them, the summer months have extended because of the increase in average temperature. Out of these, 80% believe that temperatures have risen as shown in the figure below:

**Figure 1 - Perceived Changes in Average Temperatures**



Interestingly more women (86%) than men (76%) believe that average temperatures have increased. Even the months which were cooler previously were warmer now. Similarly, more people in North Waziristan (98%) believe that temperatures have increased as compared to district Khyber (63%). More youth (83%) believe that temperatures have increased as compared to elder populations (71%).

**THERE IS A GENERAL UNDERSTANDING THAT CLIMATE CHANGE AFFECTS QUALITY OF LIFE BUT AGE AND GENDER WISE DIFFERENTIATION ON THE SEVERITY OF THESE IMPACTS VARY.**

Over 55% of residents in both districts believe that climate change induces negative impacts on their quality of life while 37% suggest that the effects are positive. When examined into from a gender lens, more women (78%) than men (33%) believe that climate changes are detrimental to their existing lifestyles. Women are mainly responsible for house chores like cooking, cleaning and laundry and a lack of availability of water or obtaining it from a distance directly adds to their existing workload. Similarly, 92% of elder population see negative consequences of climate change on their communal lifestyle against a mere 41% youth population. Even there is a variation in terms of spatial dimension where in Khyber 72% reported a negative change against 38% in North Waziristan.

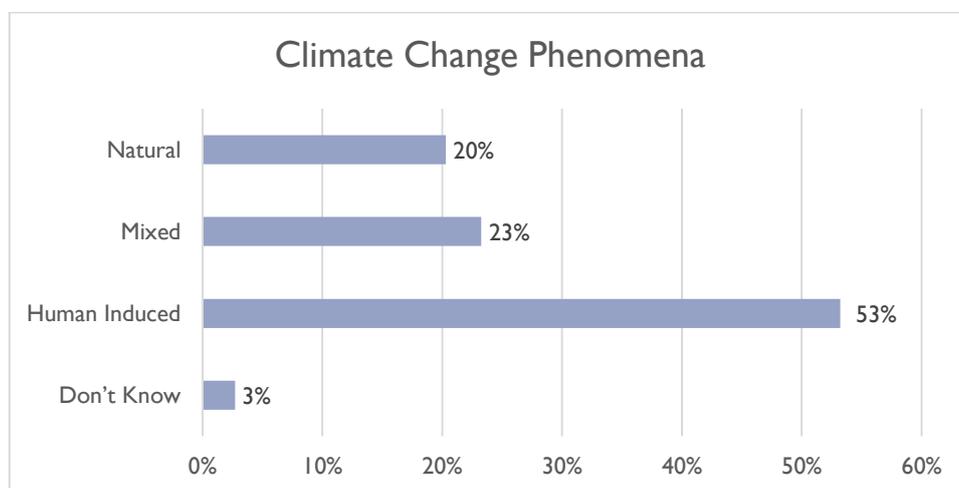
**FORMAL EDUCATION IS NOT A STRONG PREDICTOR OF BETTER UNDERSTANDING ON THE IMPACTS OF CLIMATE CHANGE.**

Majority of illiterate population (70%) reported negative impacts of climate change on their quality of life as compared to literate population (32%).

**CLIMATE CHANGE IS BOTH ANTHROPOGENIC AND NATURAL**

The perception about the climate change phenomena among the population varies, as overall 53% believes that climate change is human induced against 20% who believe it is natural. Another 23% believe that climate change is a combined result of both anthropogenic and natural factors. A large proportion of the lot still believed that climate change in the world right now is induced by human activities. Such as deforestation, more travelling, increased usage of fuels etc.

**Figure 2 - Climate Change - Human Induced or Natural**



### MORE WOMEN THAN MEN BELIEVE CLIMATE CHANGE IS HUMAN INDUCED

This understanding too varies when examined into from the perspective of population groups. For example, 60% women perceive climate change as human induced while another 37% women consider this to be both, a case of natural and anthropogenic effects. On the other hand, only 47% men believe climate change is man-made. Another 40% men suggest that it is both a case of human and natural forces.

District-wise variations are stark as 89% population of North Waziristan understand climate change to be man-made against 79% in district Khyber which considers both human and natural factors together being responsible for climate change.

### MORE YOUTH THAN OLDER POPULATION BELIEVE CLIMATE CHANGE IS HUMAN-INDUCED

Similarly, more youth consider climate change as human induced, having some knowledge about the detrimental effects of human activities on planet, most probably contributed by the access to internet and social media, while majority of elder population consider it to be case of both natural and human effect.

## 3.2. Climate Change and Disasters

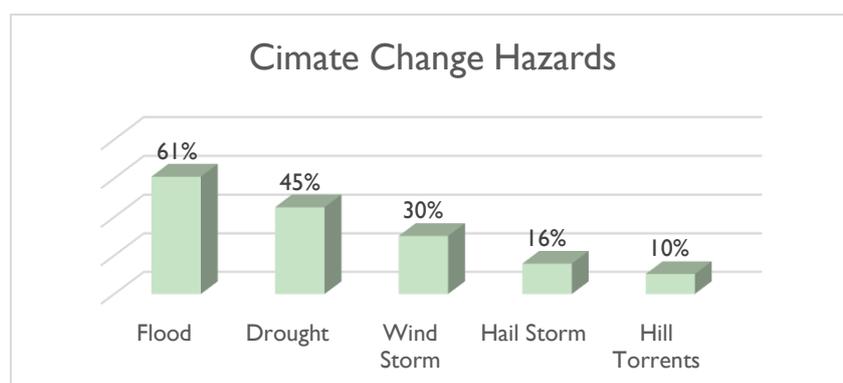
### THERE IS A RELATIVE DISCONNECT BETWEEN POPULATIONS KNOWLEDGE OF CLIMATE CHANGE AND DISASTERS

Only 55% population believes that the frequency and intensity of climate disasters including flooding, drought, hailstorms, wind storms and heat waves has increased. For the rest of the population, they are a natural occurrence. More youth (60%), however, believe frequent disasters result from deteriorating climate conditions in their localities against 41% elder population. Similarly, more men (71%) believe a close connection between climate change and disasters than women (39%).

