

DISASTER RISK REDUCTION POLICY KHYBER PAKHTUNKHWA



Provincial Disaster Management Authority (PDMA),
Relief Rehabilitation and Settlement Department,
Government of Khyber Pakhtunkhwa

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

IN THE NAME OF ALLAH, THE MOST GRACIOUS AND THE MOST MERCIFUL

DISCLAIMER:

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LIST OF ACRONYMS

AAP	Anticipatory Action Planning
ADB	Asian Development Bank
ADP	Annual Development Program
AJK	Azad Jammu and Kashmir
ASP	Adaptive Social Protection
AWS	Automated Weather Station
BISP	Benazir Income Support Programme
CBDRM	Community Based Disaster Risk Management
CBO	Community Based Organization
CCA	Climate Change Adaptation
CEDAW	Convention on the Elimination of All Forms of Discrimination Against Women
CERT	Community Emergency Response Team
CLIS	Climate and Livelihood Information Services
COVID 19	Coronavirus Disease 2019
CPEC	China Pakistan Economic Corridor
CRPD	Convention on the Rights of Persons with Disabilities
CSR	Corporate Social Responsibility
DDMU	District Disaster Management Unit
DEOC	District Emergency Operations Centers
DRF	Disaster Risk Financing
DRM	Disaster Risk Management
DRMIS	Disaster Risk Management Information System
DRR	Disaster Risk Reduction
E MHVRA	Electronic Multi Hazard, Vulnerability, and Risk Assessment
ERRA	Earthquake Reconstruction and Rehabilitation Authority
EWS	Early Warning System
FAO	Food and Agriculture Organization
FFC	Federal Flood Commission
FGDs	Focus Group Discussions
FbF	Forecast based Financing
GHG	Greenhouse Gases
GIS	Geographic Information System
HoD	Head of Departments
RS	Remote Sensing
GLOF	Glacial Lake Outburst Floods
GPS	Global Positioning System
HFA	Hyogo Framework for Action
I/NGOs	International/Non-Governmental Organizations
IASC	Inter-Agency Standing Committee
ICT	Islamabad Capital Territory
IDPs	Internally Displaced Persons
IPC	Integrated Phase Classification
IPCC	Intergovernmental Panel on Climate Change
KIIs	Key Informant Interviews
KP-DRR-IOC	Khyber Pakhtunkhwa Disaster Risk Reduction Policy Implementation and Oversight Committee
KPCPWC	Khyber Pakhtunkhwa Child Protection and Welfare Commission
LLIS	Livelihood and Livestock Insurance Schemes

M&E	Monitoring and Evaluation
MHPSS	Mental Health and Psychosocial Support
MHVRA	Multi Hazard Vulnerability Risk Assessment
MIRA	Multi Sector Initial Rapid Assessment
MISP	Minimum Initial Service Package
MW	Moment Magnitude
MoU	Memorandum of Understanding
N&PSE	National & Provincial Socio-Economic Registry
NAP	National Adaptation Plan
NDMA	National Disaster Management Authority
NDRMF	National Disaster Risk Management Fund
NDMP	National Disaster Management Plan
NEOC	National Emergency Operations Center
NGO	Non-Governmental Organization
NIDM	National Institute of Disaster Management
NOC	No Objection Certificate
NatCat	Natural Catastrophe Modelling
NiE	Nutrition in Emergencies
NSER	National Socio-Economic Registry
P&DD	Planning & Development Department
PCCP	Provincial Climate Change Policy
PDMA	Provincial Disaster Management Authority
PDMC	Provincial Disaster Management Commission
PDMRC	Provincial Disaster Management Resource Center
PDNA	Post Disaster Needs Assessment
PDRIS	Provincial Disaster Risk Information System
PEOC	Provincial Emergency Operation Center
PMD	Pakistan Meteorological Department
PPP	Public Private Partnership
PRCS	Pakistan Red Crescent Society
PTCs	Parent Teacher Committees
PWDs	Persons with Disabilities
QPM	Quantitative Precipitation Measurement
RID	Risk Informed Development
RR&SD	Relief, Rehabilitation & Settlement Department
SBDRM	School Based Disaster Risk Management
SDGs	Sustainable Development Goals
SFDRR	Sendai Framework for Disaster Risk Reduction
SOPs	Standard Operating Procedures
SP	Social Protection
SUPARCO	Space & Upper Atmospheric Research Commission
ToTs	Training of Trainers
UC	Union Council
UN	United Nations
UNDRR	United Nations Office for Disaster Risk Reduction
UNDP	United Nations Development Program
UNHCR	United Nations High Commissioner for Refugees
WASH	Water, Sanitation and Hygiene
WMO	World Meteorological Organization



MESSAGE FROM CHIEF MINISTER KHYBER PAKHTUNKHWA

Khyber Pakhtunkhwa is a land defined by the determined spirit of its people and the breathtaking grandeur of its landscape. However, our province stands at the epicenter of a global climate crisis that we did not create, yet for which we pay a heavy price. From the melting glaciers of the Hindu Kush to the shifting monsoon rains that flood our plains, the safety and security of our forty million citizens remain the most sacred trust of my government.

For too long, our approach to natural calamities has been defined by the tragedy of the aftermath. The devastating memories of past disasters serve as a permanent reminder, that we can no longer afford to be in a reactive state. This Disaster Risk Reduction (DRR) Policy represents a paradigm shift from that legacy. It is a commitment to the principles of a welfare state where protection of life, property and dignity of the effective is the paramount duty of the government. We are moving fundamentally from a reactive to a proactive approach.

Disasters disproportionately affect those who are already vulnerable. Our women, children, persons with disabilities, chronically poor, elderly and sick are often the most to suffer and the last to recover. This policy ensures that resilience-building is inclusive. By integrating DRR with Social Protection through Adaptive Social Protection frameworks, this policy proposes a "safety net" for the most vulnerable segments, ensuring that disaster shocks do not perpetuate poverty and suffering.

This Policy introduces a renewed commitment to Risk-Informed Development in Khyber Pakhtunkhwa. By enforcing building codes and protecting our floodplains, we are ensuring that development is risk informed and survives climate challenges of the future.

Resilience is a shared responsibility. While the government will provide the tools, technology, and leadership, the true success of this policy lies in its implementation at the grass roots level together with the communities. I call upon every citizen to foster a spirit of volunteerism and proactiveness. Together, guided by the grace of ALLAH (SWT), we will work towards building "Resilient Khyber Pakhtunkhwa" that is prosperous, safe, and sustainable for the generations to come.

Muhammad Sohail Afridi

Chief Minister, Khyber Pakhtunkhwa



MESSAGE FROM MINISTER RELIEF REHABILITATION & SETTLEMENT DEPARTMENT KHYBER PAKHTUNKHWA

As the Minister for Relief, Rehabilitation and Settlement, I stand at the intersection of our province's greatest vulnerabilities and its most enduring strengths. It is my department that receives the first call when floods submerge a village, when an earthquake brings down a school, or when a cloudburst erases a community's livelihood overnight. These are not standalone events but a growing pattern. I have witnessed, first-hand, the plight of families in different parts of Khyber Pakhtunkhwa, who have lost everything to forces beyond their control. That lived experience is the driving force behind this Disaster Risk Reduction Policy Khyber Pakhtunkhwa.

The Relief, Rehabilitation and Settlement Department mandate is to protect the people of Khyber Pakhtunkhwa through PDMA, Rescue 1122, and Civil Defence, across all phases of the disaster management cycle.

This Policy empowers my department to lead a fundamental transformation from a reactive to a proactive approach. We will operationalize inclusive early warning systems that achieve last mile connectivity, reaching the most remote communities, strengthening a Digital Compensation Platform that delivers relief with transparency and dignity, anchoring PDMA's operations in scientific evidence and community participation. By bringing DRM and Social Protection together through Adaptive Social Protection, we intend to reach out to the most vulnerable women, children, persons with disabilities, elderly, sick and chronically poor who should be the first to receive help. We will ensure that the rehabilitation and reconstruction work genuinely meets the "Build Better Before" requirement, so that what we rebuild today is resilient enough to withstand the disasters of tomorrow.