### POPULATION UNDERSTANDING OF CLIMATE CHANGE IS LIMITED ONLY TO WATER-RELATED CALAMITIES

Of those who believe that climate change causes frequent disasters, 61% believe climate change causes major flooding, 10% believe climate change is responsible for hill torrents, while 16% related hailstorms to climate change. Another 45% believe that droughts too are caused by climate change. There is little understanding amongst population about the connection of climate change to food security, energy, and health outcomes.

Figure 3 - Climate Change Induced Hazards

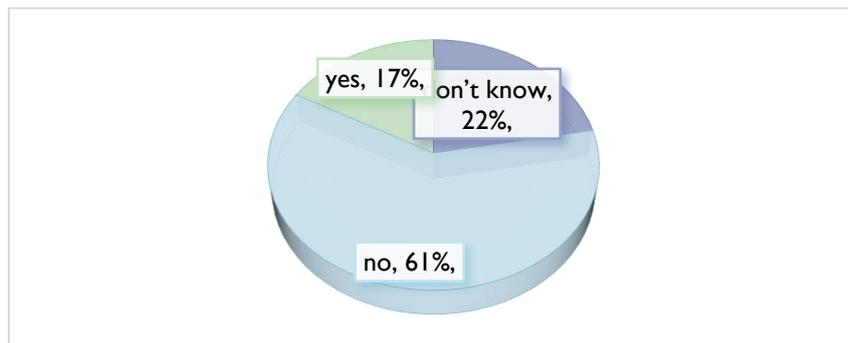


### 3.3. Climate Change - Reducible or Reversible

#### POPULATION LARGELY FINDS THEMSELVES UNABLE TO REDUCE IMPACTS OF CLIMATE CHANGE ON THEIR LIVES

Only 22% respondents believe that they can play a role to reduce or reverse the impacts of the climate change. This perception is same across both districts however, it varies between men and women where more men (25%) believe that they can play a role compared to women (9%). Young people (18%) are more optimistic that they can play a role than elderly population (11%).

**Figure 4 - Can impacts of Climate Change be reduced?**



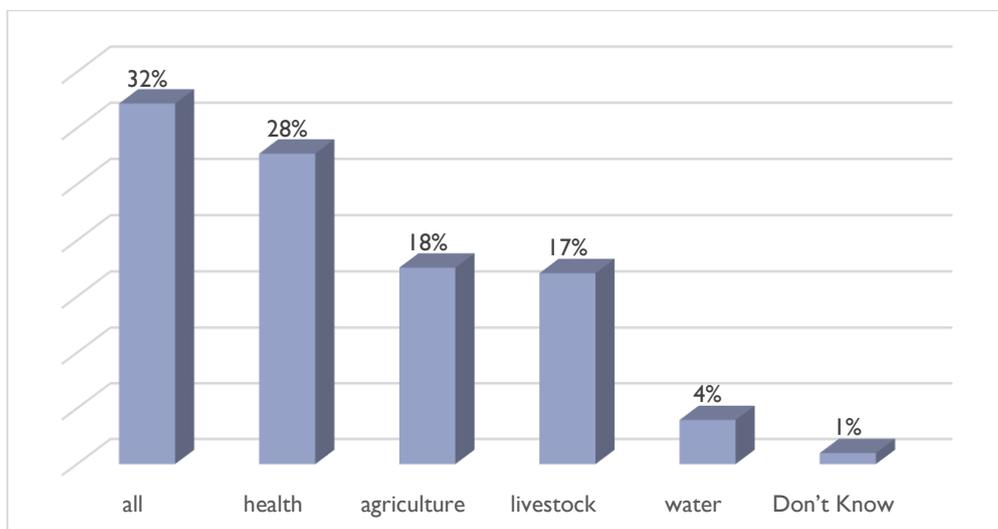
#### PEOPLE CITE LACK OF RESOURCES TO DEAL WITH CLIMATE CHANGE

71% population believes that if given proper trainings and resources, they can respond positively to climate change.

### 3.4. Most affected Sectors from Climate Change

Overall, 32% population of the two districts believe all sectors of public interest get affected in times of disasters. For 28% population, health is the first calamity in case of natural disasters. Another 35% believe that agriculture and livestock are at bigger risks because of climate change while 4% believe that the water sector gets a severe blow because of climate change.

**Figure 5 - Sectors affected by Climate Change**



# 4. Youth Role for Climate Action and Social Cohesion

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Young people are particularly vulnerable because the bulk of the world's population is comprised of them, more so in South Asia and in Pakistan<sup>8</sup>. The World Health Organization predicts that more than 80% of climate-related illnesses, injuries, and fatalities will affect young people<sup>9</sup>. This is because young people and children are more at risk than adults because of their underdeveloped physiological defence systems, their increased reliance on others and the more direct ways in which they interact with their environment. As the fifth most populated nation and one of the youngest in the world, Pakistan has the biggest number of young people ever recorded in its history. Pakistan National Human Development Report 2017 illuminate various youth development factors in the nation. The only other country in South Asia with a younger population than Pakistan's is Afghanistan. Pakistan is one of the youngest nations in the world. Young people in Pakistan between the ages of 15 and 29 make up just under 50% of the total workforce (15- 64 years).

In terms of the studied districts, its youth shows, more understanding of climate change impacts but cite a lack of understanding in terms of how they are specifically impacted and how they can help build resilience of their communities.

## 4.1. Youth in Merged Areas

Khyber Pakhtunkhwa's population of 30.5 Million<sup>10</sup> includes 40 % youth in age groups (10 to 29). Men and women aged 20-29 years constitute about 13 percent of Khyber Pakhtunkhwa's population<sup>11</sup>. Merged Areas too, is facing a youth bulge where 43.6%<sup>12</sup> of population falls in the youth category (between 15-24 years)<sup>13</sup>. Youth bulge offers new opportunities as well as poses challenges. Given the sluggish economic growth rate, creating employment opportunities is increasingly becoming a difficult task for the Government. High incidence of poverty in NMDs further limits the economic inclusiveness of the youth. According to a survey conducted by the British Council in Pakistan, 42% of Pakistani youth engage in violent behaviour solely to combat poverty.

Some recommendations to equip youth of NMDs to better contribute towards their local community and eventually towards global community are:

- Build the capacities of the KP Youth Development Commission and give representation to youth of NMDs also, so that they can promote legislations, policies, and plans for the youth from Merged Districts.
- Identify, recruit, and build the capacity of active and committed male and female district gender-influencers to form a district advocacy network; sensitizing, mobilizing, and engaging diverse segments of the community to

address climate change issues, the role youth can play in it and how general community can contribute to it.

- Devise a development and implementation of behaviour change communications programme, training of a cadre of local trainers and influencers to sensitize, mobilize and orient diverse segments of the community, strengthening demand for higher education of young generation.
- Young people from NMDs should be granted access to networks that can enhance their economic, social, and political participation.
- Governmental and Non-governmental agencies working in NMDs need to enable young women of those areas to transition into efficient human capital by providing them opportunities for educational attainment and economic participation by developing vocational centres. Mobility constraints and household work burdens have negative implications for the educational outcomes of young girls and access to public water sources and electrical power can play a central role in reducing the time that these duties require.
- Removal of social constraints and easy access to markets can also substantially boost the chances for youth to indulge in productive activities. Improved connectivity to people, markets, services, ideas, and information will create opportunities for youth to become more productive. They should also be guided about funds they can acquire for further education, start-ups or improving existing means of earning.
- Incentives should be offered for innovative ideas for sustainable development options, provision of technology and micro finance programs should be ensured to support those ideas for working towards a better society.
- Investment in environmental programs in NMDs will provide skills and employment for youth as well as a more prosperous future. It will not only benefit those areas with more job opportunities but will also be a source of making the general population more climate aware and environmentally friendly.

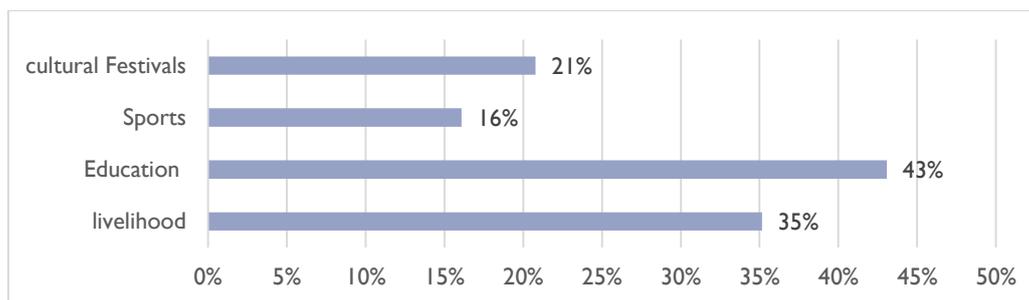
## **4.2. Climate Change Impacts on Youth**

**YOUNG PEOPLE REPORTED THAT CLIMATE CHANGE HAS IMPACT ON THEIR EDUCATION, LIVELIHOOD AND TO SOME EXTENT ON SPORTS AND CULTURAL FESTIVALS.**

For youth, the most evident impact of climate change occurs due to internal migration which disrupts their education (43%) and livelihoods (23%). For other young people, climate change also affects their involvement in sports (16%) and cultural festivals (23%). More young men suggested that their education is disrupted by climate induced events (such as flooding) than women. Since lesser young women attend education institutions, for them the cultural involvement in household and communal events gets affected by climate events.

Due to the difference in topographic and economic nature of both districts, young people in district Khyber reported more effects on education and livelihood while youth in North Waziristan reported even impacts on livelihood, education, sports and cultural festivals.

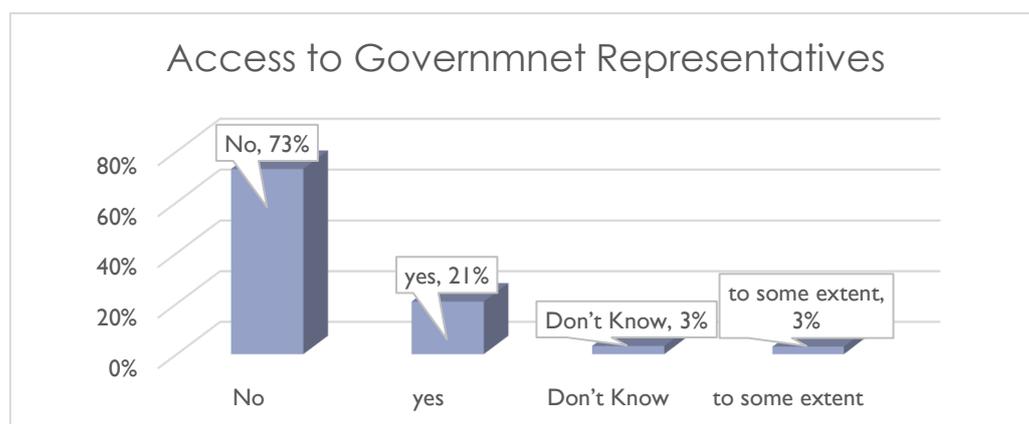
**Figure 6 - Impact of Climate Change on Youth**



### 4.3. Youth's Access to Institutional Structures

Youth of both districts hinted at their roles in supporting communities in climate extreme events and forced migration in the recent past. However, the active youth is only 4% while others cited different reasons for not actively contributing to communal causes. These roles are only limited to help in movement and awareness. Youth cited a lack of access to formal government structures for their inability to contribute more meaningfully to the climate response.