The implementation of this Policy is a collective obligation. I call upon all line departments, district administrations, civil society partners and community members to own this agenda alongside us. I am committed to ensure that our governance structures, down to local level disaster management committees, function as genuine engines of coordination rather than ceremonial bodies.

I present this Policy with a sense of profound responsibility and quiet resolve. Khyber Pakhtunkhwa faces a disproportionate share of the climate crisis's burden. We owe it to the citizens of Khyber Pakhtunkhwa, and to the generations who will inherit this land, to meet that burden not with despair but with determined, evidence-based action. With the grace of ALLAH (SWT), and the collective will of our people, we will build a province where no family is left unprotected and no community is left behind.

Aqib Ullah Khan

Minister for Relief Rehabilitation & Settlement Department
Government of Khyber Pakhtunkhwa



MESSAGE FROM CHIEF SECRETARY KHYBER PAKHTUNKHWA

The multi hazard landscape of Khyber Pakhtunkhwa necessitates a paradigm shift in how we approach DRM and development planning. Disaster management is no longer an auxiliary function of the state; it is the cornerstone of sustainable governance and fiscal responsibility. As the administrative head of this province, it is my privilege to present the “Disaster Risk Reduction Policy, Khyber Pakhtunkhwa”.

The strength of our response is only as effective as the coordination among our institutions. Under the mandate of the National Disaster Management Act 2010 (amended by Khyber Pakhtunkhwa in 2012), we have established a systems-based approach that synchronizes the work of Provincial Disaster Management Authority, Khyber Pakhtunkhwa with all other provincial line departments and federal entities. Through the “Khyber Pakhtunkhwa Disaster Risk Reduction Policy Implementation and Oversight Committee” (KP-DRR-IOC), we will ensure that every department’s sectoral plans are aligned with our risk reduction goals.

In an era of climate uncertainty, our decisions must be anchored in scientific rigor. We are institutionalizing Multi-Hazard Vulnerability and Risk Assessment (MHVRA) as a mandatory prerequisite for all public sector investments. By establishing a Provincial Disaster Risk Information System (PDRIS) and utilizing state-of-the-art early warning systems, we are providing our district administrations and local governments with the technical capacity to anticipate and mitigate risks before they manifest.

Resilience building starts at the community level. We are committed to the localization of disaster management by strengthening our District Disaster Management Units (DDMUs) and Village Disaster Management Committees (VDMCs) and empowering local governments to lead Community-Based Disaster Risk Management (CBDRM) initiatives. This policy further emphasizes Disaster Risk Financing, moving beyond reliance on external aid towards a sustainable layered financing approach and public-private partnerships.

The implementation of this policy requires a culture of professional excellence across all administrative tiers. I appreciate the Provincial Disaster Management Authority and our development partners, especially GIZ for their technical assistance in producing this document. I call upon all secretaries and field officers to ensure that the principles and pillars of this policy are reflected in every project we approve and every operation we lead. Our goal is a transparent, efficient, and accountable governance system that preserves the lives and livelihoods of the people we serve.

Shahab Ali Shah

Chief Secretary, Khyber Pakhtunkhwa



PREFACE

Khyber Pakhtunkhwa occupies a unique yet precarious position on the frontlines of the global climate crisis. With a diverse landscape ranging from the rugged Hindu Kush mountains to the fertile Indus plains, the province is susceptible to a complex array of cascading hazards, including devastating floods (riverine, flash & urban), earthquakes, glacial Lake Outburst Floods (GLOFs), cloud bursts, droughts, heatwaves and complex emergencies. The catastrophic events of the 2005 earthquake and the devastating floods of 2010, 2022 and 2025 served as profound reminders that a reactive approach to disaster management, focusing solely on rescue and relief is no longer sufficient to protect the lives and livelihoods of our citizens.

The “Disaster Risk Reduction Policy Khyber Pakhtunkhwa” marks a fundamental paradigm shift in provincial disaster governance. This policy is a legal obligation under the National Disaster Management Act of 2010 (amended by Khyber Pakhtunkhwa in 2012) and a strategic roadmap to ensure that resilience is woven into the very fabric of our socio-economic progress.

Guided by the Sendai Framework for Disaster Risk Reduction (SFDRR) and contributing to Sustainable Development Goals (SDGs), this document provides guiding principles and policy recommendations under thirteen key pillars covering the whole DRR spectrum. At its core, the policy institutionalizes the use of Multi-Hazard Vulnerability and Risk Assessment (MHVRA), state-of-the-art EWS and sustainable disaster risk financing.

A central tenet of this Policy is the principle of "Leave No One Behind." By integrating DRR with Adaptive Social Protection (ASP) and enhancing Community-Based Disaster Risk Management (CBDRM), the policy aims to serve the poor, and especially vulnerable and empower local population as the front-line responders against natural shocks.

The successful implementation of this Policy requires inter-departmental coordination and a "whole of government" approach. It is our hope that this document serves as a living guide for policymakers, practitioners, and citizens alike, as we work together to build a secure, sustainable, and disaster resilient Khyber Pakhtunkhwa.

Suhail Khan

Secretary, Relief Rehabilitation and Settlement Department, Government of Khyber Pakhtunkhwa



ACKNOWLEDGEMENT

The Provincial Disaster Management Authority expresses its deepest gratitude to the Honorable Minister for Relief, Rehabilitation, and Settlement Department, Mr. Aqib Ullah Khan, whose visionary leadership and steadfast commitment have been pivotal in safeguarding the lives and livelihoods of the people of Khyber Pakhtunkhwa.

We are also thankful to Mr. Suhail Khan, Secretary Relief, Rehabilitation and Settlement Department, for his administrative support and guidance during the policy development process. His efforts have been instrumental in shaping a policy that truly reflects the unique hazard profile and resilience aspirations of the province. We acknowledge his vision, direction, and commitment to institutional strengthening.

Our sincere appreciation is extended to the Government of Germany for its continued collaboration and unwavering support, through the German Federal Ministry for Economic Cooperation and Development (BMZ), with implementation support provided by GIZ, in strengthening policy formulation and integrating social protection and climate-resilient approaches within the provincial DRR policy framework.

We also recognize the pivotal role of Syed Musaver Shah Gillani, Project Director PDMA and his team, whose exceptional leadership, teamwork, coordination, and follow-up throughout the process ensured timely inputs, institutional harmony and seamless consolidation of contributions from multiple stakeholders. His proactive approach and emphasis on evidence-based planning provided the platform that enabled extensive province-wide consultations, ensuring that the perspectives of all key stakeholders including government departments, development partners, academia and communities are effectively incorporated.

We also acknowledge the valuable contributions of Mr. Ismail Khan Yousafzai as the overall Technical Lead, Muhammad Saddiq, Gender Specialist, for gender and inclusion inputs, and Mohammad Mustafa Khan, SP Advisor, for focused technical inputs in Adaptive Social Protection component and Mr. Kashif Rahim Burki, Socio-Economic Specialist for emphasis on looking beyond physical infrastructure to safeguarding human well-being.

We extend our profound appreciation to the dedicated team at GIZ for their steadfast partnership. In particular, we recognize Ms. Johanna Knoess, Head of Project, for her exceptional leadership in resource allocation and strategic coordination. Furthermore, we highly commend Ms. Mareike Bentfeld, Component Lead, whose indispensable technical support and analytical oversight ensured the policy framework remains robust and technically sound. Finally, we are deeply grateful to Mr. Hamid Ullah, Advisor DRM and SP, for his pivotal role in driving seamless coordination on behalf of GIZ, as well as for his extensive, technical support during field-level consultations. Finally, we commend the lead consultant, Mr. Falak Nawaz (NDMP Pvt. Ltd), for his intellectual rigour, analytical clarity, and unwavering dedication in synthesizing a complex landscape of hazards, vulnerabilities, and opportunities into a comprehensive policy framework.