**Figure 7- Youth's Access to Formal Government Channels**



No access to Government structures (48%), lack of coordination between communities and government (33%) and low government interest (11%) are the major reasons for lack of access to Government Representatives

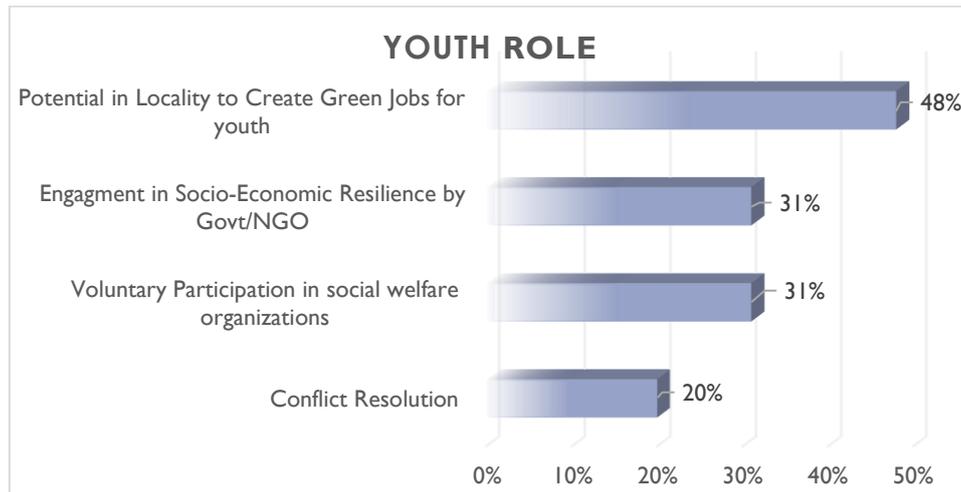
### 4.4. Sensitization of Youth on Climate Change

There seems little effort on the part of government or civil society to sensitize youth on climate change and adaptation as only 10% reported some kind of sensitizations in the past. Some of the initiatives about the sensitization of youth that are reported by the respondents include tree plantation, agroforestry, and awareness walks. More than 94% people in North Waziristan reported that youth is not sensitized about the potential impact of climate change compared to Khyber district where 70% respondents said the same.

## 4.5. Youth and Peace Building

Existing role of youth is not very encouraging as they have a minimal say in conflict resolution. Their voluntary participation is also very low in social welfare organizations. Engagement with government/NGO too is low. The potential of the locality to create green jobs for youth is comparatively satisfactory.

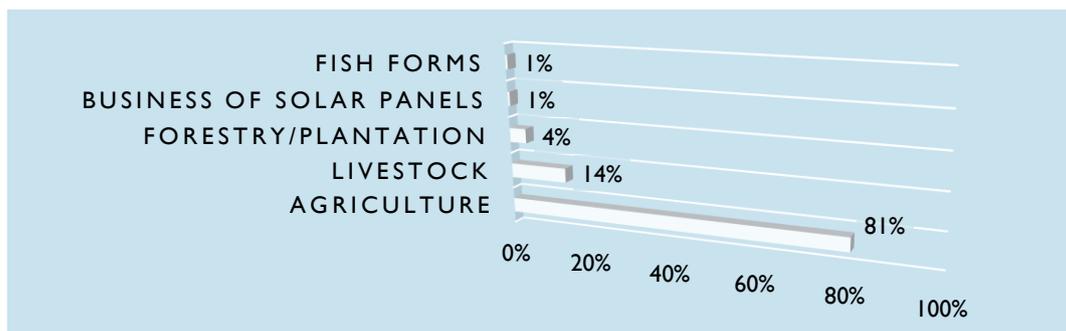
**Figure 8 - Avenues for Youth Involvement**



## 4.6. Green Jobs for Youth

A majority of 81% Population believes that green jobs can be introduced in agriculture for youth. Another 14% believe that sustainable livestock management can be a game changer for youth, while another 4% believe the government should focus on forestry sector.

**Figure 9- Green jobs for Youth**



## 4.7. Challenges in Youth Inclusion

### YOUTH'S AGENCY MUZZLED BY TRADITIONAL TRIBAL SOCIETAL STRUCTURE

The study finds that the biggest hurdle in youth engagement has to do with traditional roles assigned to them in a tribal culture. Usually, adult centric decision-making processes and beliefs deeply embedded in the political and cultural fabric of the local society are important barriers that lead to tokenism and the youth not being taken seriously at decision making tables. A lack of institutional support and formalized

safe-spaces for expression were also pointed out as suppressive elements that prevented the youth from coming forward and contributing to the climate decision making process in a meaningful way.

#### **4.8. Avenues for Youth Action on Climate Change**

Most of the people interacted through surveys, FGDs and KIs suggested that youth participation and sensitization will have longer term effects on reducing climate change impacts on their communities. Majority of the respondents suggested that meaningful youth's involvement means engaging them in decision making at village council/neighbourhood council level (50%) and at school/college level (27%). Key avenues proposed during interactions include:

##### ***Implement KP's Climate Change Policy in Letter and Spirit***

The lack of training and necessary resources in the field of climate change presents opportunities to empower individuals, particularly young people, with the proper knowledge of the subject. In this regard, the Khyber Pakhtunkhwa government has taken several policy initiatives for youth as part of the province's climate change policy. The policy intends to include youth in local climate change adaptation planning and decision-making processes. Likewise, the policy strives to increase awareness among the youth about their responsibility to combat climate change through mitigation and adaptation measures. As a result, most of the challenges for young people that arise as a result of climate change will be manageable for young people.

##### ***Youth as Agents of Change***

The government has a window of opportunity in the aftermath of the conflict to educate young people on how to contribute to peacebuilding<sup>18</sup>. The youthful vitality, skills, and adaptability of today's youth make them ideal candidates for roles as mediators, community organizers, aid workers, and peace brokers. The aftermath of conflict also presents the government with an opportunity to meet the socioeconomic needs of the youth so that they may act as agents of change and their local communities can be rehabilitated effectively with their assistance.