Arif Ullah Awan

Director General, Provincial Disaster Management Authority, Khyber Pakhtunkhwa

EXECUTIVE SUMMARY

Policy Overview

The Disaster Risk Reduction Policy Khyber Pakhtunkhwa marks a proactive shift in the provincial government's approach to managing natural and man-made hazards. For decades, the provincial emergency response was primarily reactive, focused on providing relief, rescue and rehabilitation after a disaster had already caused damage. This Policy ends that legacy by institutionalizing a proactive "culture of preparedness" approach. It establishes a comprehensive, roadmap to ensure that every development project, every administrative decision, and every community initiative is designed to reduce risk and build long-term resilience for the people of province.

Khyber Pakhtunkhwa's Hazard Landscape

Khyber Pakhtunkhwa occupies a geographically diverse but highly vulnerable position. The province is situated on the eastern edge of the Hindu Kush mountains and sits atop major active fault lines, including the Sanghargali and Nathiagali thrusts. This makes the northern regions, particularly Hazara and Malakand divisions, exceptionally prone to the earthquakes of magnitude 7 or higher. Historical events like the 2005 Kashmir earthquake and the 2015 earthquake serve as permanent reminders of the catastrophic potential of these geological shifts.

Parallel to seismic threats, climate change has transformed the province into a frontline for hydro-meteorological disasters. Khyber Pakhtunkhwa is now battered by a cascading hazard environment where one event often triggers another, such as heavy monsoon rains causing flash floods, which in turn trigger landslides. The province's major rivers, the Indus, Swat and Kabul regularly cause destructive riverine floods. Most recently, in June 2025, cloudbursts in the District Swat and Buner resulted in fatalities and destruction of thousands of homes, highlighting the increasing suddenness and intensity of these events. Furthermore, the northern ranges now contain over thousands of glacial lakes, many of which are at critical risk of bursting and flooding downstream valleys.

The Human Face of Vulnerability

The impact of these hazards is worsened by deep-rooted socio-economic factors. Khyber Pakhtunkhwa has an increasingly high poverty rate, which is significantly higher in rural areas and the Merged Districts (MDs). A 70% surge in population since 1998 has forced families to settle in dangerous floodplains and on unstable mountain slopes, turning natural hazards into human tragedies.

The Policy recognizes that disasters hit the most vulnerable the hardest. Vulnerable and marginalized groups like women, children, elderly, persons with disabilities, chronically sick, refugees and transgender are often the last to receive early warnings or access safe evacuation facilities. Additionally, high rates of child stunting and wasting and a limited health infrastructure, mean that the population experiences low physical and social resilience to withstand shocks.

Vision, Mission and Core Principles

The vision of this policy is to develop a disaster-resilient Khyber Pakhtunkhwa where proactive risk reduction, early warning, and inclusive recovery lead to sustained development and protection for all. The Mission is to establish a proactive, inclusive, and evidence-based disaster risk reduction system in Khyber Pakhtunkhwa, that is system-based, multi-sectoral, and integration-focused, placing resilience and sustainability at the core.

The Disaster Risk Reduction Policy, Khyber Pakhtunkhwa is founded on key principles of **community resilience**, **institutional strengthening**, **inclusivity**, **efficiency**, and **sustainability**. The Policy emphasizes strong partnerships among communities, government institutions, NGOs, civil society and international partners to enhance disaster preparedness, response, recovery, and risk reduction through a community-based and decentralized disaster management approach. It prioritizes vulnerable populations, including women, children,

persons with disabilities, refugees, and others marginalized groups, ensuring equitable access to protection, services and participation in decision-making processes. The Policy is aligned with international DRR Frameworks, humanitarian standards, and promotes coordinated, gender responsive, and people centered disaster management practices. It further focuses on maximizing the efficient use of human, financial, institutional, and technological resources through improved coordination, resource mapping, and decentralized response mechanisms. Additionally, the Policy advocates sustainable financing, climate change adaptation, ecosystem-based solutions, and the integration of DRR into development planning to reduce dependency on external assistance and strengthen long-term resilience across the province.

Policy Pillars:

To translate this vision into action, the policy outlines thirteen strategic pillars that address the root causes of risk:

1. Institutional Synchronization: The government will harmonize provincial laws and inter-agency mandates. This will ensure that the Planning and Development Department, the Relief Rehabilitation and Settlement Department, and other line agencies work in collaboration rather than in isolation, eliminating overlapping roles and conflicting priorities.

2. Climate Change Adaptation: Disaster risk reduction is now formally linked with environmental conservation. This includes promoting climate-smart agriculture, such as drought-resistant crops and rainwater harvesting to protect the livelihoods of majority of the population living in rural settings.

3. Scientific Multi-Hazard Vulnerability and Risk Assessment: The province will establish state-of-the-art laboratories for Multi-Hazard Vulnerability and Risk Assessment. By utilizing Geographic Information Systems (GIS) and satellite imagery, the government will maintain digital records of every hazard, ensuring that public investment is based on hard data rather than guesswork.

4. Professional Human Resources: The policy commits to continuous training of government officials and emergency responders. It focuses on building a pool of master trainers who will cascade disaster management skills down to the village level.

5. Community-Based Disaster Risk Management (CBDRM): Local communities will be empowered through the Community-Based Disaster Risk Management approach. This involves forming local committees that can assess their own hazards and develop coordinated self-help mechanisms.

6. Disaster Response Capacity: The province will establish dedicated Community Emergency Response Teams comprising of a network of inclusive volunteers, professionally trained in emergency response management. These teams will be equipped with modern tools and undergo regular drills to ensure 24/7 readiness.

7. Risk-Informed Development (RID): This is a cornerstone of the policy. All public infrastructure, schools, hospitals, and roads must follow strict building codes. The principle of "Building Better Before" (BBB) will be enforced to ensure that today's development survives tomorrow's disasters.

8. Essential Systems (Food, WASH, Nutrition): The policy emphasizes strengthening the systems that provide food, clean water, safe sanitation and healthcare during emergencies. It aims to prevent disease outbreaks and address the "triple burden of malnutrition" that worsens during disasters.

9. Multi Hazard and Integrated Early Warning System (EWS): High-tech telemetry and automated weather stations will be installed across all major rivers. These will be linked to data-driven models to send timely inclusive alerts to even the most remote northern and southern districts.

10. Quality Recovery: When disasters do occur, the recovery process will follow international standards of humanitarian assistance. Reconstruction will not just replace what was lost but will use scientific methods to reduce future risks.

11. Adaptive Social Protection (ASP): For the first time, provincial social protection system will be linked with

disaster risk system. This ensures that the poorest families receive early warning on priority, pre and post disaster financial support and insurance payouts to recover from disasters.

12. Addressing Complex Emergencies: The Policy addresses complex emergencies in Khyber Pakhtunkhwa through integrated, conflict-sensitive and humanitarian approaches that strengthen coordination, protect vulnerable populations, and enhance preparedness, response, and long-term resilience against conflict, displacement, food insecurity, terrorism, and climate-induced crises.

13. Disaster Risk Financing: The policy promotes sustainable, proactive, and risk-informed disaster risk financing mechanisms, including contingency funds, forecast-based financing, insurance, climate financing, and integration of risk data into development planning to strengthen preparedness, timely response, recovery, and resilience-building for vulnerable communities.