##### ***Climate Education***

Participants in FGDs revealed that climate change awareness and education seemed to be the biggest hurdle that stood in the way of the youth actively participating in climate action. For rural populations, the situation becomes more complex as faith-based associations crop up and people start relating the disastrous impacts of climate change to trials from God.

##### ***Youth Leadership Forums***

Various youth forums are established under different programs in the past. There is a natural propensity amongst youth to contribute to communal causes such as relief activities in climate disasters or supporting, yet these forums are not organised with climate change in perspective.

### ***Youth's Qausi - Institutional Engagement***

District administration needs to develop mechanisms of institutional support for frequent youth- government dialogues and formulation of cross-sectoral youth working groups. This can remove institutional barriers that stood in the way of the youth having a seat at the decision- making tables. Representation at these tables also needs to be inclusive of minorities and marginalized communities, so that they are considered important stakeholders in the proceedings of such interventions.

### ***Leveraging on Tribal Decade Strategy***

The government owned Tribal Decade Strategy is attentive towards job creation for youth to prevent resurgence of violence in NMDs. This can be aided by strongly advocating for creation of green jobs, ease of doing business for climate-related entrepreneurial ventures, and establishment of climate- education funds as some ways of balancing economic priorities with climate needs.

### ***Qabail Led Development (QLD)***

In the same vein, the development blueprint of NMDs in the form of 'tribal decade strategy' rightly calls for leveraging on the existing social capital within the triable traditions to be exploited for the meaningful engagement of the youth. This essentially means promotion of small-scale rural development programme based on the concept of area development with climate adaptation as cross cutting theme. These interventions need to cover both aspects of rural income, on-farm as well as off-farm. On-farm interventions will largely be in the green sectors and will combine in some focused manner interventions by the green sector departments, agriculture, livestock and dairy development, forest, agriculture research, and fruits and vegetables. Off-farm income generation will rest on skill development for employment and will therefore tie in with planned interventions in the technical and vocational training sector.

QLD should use Jirga as social capital and will build on the local traditions of consultation and cooperation.

# 5. Climate Change and Gender

## Mainstreaming

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Women in Merged Areas represent one of the most socio-economically and politically marginalized groups. According to Tribal Decade Strategy (2020-30) NMDs accounts for 2.4 % of the population of Pakistan with women making up almost half of its population. It is isolated and distanced from the mainstream, but the patriarchal nature of established traditional code of life also renders women incapacitated for development. For about two decades, NMDs have been experiencing the worst form of emergencies that have resulted in loss of human lives and physical assets and caused major setbacks to socio-economic fabric. The emergencies induced displacements had the greatest implications for womenfolk.

Similarly, it is observed that women and children are worst affected by natural calamities and resources' scarcity. Children, for instance, are most harmed by contaminated water, and every day, women and girls must walk long distances to obtain water for household use. Take the example of deforestation that is happening at an alarming rate across NMDs (particularly North Waziristan) and one can find the fuel wood shortages hurting womenfolk the most.

### 5.1. Women Vulnerabilities in face of Climate Change

A lack of weak service delivery in basic sectors such as provision of drinking water is a major issue in the area. Weak service delivery infrastructure of basic provisions, especially drinking water and sanitation, place the highest burden of labour on women or girls. Women inadvertently are solely responsible for fetching drinking water from springs, streams, ponds, and rivers as part of their household chores. The lack of sanitation, solid waste disposal and management services likewise pose multiple health challenges for women as they are primarily responsible for cleaning, disposing of human and animals' wastes, they remain at higher risks of contracting diseases as well as prone to experiencing more physical exertion. It is therefore important to

#### **Box 4: Case Study on Women Empowerment:**

Khanama Bibi lives in a cave in Khyber district. Her husband has been a drug addict whose condition got worse over time due to which he stopped working compelled Khanama to make earning for her family. She goes to the nearby mountains every day to bring fuelwood, comes home in the afternoon, fetches water from a distant well and later at night makes quilts. The fuel wood she brings from the mountains is too heavy for her to carry due to which she has been suffering from chronic leg pain.

Since Khanama Bibi's husband is a drug addict and does not earn, she is the only breadwinner.

address the issues related to basic service delivery if improvement in the standard of living is to be achieved for women.

### ***Reproductive Health***

In addition to routine healthcare special provisions for women's reproductive health needs are essential. Women in merged area, however, lie at the far end of access to such services. The Maternal Mortality and Infant Mortality Ratios are alarmingly high, significantly higher than other parts of Khyber Pakhtunkhwa. According to the Tribal Decade Strategy (2020-30) the Maternal Mortality Ratio (MMR) for



**Cave home in Khyber housing Khanama Bibi and her family**

merged area overall is 395 per 100,000- this compares to 275 per 100,000 for other parts of Khyber Pakhtunkhwa (GoKP 2019). A lack of resources, weak communication infrastructure and poverty are a few barriers to women's access to health services. Women in general are not able to travel alone to different types of health facilities as they have to be accompanied a male relative. It is reported that less than two in hundred women can visit a Rural Health Centre (RHC) in the Merged Areas while the Basic Health Unit (BHU) gets the largest share of women visitors without permission of a male family members. Women's ability to access private facilities alone is generally less than 5%. Due to these barriers, a large number of births are attended by traditional birth attendants. In total, 49.5% of women aged 15 to 49 in the merged areas received antenatal care from trained medical professionals at least once during their most recent pregnancy, compared to 63% in other regions of Khyber Pakhtunkhwa. In post-natal care, 26.5% of women saw a doctor within six weeks of giving birth, which is lower than the national average of 29%.

### ***Psycho-Social Wellbeing***

Trauma and psycho-social wellbeing is an important aspect of healthy life. In merged area, more than a decade of emergency and consequent dislocation has also disrupted the support systems in turn affecting psycho-social wellbeing of the people especially women and children. The Tribal Decade Strategy (2020-30) claim that women and children in displaced communities are experiencing heightened level of fear of death and helplessness; this is counter-productive to a healthy lifestyle and community participation.