Policy Implementation and Governance

Policy execution will be a shared responsibility led by the PDMA and District Disaster Management Units. To provide strategic oversight, the government plans the establishment of the "Khyber Pakhtunkhwa DRR Policy Implementation and Oversight Committee" (KP-DRR-IOC) under the chairmanship of the Additional Chief Secretary. This body will align provincial departments with the resilience framework and evaluate performance through regular reviews. Supporting this, seven specialized thematic working groups already constituted during policy development process will serve as the technical arms of the PDMA. Meeting regularly, these groups will provide evidence-based guidance and field-level reporting to ensure interventions remain responsive and technically sound.

Financial Sustainability

To ensure long-term viability, a multi-stream financing strategy is proposed:

- **Provincial Budget:** The government will provide dedicated allocations within Annual Development Programs (ADPs). Crucially, the policy recommends distinct disaster risk budgets for District Governments to address regional needs independently of emergency response funds.
- **National Funds:** The province intends to actively mobilize resources through the National Disaster Risk Management Fund (NDRMF), federal grants and international funds to align provincial efforts with national resilience goals.
- **Disaster Risk Financing (DRF):** This strategy promotes the adoption of Islamic insurance (Takaful) models to protect family assets, livestock, and crops. Additionally, enhanced public-private partnerships will leverage Corporate Social Responsibility (CSR) for investments in climate-resilient infrastructure and nature-based solutions.

Monitoring and Learning

A proposed gender-responsive M&E framework will track the Policy's thirteen pillars through departmental monitoring and centralized oversight. A planned digital feedback loop, integrated into the Provincial Disaster Risk Information System, will allow stakeholders to provide real-time input. This ensures the roadmap remains a living document, capable of adapting to the province's changing climate and vulnerability profile.

Conclusion

The Disaster Risk Reduction Policy of Khyber Pakhtunkhwa serves as a living roadmap. While the institutional mechanisms for its implementation are operationalized, the policy provides the necessary vision to transform the province from a state of vulnerability to a state of enduring resilience. The need for transforming the government's vision into a workable plan is paramount.



SECTION ONE

HAZARDS LANDSCAPE OF KHYBER PAKHTUNKHWA

SECTION ONE: HAZARDS LANDSCAPE OF KHYBER PAKHTUNKHWA

1.1. Khyber Pakhtunkhwa: Geographical and Socio Demographic Context

Khyber Pakhtunkhwa is one of Pakistan's four provinces, located in the northwestern part of the country. It consists of an area of approximately 101,741 square kilometers¹, covering diverse landscapes ranging from the rugged mountains of the Hindu Kush to fertile plains and river valleys. The province shares an international border with Afghanistan to the west and national boundaries with Gilgit Baltistan, Punjab, Islamabad Capital Territory, and Azad Jammu and Kashmir (Figure 1). The merger of the Federally Administered Tribal Areas into Khyber Pakhtunkhwa in 2018 expanded its administrative jurisdiction. The province features key geographical landmarks such as Tirich Mir, the highest peak in the Hindu Kush (7,708 meters) and the historic Khyber Pass. Major rivers, including the Indus, Kunhar, Kabul, Swat, and Panjkora shape the province's hydrology. According to the 2023 Population Census, Khyber Pakhtunkhwa has a population of 40,856,097 making it the third most populated province in Pakistan.

The rural population is approximately 34,724,801 (85%), while the urban population stands at 6,131,296 (15%)². Major cities include Peshawar (provincial capital), Mardan, Haripur, Mingora, Abbottabad, Kohat, Bannu, Dera Ismail Khan, Timergara, Nowshera, Charsadda and Chitral.

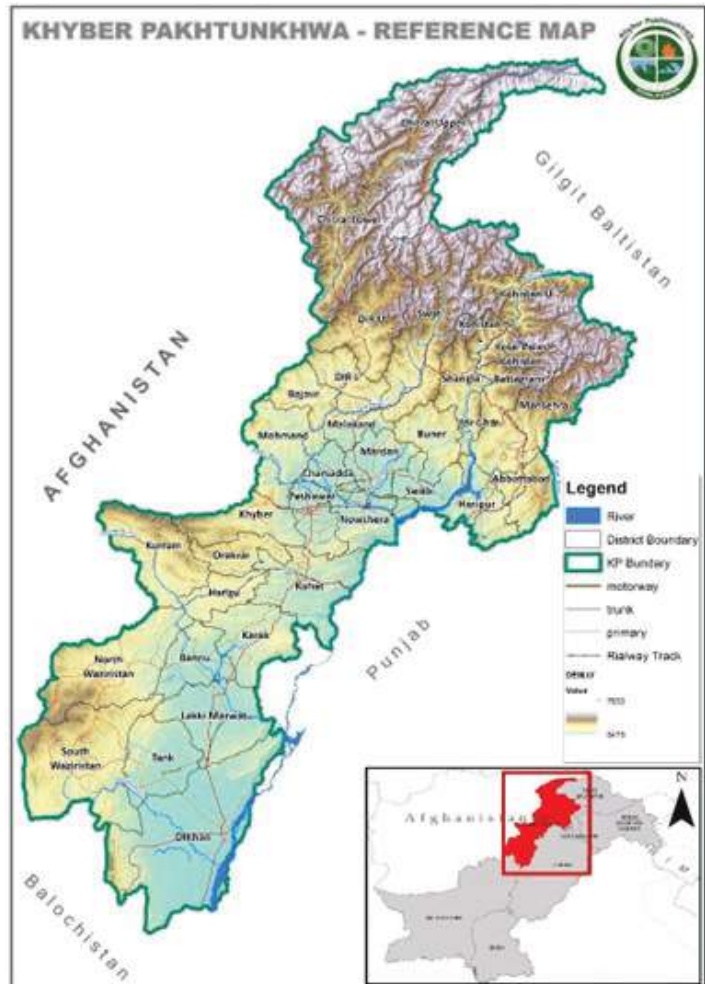


Figure 1: Location Map of Khyber Pakhtunkhwa Province

Khyber Pakhtunkhwa experiences diverse climatic conditions due to its varied topography. The northern mountainous regions endure harsh winters with heavy snowfall and mild summers, while the southern and central areas have hot summers and relatively cold winters. The average annual temperature is 22.3°C, with rising trends attributed to Climate Change. At the same time, the province receives an average annual precipitation of 406 mm, with most rainfall received between January and April due to westerly winds. Besides, the westerly winds, the monsoon winds bring heavy rains between mid June and mid September. Dry air results in high temperature variations, with Dera Ismail Khan being one of the hottest regions.

With recent trends in monsoon zone shifting due to climatic changes, the province of Khyber Pakhtunkhwa is highly vulnerable to climate induced hazards. At the same time, the peculiar topographical features and soil structure expose the province to various geological hazards. The following section outlines some of the significant hazards existing in the province.

¹Official Website of Khyber Pakhtunkhwa (2025). "About the Khyber Pakhtunkhwa".

²Pakistan Bureau of Statistics, Government of Pakistan (2023). "7th Population & Housing Census of Pakistan".

1.2. Hazard Profile of Khyber Pakhtunkhwa

1.2.1. Geological Hazards

i. Earthquakes

Khyber Pakhtunkhwa, located on the eastern edge of the Hindu Kush Mountains, is one of the most earthquake prone provinces in Pakistan. Districts such as Upper and Lower Chitral, Upper and Lower Dir, Shangla, and Swat are especially at risk. This was observed in major earthquakes, such as the 1974 Pattan earthquake and the 2005 Kashmir and Balakot earthquakes. The Hindu Kush region has also caused several powerful earthquakes deep underground, such as those on February 20, 1998 (magnitude 6.4), March 3, 2002 (magnitude 7.4), and October 26, 2015 (magnitude 7.5), which caused widespread damage in both Afghanistan and Pakistan³.

Another seismically active area in Khyber Pakhtunkhwa is Mansehra in Hazara Division, which lies along the collision boundary of the Indian and Eurasian plates. This region contains multiple active fault systems, including the Sanghargali, Nathiagali, and Thandiani Thrusts, as well as the Oghi, Banna, Main Boundary, Panjal, Jhelum, and Muzaffarabad fault lines (also known as the Balakot Bagh Fault)⁴. The presence of these active fault lines and high seismic activities necessitates stringent earthquake preparedness and mitigation strategies to reduce potential damage and loss of lives in Khyber Pakhtunkhwa.

Recent research and historical data confirm that the northern regions of Pakistan are especially prone to earthquakes. The districts, including Abbottabad, Mansehra, Haripur, Battagram, and Kohistan in Hazara Region; Swat, Shangla, Buner, Lower Dir, Upper Dir, Bajaur, Lower Chitral, and Upper Chitral in Malakand Region; Peshawar, Nowshera, and Charsadda in Peshawar Valley; and Kohat, Hangu, Karak, Kurram, and Orakzai in the Kohat Region, are very vulnerable to earthquake hazards.

ii. Landslides

Landslides in Khyber Pakhtunkhwa are significant secondary hazards often triggered by earthquakes, heavy rainfall, and unplanned development in mountainous regions. Due to the impacts of Climate Change, the northern areas of the province have become increasingly susceptible to frequent landslides. Geomorphology, topographic features, geology, land cover, and anthropogenic activities predominantly control the spatial distribution and intensity of landslides⁵. As mentioned above, while heavy rainfalls and earthquakes are the main natural triggers⁶, human activities such as land excavation, overgrazing, deforestation, and vegetation removal also play a significant role in causing landslides⁷. Rising temperatures due to Climate Change, along with changes in rainfall patterns and intensity, have further increased the risk of landslides in mountainous areas.

Historically, the region has experienced significant landslides, causing severe disruption to transportation networks and erosion to fertile agricultural lands, forests, and settlements, while significantly affecting socio-economic activities. Additionally, population growth and the unplanned expansion of settlements and infrastructure in mountainous areas have contributed to slope destabilization, often resulting in landslides. The construction and expansion of road networks in these regions further exacerbate slope instability. The lack of climate and disaster resilient infrastructure, combined with limited socio-economic capacities, has increased

³Rehman, K., Ali, W., Ali, A., Ali, A., & Barkat, A. (2017). "Shallow and intermediate depth earthquakes in the Hindu Kush region across the Afghan-Pakistan border". *Journal of Asian Earth Sciences*.

⁴Mona, L. (2014). "Seismic hazard assessment of District Mansehra, Khyber Pakhtunkhwa, Pakistan". *Acta Geologica Sinica - English Edition*.

⁵Eker, R., A. Aydın and J. Hübl (2017). "Unmanned aerial vehicle (UAV)-based monitoring of a landslide: Gallenzerkogel landslide (Ybbs-Lower Austria) case study." *Environmental Monitoring and Assessment*.

⁶Bradley, K., R. Mallick, H. Andikagumi, J. Hubbard, E. Meilianda, A. Switzer, N. Du, G. Brocard, D. Alfian, B. Benazir, G. Feng, S.-H. Yun, J. Majewski, S. Wei and E. M. Hill (2019). "Earthquake-triggered 2018 Palu Valley landslides enabled by wet rice cultivation." *Nature Geoscience*.

⁷Ali, M. Z., S. Ullah and A. Ali (2017). "Impact assessment of spatial resolution on landslide inventories: A case study of Muzaffarabad city." *Journal of Himalayan Earth Sciences*.

community vulnerabilities to these hazards, particularly the loss of their marginal agricultural lands and the resultant decline in their means of livelihood. With the rising frequency of landslides and increasing exposure of the population and infrastructure, the overall risk is intensifying. This escalating threat highlights the urgent need for a comprehensive landslide risk management policy to establish a practical and context specific framework.

1.2.2. Hydro-Meteorological Hazards

i. Floods

Floods are the most frequent and prominent events in the monsoon season in the whole country and Khyber Pakhtunkhwa, often caused by heavy rainfall, rapid snowmelt, or glacial lakes outburst. The prominent rivers, including the Indus, Kabul, Badrai, Bara, Dor, Gambila, Gomai, Haro, Jindi, Kurram, Kunar, Kunhar, Khiali, Panjkora, Swat, and Siran, are important sources of riverine floods. The 2010 floods caused massive destruction in the province, with the combined flow of the Swat and Kabul rivers reaching a historic discharge of 400,000 cusecs as compared to the previous 1929 flood water discharge of 250,000 cusecs. Approximately 1,985 people died, and nearly 20 million people were affected across 78 flood affected districts across the country. Similarly, in 2022, around 309 people died and 600,000 others were displaced by floods in District Tank, Dera Ismail Khan, Swat, Mardan, Swabi, Nowshera, Charsadda, Lower Kohistan, Upper Kohistan, Upper Dir, Lower Chitral, and Upper Chitral, which were also declared as the most affected districts.⁸

Most recently, heavy rainfall triggered flash floods and cloudbursts across several districts, severely impacting lives and livelihoods. The floods caused extensive damage to houses, agricultural lands, roads, and other critical infrastructure. In response, the Relief Rehabilitation, and Settlement Department declared emergencies in thirteen districts: Swat, Buner, Bajaur, Torgar, Mansehra, Shangla, Lower Chitral, Upper Chitral, Tank, Dera Ismail Khan, Lower Dir, Upper Dir, and Battagram. Among these, on June 28, 2025, a tragic incident occurred in Swat, where 16 tourists including women and children drowned in a flash flood caused by a cloudburst in the Swat River. Similarly, in District Buner a devastating cloudburst struck the village of Bayshonai Kalay, killing around 20 people and washing away nearly the entire village in a single surge of floodwater.

In total, approximately 505 people lost their lives, while 218 were injured. The floods also killed approximately 5,640 cattle, 3,168 houses, and 306 schools were damaged or collapsed. Flooding in the province is further categorized as:

a. Riverine Floods

The major rivers of Khyber Pakhtunkhwa Indus, Swat, and Kabul trigger riverine floods during the monsoon season. The unprecedented floods of 2010 and 2022 highlighted the devastating impact of unregulated river flows, exacerbated by encroachments along riverbanks, resulting in severe losses to lives, livelihoods, and infrastructure, including loss of fertile agricultural lands close to the riverbanks, thus leaving the affected populations more vulnerable to food insecurity. These events exposed the province's high vulnerability, with nearly three quarters of its area at risk of riverine flooding, underscoring the urgent need for effective flood management and adaptive social protection measures. Key high risk corridors include:

- **The Indus Corridor:** Affecting Dera Ismail Khan, Tank, Kohat, and Karak.
- **The Swat, Panjkora, and Kabul Rivers:** Affecting Peshawar, Swat, Shangla, Malakand, Charsadda, Swabi, Nowshera, Upper Dir, and Lower Dir.
- **The Kurram and Gambila Rivers:** Affecting Bannu and Lakki Marwat.

⁸Provincial Disaster Management Authority Khyber Pakhtunkhwa (2024). "Summer Hazard Contingency Plan".

b. Flash Floods and Hill Torrents

Multiple districts within the province are characterized by high vulnerability to hill torrents and flash flood events. The phenomenon is a sudden and rapid onset of very high concentration discharge of water caused by a cloudburst, which can lead to extensive damage to infrastructure, crops, peripheral agricultural lands, and often loss of animal and human lives. The province's geography, with its mountainous regions and extensive river systems, makes it particularly vulnerable to hill torrents and flash floods. Districts prone to flash floods in Khyber Pakhtunkhwa are Lower Chitral, Upper Chitral, Swat, Shangla, Lower Dir, Upper Dir, Lower Kohistan, Upper Kohistan, Mansehra, Abbottabad, Battagram, Buner, Dera Ismail Khan, Lakki Marwat, and Tank.

ii. Cloudbursts

Cloudbursts are a localized weather phenomenon, most common during the monsoon season, characterized by sudden and extremely heavy rainfall over a short period of time. Cloudbursts happen when saturated clouds are unable to produce rain because of the upward movement of a very warm current of air. Instead of dropping down, raindrops get bigger in size and get pushed up due to the air current.