### ***Violence against Women***

Violence against women exists in various forms in Pakistan in general. In Merged Areas, however, it is pervasive in one of its most aggravated forms due to absence of legal

recourse and justice mechanisms that do not have a representation of women. These cases are neither reported in the media nor does the state apparatus take these cases seriously. Though violence against women is committed in family disputes or property matters, strong evidence also exists of killing of women in the name of 'honour' (GoKP 2019). Recourse by the aggrieved parties is usually sought through *Jirga* where women as accused party remain excluded or underrepresented under tribal customs.

### ***Family and Domestic Affairs***

Family and domestic affairs in merged area are regulated by the tribal code of life. Polygamy is a culturally acceptable practice. The concept of divorce is not pervasive. However, where women as spouse are abandoned or separated, there are no legal guarantees to enforce the legal rights of subsistence and maintenance for the wife and children solely at discretion.

### ***Inheritance***

Inheritance for women in Pakistan in general comes in the form of cash or property distribution, with land ownership being the most common form. In both settled and tribal areas, owning land has long been valued as a status symbol and a source of income. There is no documented record of land revenue, except in the case of district Kurram. Although individual land ownership in the tribe is only known orally, subsequent generations are aware of it. The clans and tribes recognise and claim ownership of collective lands. In tribal culture, a woman is not allowed to own land independently. Anecdotal evidence exists that tribal people, in principle, believe that Islam prescribed giving women their due share in property of the deceased. This differs in practice though and refuge is taken in 'Riwaj' or customary law.

### ***Legal and institutional coverage for women protection***

The 25<sup>th</sup> Amendment abolished the Frontier Crimes Regulation (FCR). Articles 25(3) and 26(2) allow the state to make special provisions for the protection of women and children. The Khyber Pakhtunkhwa Domestic Violence Against Women (Prevention and Protection) Act, 2021 was passed in lieu of this provision by the 25<sup>th</sup> amendment where any special proposition can be made for the protection of women. It is expedient to provide for prevention of Domestic Violence against Women in order to protect women from sexual abuse, psychological abuse, economic abuse and stalking. The District Protection Committee under this act ensures the awareness campaigns on grassroots level, assist the complainant in getting any medical help necessitated due to domestic violence, relocation facilitation to the complainant to shelter home established by government and keep official record of the cases filed like first information report, of assistance provided by the district protection committee to the complainant and any other functions assigned to the District protection Committee under the Khyber Pakhtunkhwa Domestic Violence Against Women (Prevention and Protection) Act, 2021.

## 5.2. Gendered Impact of Climate Change

### **BOTH MEN AND WOMEN ARE EQUALLY AFFECTED BY CLIMATE CHANGE.**

Gender mainstreaming in education, health and livelihoods has been a cornerstone of KP's Government development agenda. This can also be clearly seen in the Tribal Decade Strategy of the Government of KP. However, there is lesser clarity available on mainstreaming gender into climate adaptation and resilience. While literature suggests a much-pronounced impact of climate change on women, our interviews suggest that population of the two districts believe both genders are equally impacted. This however comes with a caveat from qualitative data which suggest that females faced GBV and harassment in previous natural disasters and particularly during forced movement in North Waziristan. Furthermore, respondents agreed that no informal communal or formal State level mechanisms are available to womenfolk who face violence based on their gender.

### **WOMEN HAVE ACCESS TO PRODUCTIVE RESOURCES NOT CONTROL OVER THEM**

32% of the population reported that women do have access to agricultural lands, forests, water resources and livestock. The reasons for no access include tribal patriarchal structures (51%), other cultural barriers such as restrictions on mobility (32%) and lack of skills (17%). However, access should not be equated with control over resources.

### **WOMEN INVARIABLY ARE AFFECTED MORE IN DISASTERS**

A high proportion of 58% population reported that there are no cases of GBV or harassment in times of past disasters. However, 18% reported the GBV and 17% reported harassment of women in past disasters. Given such a higher number, there is no system available for reporting GBV as 99% of the respondents said that there is no mechanism for them to report harassment. Generally, cases of GBV are not reported in tribal set up.

## 5.3. Avenues for Gender Mainstreaming in Climate Action

### ***Inclusion of Marginalised Groups in Policy Processes***

Enhance the share of all marginalised groups in policy procedures, through inclusive representation, participation, negotiation, and leadership. This is mandated by the Gender Action Plan, as well as country strategies for climate action.

### ***Women Leadership in Climate Action***

As a part of cultivating women's leadership in climate action, forums need to be created that train women in climate policy analysis, negotiation and representation.

### ***Strengthening existing Institutional Mechanism***

The vulnerability of women to the effects of climate change is distinct from that of men, and policies pertaining to climate change that are not attentive to gender differences typically serve to worsen the current gender gap. In recent years, there

has been very little advancement made toward closing the gender gap. Nevertheless, the Government of KP and its leadership have both stated their commitment to gender equality and the advancement of women in their respective roles (Government of Khyber Pakhtunkhwa, 2014). In this regard, the government has established the Provincial Commission on the Status of Women and re-established the Women's Parliamentarians Caucus. These two programmes both aim to raise the status of women in the province. The youth of the province, who make up the majority of its population, will suffer the most from the effects of climate change in the future. Therefore, in order for them to be ready to take action, they must be backed, their capacities must be established, and they must acquire a variety of knowledge about climate change. The required education and training are needed for this.

### ***Focus on Indigenous Knowledge***

The opportunity to equip vulnerable groups to mitigate and adapt to climate change consequences is enhanced when indigenous knowledge is combined with formal research. Excluding indigenous knowledge from scientific climate change response plans restrict local players from the efforts of mitigating climate change<sup>19</sup>. In this regard, the Provincial Government plans to utilise women's local and indigenous knowledge to lessen the impact of climate change and to ensure their equal involvement in all phases of the decision-making process regarding adaptation measures. Thus, many of the above-mentioned climate change concerns can be addressed with the support of locally based knowledge about climate change, which is made possible by mainstreaming gender in climate change practices.