On September 3, 2020, Khyber Pakhtunkhwa experienced a series of cloudburst events that resulted in at least 30 fatalities and 38 injuries. The floods damaged 118 houses and completely destroyed 15 others across the districts of Kohistan, Swat, Bunner, Battagram, Lower Kohistan, Haripur, Torgar, Dera Ismail Khan, and Shangla.

Most recently, on June 28, 2025, a tragic incident occurred in Mingora, District Swat, where 16 people, including women and children, drowned in a flash flood caused by a cloudburst in the Swat River. Similarly, on August 19, 2025 a devastating cloudburst hit the village of Bayshonai Kalay in District Buner, killing around 20 people and sweeping away nearly the entire village in a single surge of floodwater.

iii. Heatwaves

Heatwaves, as per the Pakistan Meteorological Department, are conditions where the maximum temperature situation reaches 40°C for the plain and 30°C for the hilly area, with the departure from the normal 4.5°C to 6.4°C. The World Meteorological Organization defines a heatwave as a period when usually high temperatures persist for several days and nights, causing excess heat to build up in an area. Heatwaves amplify many risks, such as health related or economic risks, including increased human mortality, drought and water quality, wildfire and smoke, power shortages, and agricultural losses. The Southern regions and urban centers of central Khyber Pakhtunkhwa are among the most vulnerable areas to heatwaves. In this connection, marginalization, physiological differences, occupational exposure, and under representation in decision making positions make women, girls, and children more vulnerable to climate impacts like heat stress.⁹

iv. Wildfire

Global warming has intensified the frequency and severity of wildfires worldwide, and Khyber Pakhtunkhwa is no exception. Rising temperatures, prolonged dry spells, erratic rainfall patterns, and increased lightning activity exacerbated by climate change have made Khyber Pakhtunkhwa's forested and mountainous regions more vulnerable to wildfires. These fires pose a serious threat to biodiversity, livelihoods, infrastructure, and air quality, while also contributing to carbon emissions and ecosystem degradation. The forest areas of Hazara and Malakand divisions are at high risk of wildfires.

v. Glacial Lake Outburst Flood (GLOF)

Rising temperatures have accelerated glacier melt in Pakistan's northern mountain ranges the Hindu Kush,

⁹Asian Development Bank (2024), "Extreme Heat, Regional Impacts, and Why We Need a Gender-Transformative Heat Action Plan."

¹⁰United Nations Development Program. "Scaling-up of Glacial Lake Outburst Flood Risk Reduction in Northern Pakistan".

Himalayas, and Karakorum resulting in the formation of 3,044 glacial lakes in Gilgit Baltistan and Khyber Pakhtunkhwa¹⁰. Of these, 33 glacial lakes have been assessed to be prone to hazardous Glacial Lake Outburst Flood. GLOF are caused by the rapid release of water from glacial lakes, which can lead to sudden and catastrophic flooding downstream. Five districts in the province Chitral Upper, Chitral Lower, Dir Upper, Swat, and Kohistan Upper are particularly vulnerable to GLOF due to their mountainous terrain and the presence of major glaciers.

vi. Drought

Droughts are climatic anomalies that are directly related to prolonged and abnormal deficiency in precipitation, resulting in water shortage for water dependent activities like agricultural practices, irrigation, forestry, and other sectors like hydro-energy, etc. In Khyber Pakhtunkhwa, almost all kinds of droughts are observed, such as meteorological droughts, agricultural droughts, hydrological droughts, and socio-economic droughts. Amongst all these types, the meteorological drought is the most common, often followed by hydrological drought, which occurs when prolonged below normal conditions lead to a depletion of surface and groundwater levels. Agricultural drought then follows, arising when soil moisture and groundwater fall below the minimum levels required for a crop's growth, resulting in agricultural losses. In Khyber Pakhtunkhwa, Dera Ismail Khan is considered as the most drought prone area. Although drought occurs less frequently than floods, its impact on food security is significant. Prolonged drought conditions could lead to the expansion of desert like areas in the southern districts, including Karak, Lakki Marwat, Kohat, and Dera Ismail Khan.¹¹

Water smart practices like rainwater harvesting, water conservation practices, aquifer recharge, and precision agriculture, as well as reduced/zero tillage, crop rotation, agroforestry, and replacement of synthetic fertilizers with agricultural residues/manure, elimination of pesticides through integrated pest management or enhanced distribution logistics that reduce fossil fuel combustion will generally lead to reduced water losses and GHG emissions, better crops yield and may also sequester carbon.

1.2.3. Environmental Hazards

i. Deforestation

Although forest covers more than 12% of Khyber Pakhtunkhwa's land area.¹³ Deforestation remains high, with significant tree cutting continuing in Malakand and Hazara divisions. The removal of tree cover results in a destabilization of the slopes, thus causing risks of landslides and flash floods in the mountainous areas of Khyber Pakhtunkhwa. On the other hand, it also lowers groundwater recharge and biodiversity. Forest clearance has been a significant cause of increased effects of riverine and flash floods in the northern and central regions of the province, since it has increased the rate of surface runoff and the loss of natural water absorption capability.

ii. Land Degradation and Soil Erosion

The province is also facing an increasing level of soil erosion, particularly in mountainous areas, along major rivers, and in semi arid regions, mainly caused by the unsustainable agricultural practices, overgrazing, and poor land management. This causes erosion of fertile topsoil, the subsistence of farming activities, and increases the susceptibility to floods, landslides, and droughts. Soil erosion is a contributing factor to the decreasing crop yields, food insecurity, and rural poverty in the province. Effective land use planning, the promotion of soil conservation practices, and investment in sustainable agriculture are crucial to reversing this trend and embedding resilience in rural economies.

¹¹Environmental Protection Agency. Government of Khyber Pakhtunkhwa. (2022). "Khyber-Pakhtunkhwa-Climate-Change- Policy".

¹²Syed Sohail Ahmad, (2022), "Unveiling the landscape of COVID-19 in Khyber Pakhtunkhwa: "A review on regional analysis from March 2020 to October 2022".

¹³World Resources Institute, "Global Forest Watch."

iii. Water Contamination and Resource Depletion

Water contamination by untreated industrial waste, pesticides, and inadequate sanitation is a significant threat, particularly in urban cities like Peshawar and Mardan. It is also becoming increasingly prevalent in industrial areas across the province. These water polluted sources pose not only health risks to the general public but also weaken the community's resilience to disasters by eroding public health capabilities. The over extraction of groundwater resources is causing scarcity of drinking water, especially in urban areas, and also causing salinity, land subsidence, and depletion of the aquifers in the southern regions of the province.

iv. Unsustainable Urban Growth and Development

Uncontrolled and rapid urbanization, particularly in cities such as Peshawar, Charsadda, Nowshera, Mardan, Mingora, Mansehra, and Abbottabad, has led to the encroachment of floodplains, foothills, wetlands, and agricultural lands. These unsustainable land use practices have increased the risks of urban and flash flooding, landslides, and heatwaves, while decreasing the natural buffering capacity of ecosystems. For example, tourism activities and illegal constructions along the riverbanks in Upper Swat and the Kaghan Valley (including Naran) in Mansehra District have exacerbated the occurrence of floods by obstructing river flows, increasing landslides, and eroding natural protective barriers. Likewise, the unplanned settlements along the Kabul River in Nowshera and the Swat River in Charsadda have increased the risk of riverine and flash flooding. In addition, the expansion of unregulated construction onto steep slopes without proper slope stabilization has further increased the likelihood of landslides during monsoon seasons in the Hazara division.

v. COVID-19

The Province of Khyber Pakhtunkhwa was among the most affected provinces during the COVID-19 pandemic, recording around 222,246 cases in October 2022, and thus one of the highest fatality rates in the country.¹² This pandemic severely impacted livelihoods, especially for small businesses, daily wage workers, and women in informal jobs, causing income loss, food insecurity, and rising poverty. School closures further disrupted education, and repeated lockdowns weakened community ties and interrupted food and medicines supply chains, leaving vulnerable groups, especially children, even more at risk. Linked to the customary practices, women and girls faced differential impact, including increased caregiving responsibilities and substantial income losses. The pandemic was so widespread and severe that entire districts were deeply affected.

1.2.4. Complex Emergencies in Khyber Pakhtunkhwa

As defined in the Inter Agency Standing Committee (IASC) Working Group meeting held on November 30, 1994, a "Complex Emergency" is a humanitarian crisis which occurs in a country, region, or society where there is a complete or significant breakdown of authority due to civil conflict and/or foreign aggression. Khyber Pakhtunkhwa has been facing complex emergencies with multiple challenges, including political instability, terrorism, security challenges, and socio-economic issues. These factors have frequently combined to cause complex emergencies, resulting in a devastating impact on the province's communities. Decades of poor governance, coupled with years of regional instability, have shaped the crisis in the northwestern border areas of Pakistan. Marginalization and inequity sustained in the merged tribal districts have exploited the area with frustrations and extremism resulting from decades of weak governance and wide ranging socio-economic deficits: this has resulted in the most acute destabilization of the region in decades, causing huge population displacement and aggravating high levels of vulnerability.

Given the gravity and magnitude of security concerns and geopolitical scenario in the region, different parts of Khyber Pakhtunkhwa have experienced successive waves of violence and instability, starting with the dislocation of the population from Bajaur District in August 2008, followed by mass exodus from Malakand Division, and other

¹⁴Provincial Disaster Management Authority, Government of Pakistan (2025)

parts of the merged districts. Displacement from the merged districts escalated further in 2014 following military operations in North Waziristan (Zarb e Azb, June 2014) and Bara tehsil in the Khyber District (Khyber 1, October 2014). This latest wave of displacement has brought the total merged districts displacement caseload up to an estimated 451,585 families, out of which 443,237 families (96%) have successfully and voluntarily returned to their area of origin in a dignified manner following all the SOPs/ procedures as envisaged in the Return Policy Framework signed by the government with the humanitarian community.¹⁴

1.3. Impact of Climate Change on Khyber Pakhtunkhwa

Climate Change has become an undeniable reality, with its impacts evident in the form of rising atmospheric and ocean temperatures, increasing greenhouse gas concentrations, and sea level rise. These changes have intensified climate induced hazards, making them more frequent and destructive, particularly in vulnerable disaster prone areas of Khyber Pakhtunkhwa. The province is at the forefront of climate induced hazards, experiencing torrential rainfall, cloudbursts, flash floods, an increase in the magnitude and frequency of flooding, thunderstorms, snow avalanches, prolonged droughts, glacier melting, heatwaves, and extreme weather events. The impacts of climate change in Khyber Pakhtunkhwa have significantly disrupted natural weather patterns, resulting in a higher frequency of extreme precipitation events that drive both flash floods and riverine flooding. The unprecedented floods of 2010 and 2022 served as stark reminders of the province's heightened vulnerability to these shifts. Furthermore, accelerated glacier melting has increased the risk of glacial lake outburst floods (GLOFs), posing a serious threat to communities and infrastructure in the mountainous regions. Five districts, namely Lower Chitral, Upper Chitral, Upper Dir, Swat, and Upper Kohistan, are highly vulnerable to GLOFs. Droughts, particularly in the Rabi season, have also become more prolonged, exacerbating water scarcity and affecting agricultural productivity. Other climate induced hazards in Khyber Pakhtunkhwa include strong winds, snow avalanches, and landslides, which are increasingly affecting communities in disaster prone terrains. The loss of biodiversity, land degradation, and shifting ecosystems further compound the challenges posed by climate change. Additionally, extreme weather conditions have contributed to the rise of secondary hazards such as locust invasions, dengue outbreaks, and smog in certain districts, further endangering public health and food security. Furthermore, women and girls are disproportionately affected by climate change; statistics demonstrate that they constitute over half of all fatalities in weather related events, making climate change a critical factor that exacerbates existing inequalities.¹⁵

As the province is characterized by extreme cold and hot weather, significant losses have been incurred that are directly linked to climate change related disasters. Meanwhile, the northern regions outside the monsoon belt have experienced expanding aridity, while the southern districts are becoming increasingly vulnerable to frequent droughts. Over the last century, Pakistan's average annual temperature rose by 0.57°C (compared to 0.75°C for South Asia), while average annual precipitation increased by 25%. The warming is primarily driven by rising winter temperatures, with the frequency of hot days and nights is expected to increase significantly. Climate projections for the 2011-2050 scenario show a temperature increase of 0.71°C in the southern districts of Khyber Pakhtunkhwa, including Dera Ismail Khan, Tank, Lakki Marwat, and Bannu.¹⁶ Furthermore, downscaled climate models under the Representative Concentration Pathways (RCP) 4.5 simulation indicate a significant rise in mean temperature across Pakistan's snow covered areas. This trend renders districts such as Lower Chitral and Upper Chitral, Upper Swat, Lower Dir, Upper Dir, Lower Kohistan, and Upper Kohistan highly vulnerable to rising temperatures, which escalates the risk of glacial lake outburst floods. According to the climate change profile of Pakistan, crops cultivated in both irrigated zones and spate irrigation systems are highly sensitive to water availability and temperature variability. It is estimated that with the rise of temperature (+0.5°C – 2°C), agricultural productivity will decrease by around 8%–10% by 2040. In Khyber Pakhtunkhwa, heat stress is expected to impact crops on 5% of the total cultivated area. The climate model predicts that a 1°C rise in temperature could shorten the wheat growing season by approximately 14 days in the northern mountainous region of Khyber Pakhtunkhwa.

¹⁵ReliefWeb (2021), "Good Practices Brochure: Gender, Climate Change and Humanitarian Action."

¹⁶Qamar Uz Zaman C (2017). "Climate Change Profile of Pakistan". Published by the Asian Development Bank.

This highlights the increased vulnerability of agricultural practices in areas such as Lower Chitral, Upper Chitral, Upper Swat, and Kohistan to the adverse effects of climate change. Moreover, reduced water availability for hydro-power generation could lead to an energy crisis in the province in the near future. Practices such as conservation agriculture that enhance crop cover, soil water retention, and soil organic matter may increase resilience to drought and extreme weather events. Additionally, improved adaptive cultivars and risk cover mechanisms, such as insurance schemes and drip irrigation, tend to enhance resilience. These measures also improve energy efficiency by increasing productivity compared to the high energy demands of traditional flow irrigation through direct pumping.

Furthermore, future sectoral water demand is expected to rise due to socio-economic development and population growth. The southern regions of Khyber Pakhtunkhwa, including Dera Ismail Khan, Tank, Karak, Lakki Marwat, and Lower Dir, are projected to be vulnerable to water scarcity. Beyond these serious challenges, extreme climatic events such as torrential rainfall, flooding, snowfall, and avalanches will pose a severe threat to the transportation system and bridges, particularly in the northern areas of the province. The Khyber Pakhtunkhwa Provincial Climate Change Policy 2022 highlights that district such as Shangla, Buner, Bannu, Orakzai, and Tank are highly vulnerable to droughts, with their frequency expected to rise.¹⁷ The 6th Annual Assessment Report of the Intergovernmental Panel on Climate Change further supports this statement. This policy also identifies flood prone districts such as Charsadda, Swat, Nowshera, Swabi, Dera Ismail Khan, and Mardan. Whereas districts like Mansehra, Swat, Dir Upper, Abbottabad, and Haripur are vulnerable to landslides due to climate change. Apart from the above, smog and locust infestations have emerged as prevailing hazards in Khyber Pakhtunkhwa. Locust attacks were observed in the Dera Ismail Khan region in 2020, while smog events have been recorded in Peshawar, Dera Ismail Khan, Charsadda, and Mardan, according to the 2024 Air Quality Index data analysis by the Environmental Protection Agency of Khyber Pakhtunkhwa. Prolonged drought and smog issues are expected to become a major challenge for the province in the near future.