### ***Bottom-up Approaches***

Similarly, in order to promote local knowledge and practises of particular populations, the knowledge system on water, agriculture, forestry, and energy needs to be reset away from top-down engineering-dominated solutions. This will make natural resource management practises more equitable and paint a clearer picture of resilience and vulnerability from the perspective of gender.

#### **Box 4: Case Study on gender mainstreaming**

Under IRP's RIDA project, Bibi Zarmeena has been mainstreamed from a secluded figure confined to her household to the limelight of being member of female committee. She says this had a life-changing effect on her since she became involved with IRP. She learned how through collective ideas and analysis, they come to the right decisions for solving the problems and meeting the needs at individual and community level. Now she considers herself as a part of her community by becoming its active member and taking part in community development activities' planning and implementations, supporting, and helping other women in the village.

The provision of kitchen gardening package has provided her with a future additional source of income, whereas the building of EVI Latrine has resulted in a cleaner environment at her home leading to less visits to the hospital as her children do not get sick that often.

### ***More Granular Understanding at Micro-Level***

Data on micro-level transactions that take place every day are needed to show how household demands differ based on factors like income, location, and climate stressors, as well as how women change how they use natural resources in response to shortages. Macro-level initiatives that aim to improve the entire system predominate, whereas any understanding of adaptability or vulnerability requires a closer look at social cognition during climate change.

# 6. Nexus of Climate Change, Youth and Social Cohesion

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## 6.1. Climate Change and Youth

Before climate change impacts hit Pakistan hard, rural areas were socially cohesive and resilient. The study districts in particular were known for a variety of social gatherings. Traditional and modern sports competitions (volleyball and soccer) were held for youth, local festivals were celebrated, and the harvesting of crops brought communities together. Today's increased incidence of unemployment as agriculture and livestock rearing are reduced due to water scarcity and changing climate patterns have induced unhealthy norms amongst local population, particularly youth. Considering the fragile nature of youth hood, it is imperative and even more urgent to understand youth aspirations and their role and engagement in climate change management.

Climate change risk management can bring about greater opportunities for youth and improve their contribution towards their own community and country as a whole. Climate change management represents a human intervention to reduce the sources or enhance the sinks of greenhouse gases and adjustment to actual or expected climate and its effects, humans must reduce the sources of greenhouse gases, improve the sinks of these gases, and adapt to the actual or anticipated climate and its effects. Rural residents take part in a wide range of pursuits to manage climate change and the risks it poses, but their efforts are hampered by an onslaught of setbacks that act as barriers to managing the issue. There arises need for more informed and trained youth to steer the community, which can benefit from the opportunities that are stemming from climate change as well. The impact of training and employing youth population can play a bigger role in tackling climate change and will have a widespread positive effect on not only on their native area but the neighbouring rural areas as well.

To circumvent climate change adaptation constraints among rural youth, there is an increasing demand of informed policy measures and interventions. The emphasis on educating students for possible future employment and sustainable livelihood opportunities, such as green jobs and renewable technologies like solar and wind energy, should be increased in schools and colleges. (ILO 2010; Poschen 2015). Having knowledge and expertise in the development of solar, wind, and other renewable energy sources will improve energy efficiency and minimize greenhouse gas emissions into the environment, so lowering the future effects of climate change and also offer new arenas of opportunities to rural youth for playing their part in contributing towards climate adaptation. Improved understanding of enhanced agricultural practices and

hygiene and sanitation services will ensure provision of new possibilities for employment.

Rural youth's involvement in awareness programs can not only increase their quest for more information but can be beneficial for the local community. Constructive youth engagement can be used as a bridge to support youth for their positive development while transitioning from a gentle pattern of knowledge about climate change to current rapid and rigorous devastating impacts and future uncertainties.

## **6.2. Climate Change and Social Cohesion**

Climate change along with many constraints brings about a plethora of opportunities as well. Investment in climate mitigation policies could result in so many new jobs for the rural regions and additionally bring funds for the resilient development of those areas. Landowners in rural areas would have access to funding and employment opportunities through efforts to mitigate climate change that concentrate on land management and restoration. By improving both the ecological and social health of these areas, these mitigation efforts could benefit rural communities in two ways. Rural residents' physical health may improve as a result of these projects, which may also improve the natural environment while also improving the social safety nets of the communities. Renewable energy can decrease the harsh effects of air pollution and remediation of abandoned well sites has the potential to enhance water quality in the region and additionally contribute towards a healthy social bonding since well sites were used by women as a meeting point for exchanging views and discussing new activities around them. It will also increase the participation of women and young girls in, and their benefits from, climate-change adaptation activities by being more informed about positive changes happening in the region. Overall, investment in climate mitigation efforts can increase the quality of life in rural regions well into the future, especially by skill-building of youth of those regions, creating more social cohesion in the community by working in harmony towards achievement of a better tomorrow.

Social protection and social cohesion, according to current analysis streams that focus on developed nations, are essential for raising citizens' recognition of climate measures. As highly cohesive communities frequently fare much better after and during natural disasters, this research study has demonstrated that social cohesion can optimise climate change adaptation. More specifically, social cohesion lead to improving cooperation, especially in emergency response. When the community as a whole will be better informed about climate change and see possibilities and opportunities associated with it, they will be more liable to accept climate change policies devised on local, provincial and national level, build their trust in the governing bodies and eventually be able to play their part at the global front.

# 7. Annexure 1: Districts' Profiles

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## **District Khyber**

### **Geography**

The district of Khyber is bordered to the west by Nangarhar Province, the south by Orakzai District, the southwest by Kurram District, the east by Peshawar District, and the north by Mohmand District. The total land area of NMD Khyber is 2,576 square kilometres. The world-famous Khyber Pass, which has served as a corridor connecting the Asian subcontinent with Central Asia through Afghanistan, is where Khyber gets its name. It extends from Peshawar down to the Tirah valley. The Khyber is a mountainous region with a few small valleys. It is the intersection of the Koh-e-Safaid ranges, which are mighty Hindukush Mountains that begin at the Pamir, the roof of the world. At a height of 1,180 metres above sea level, the historic Khyber Pass begins about 5 kilometres beyond Jamrud Fort.

### **Demography**

The district has a population of 984,246 people, 504,502 of whom are men and 479,669 of whom are women, according to the 2017 census. The urban population is 97,457 (9.90%) and the rural population is 886,789 (90.10). The literacy rate is 41.97%, with men having a higher rate than women (65.08% vs. 18.10%). There were 1,273 members of religious minorities in the district, primarily Christians. The majority of the population, or 98.83%, speaks Pashto. The vast majority of Khyber's tribes are Afridi.

### **Economy**

The vast majority of people in this area work in agriculture. Other sources of income, mainly part-time work, businesses, employment, and transportation, support livestock used for subsistence. Wheat and maize are the main crops, but farmers in this area have benefited from the cultivation of vegetables. In the past, farmers dug wells and other similar facilities to aid in farming, particularly in the production of vegetables, but after the Spera dam was built, sugarcane and other cash crops were introduced. Locals are forced to look for alternative income sources because of the conflict in the area.

### **Weather and Climate**

With cool to extremely cold winters and warm to hot summers, NMD Khyber experiences an extreme climate. Wintertime precipitation on the highlands frequently takes the form of snow. The Tirah region is pleasant in the summer. The rest of the district experiences hot days outside, but cool afternoons in the shade. The evenings in the summer are generally cool. There is hardly any rainfall. While the summer rain is

connected to the monsoon, the winter rain is brought by western disturbances. The maximum and minimum temperatures in June are roughly 40 C and 26 C, respectively, the hot months prevailing in May to August. November marks the beginning of winter, which lasts until April. The coldest months are from December to February. During the month of January, the high and low temperatures are roughly 18 C and 4 C, respectively. The hottest month of the year is June, and the coldest is January. However, there are differences in the temperature with increasing elevation and the corresponding geographic zone. About 400 mm of rain falls on average each year. The six seasons recognised by the traditional farming community are: spring (Sparlay), dry summer (Harh), wet summer (Pashakal), harvesting or early autumn (Asu), storage or late autumn (Manay), and winter (Jamay).

### **Governance & Administration**

The Deputy Commissioner (DC), who supports the Divisional Commissioner and reports to him, is in charge of District Khyber. The provincial government appoints the DC from among the federal or provincial civil services. The DC works with District Officers (DOs) of various sector-specific offices to coordinate. Landi Kotal serves as the administrative centre for Khyber. Bara Tehsil, Jamrud Tehsil, Landi Kotal Tehsil, and Mula Gori Tehsil are the four Tehsil that make up Khyber.

In 2010, the National Disaster Management Act became law across the nation. District Level Disaster Management Authorities / Units (DDMA/U) are established in accordance with Chapter IV, section 18 of the NDM Act. In this regard, the provincial government has informed DDMUs in each district of Khyber Pakhtunkhwa Province, and efforts are being made to provide DDMUs with all the facilities and capabilities required to increase the province's resilience to natural disasters and climate change.

## **District North Waziristan**

### **Geography**

The Bannu division of KP includes the North Waziristan District. It is a mountainous area that is 4,707 square kilometres in size and borders Afghanistan. Geographically speaking, the mountains of North Waziristan are distinct from the more extensive mountain ranges of Koh-e-Sufaid in the north and Sulaiman in the south. The region west and south-west of Khyber Pakhtunkhwa between the Kurram River (Tochi) to the north and the Gomal River to the south is known as North Waziristan. The Indus Valley is reached by the Tochi River, which has a length of about 100 kilometres, close to Bannu. The Tochi valley can be farmed and is fertile.

### **Demography**

The district had 540,546 residents as of the 2017 census, including 277,749 men and 262,764 women. 536,182 people live in rural areas (99.19%), compared to 4,364 people living in urban areas (0.81%). The literacy rate is 36.61%, with men having a rate of 59.99% and women having a rate of 12.49%. 97.57% of the population spoke Pashto,

the most common language, and 1.08% spoke Punjabi. 842 residents of the district identify as religious minorities, mainly Christians.

### ***Economy***

Many locals feel they must rely on government services due to the harshness of the terrain and their lack of education. Many people move abroad to find work. Locals have made investments in companies that deal with transportation. While Dawar tribes are more heavily employed by government services, particularly in the education sector and civil services, Wazir tribes typically own and operate businesses.

### ***Weather and Climate***

The region experiences cold winters and warm summers. May marks the beginning of the summer season, which lasts until September. Typically, June is the warmest month. During the month of June, the average high and low temperatures are 31 and 18, respectively. October marks the beginning of winter, which lasts until April. Winter months are December, January, and February. In January, the average high and low temperatures are 10 and 2 degrees Celsius, respectively. Except for the Razmak region, where rainfall is slightly higher, there is little rain.

### ***Governance & Administration***

The Deputy Commissioner (DC), who supports the Divisional Commissioner and reports to him, is in charge of District North Waziristan. The provincial government appoints the DC from among the federal or provincial civil services. The DC works with District Officers (DOs) of various sector-specific offices to coordinate. North Waziristan's district headquarters are located in Miran Shah. The three subdivisions of Razmak, Mirali, and Miran Shah make up North Waziristan. The three subdivisions are further divided into nine Tehsils: Datta Khel Tehsil, Dossali Tehsil, Gharyum Tehsil, Ghulam Khan Tehsil, Mir Ali Tehsil, Miran Shah Tehsil, Razmak Tehsil, Shewa Tehsil, and Spinwam Tehsil.

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