1.4. Factors Contributing Towards Increasing Vulnerabilities in Khyber Pakhtunkhwa

As previously mentioned, Khyber Pakhtunkhwa is on the frontlines of the climate crisis, facing rising temperatures, erratic rainfall, flash floods, and prolonged droughts, despite Pakistan contributing less than 1% to global emissions. The province's vulnerabilities are further deepened by a 70% population surge since 1998, which has stretched infrastructure and forced many people to live in hazard prone areas. This is in addition to some 750,000 forcibly displaced persons from Afghanistan who have been hosted in the province for more than four decades. Rapid and unplanned urbanization has transformed cities like Peshawar, Mardan, and Mingora (Swat), compounding disaster risks through a lack of adequate infrastructure and land use oversight. Over 8.5 million people in Khyber Pakhtunkhwa live with disabilities and face significant challenges during emergencies, while marginalized groups such as the transgender community remain excluded from the mainstream support systems. Although disaster awareness has improved, primarily through the media, rural communities still respond reactively. In remote regions including Chitral, Kohistan, Tank, and Dera Ismail Khan early warning systems (EWS) remain either underdeveloped or absent, while inadequate infrastructure frequently delays critical evacuation efforts.

Khyber Pakhtunkhwa's dependence on low yield agriculture places 40% of its population at risk, especially amid climate shocks and declining livestock. The Integrated Phase Classification (IPC) Acute Food Insecurity Analysis for Khyber Pakhtunkhwa highlights significant poverty related challenges in the province. According to a report by the World Bank, Khyber Pakhtunkhwa had the highest poverty rate in Pakistan at 48%, with poverty rates being significantly higher in rural areas and in the Merged Districts of the province. However, districts like Chitral, Dera Ismail Khan, Upper Dir, Upper Kohistan, and Khyber are expected to witness slight improvements in food security.

¹⁷Environmental Protection Agency, Government of Khyber Pakhtunkhwa (2022). "Khyber Pakhtunkhwa Climate Change Policy".

In contrast, Swat and Upper Dir are likely to benefit from enhanced agricultural activities and tourism related livelihoods, improving food availability and access. However, districts like Kolai Palas Kohistan, where 25% of the population remains in IPC Phase 3, will continue to face challenges due to market dependencies, high inflation, and limited agricultural production. Poor infrastructure and market access are expected to limit food security gains in districts such as Shangla and North Waziristan, keeping livelihoods under strain.¹⁸

The province's limited health infrastructure just one doctor per 6,382 people struggles even in normal conditions, let alone during crises¹⁹. Education is another major concern, with 30% of children of school going age being out of school in the province, with significantly high prevalence among girls, female literacy at only 37% and few opportunities for technical or vocational training. In Peshawar alone, the women's labor force participation is 9.4%.²⁰ Most housing is rural, overcrowded, and built from non durable materials, with poor sanitation further compounding the risks painting a complex picture of interconnected vulnerabilities that demand urgent, gender responsive, inclusive, and sustained actions. These covariate shocks tend to disproportionately affect the poor and vulnerable who face significant constraints in preparing for, responding to, and recovering from shocks, thereby widening the gender and age based equality and opportunity divide. The poorest and most vulnerable, including persons with disabilities, particularly women and girls with disabilities, women heads of households, the sick, and the elderly, are often those who are the most severely affected by shocks. At the same time, Khyber Pakhtunkhwa is grappling with the triple burden of malnutrition characterized by: persistently high rates of stunting (40%) and wasting (15%) among children under five; widespread micronutrient deficiencies (every second child is deficient in one or the other micronutrient especially iron, vitamin A, Iodine and Zinc); and a rising prevalence of overweight (>12% children) alongside diet related non communicable diseases. Women of reproductive age, especially pregnant and breastfeeding mothers, along with adolescents and young children, are among the most nutritionally vulnerable groups, with poor dietary diversity and limited access to essential nutrition services. These vulnerabilities are further compounded by widespread poverty affecting nearly 48% of the population, particularly in rural areas and the merged districts, where service delivery gaps are more pronounced.

Building on these challenges mentioned above, it becomes evident that the framing of disaster risk must move beyond treating hazards as isolated or intermittent events. The risks in the province are closely interconnected with issues such as inadequate land use planning, environmental degradation, water scarcity, and frequent tree cutting, especially in the northern mountainous areas of the province, which complicate disasters like droughts, snow avalanches, landslides, and floods. These interconnected issues create cascading impacts and affect multiple sectors simultaneously. For instance, frequent flash floods and cloudbursts in the Malakand and Hazara Divisions are severely impacting agriculture, healthcare, education, transportation, and energy sectors, causing widespread damage and undermining development efforts. In this context, disaster risk in Khyber Pakhtunkhwa must be understood both as a by product of unsustainable development choices, "risk from development," and as a direct barrier to socio economic progress, "risk to development". The unregulated construction work, uncontrolled urbanization, and unsustainable use of natural resources are some of the key factors that increase the exposure of people and physical assets to growing risks. At the same time, the resulting shocks erode livelihoods, damage infrastructure, and undermine long term sustainable development goals. Viewing risk through this systematic lens highlights the dynamic interplay between climate change and environmental pressures, which are closely linked with social exclusion, poverty, and gender inequality. In line with the UNDRR's (2021) review of hazard definition and classification, the understanding of hazards by disaster management authorities needs to be expanded to include environmental components, such as deforestation, land degradation, and ecosystem declines. By defining disaster risk reduction as a standalone pillar based on risk informed development, it will not only be more effective in safeguarding communities and infrastructure but also offer opportunities to achieve sustainable development, enhance resilience, and provide co-benefits in other sectors.

¹⁸Relief Web (2024), "Pakistan IPC Acute Food Insecurity Analysis", page-11.

¹⁹Extracted from the Pakistan Bureau of Statistics, Government of Khyber Pakhtunkhwa (2023), "7th Population and Housing Census", Provincial Census Report Khyber Pakhtunkhwa, p 77.

²⁰Selvia Redaelli and Noor Rehman (2021), "In Pakistan, women's representation in the workforce remains low", published in World Bank Blogs.

SECTION TWO

**AN OVERVIEW OF DISASTER
RISK REDUCTION POLICY
KHYBER PAKHTUNKHWA**

SECTION TWO: AN OVERVIEW OF DISASTER RISK REDUCTION POLICY KHYBER PAKHTUNKHWA

2.1. Scope and Importance of the Disaster Risk Reduction Policy of Khyber Pakhtunkhwa

Before the devastating earthquake in 2005, the reactive approach to disasters was a common mode of operation, focusing on rescue, relief, and rehabilitation after the damage had already been done. The National Calamity Act of 1958 and the Civil Defence Act of 1952 guided the emergency responses.

The governmental, non-governmental organizations, and the general public focused mainly on the reactive approach, by responding to disasters and conducting response, relief, and recovery activities in the aftermath. As a result, the government, NGOs, and even the public were not well prepared beforehand and responded only after disasters struck. This lack of preparedness led to massive destruction in 2005. On the contrary, in Japan, Chile, and the USA, more severe earthquakes were felt in recent years; however, fewer losses of lives and property damages were observed mainly due to the prevalence of a proactive approach with more focus on the policies and strategies designed for disaster preparedness, anticipatory actions, and public awareness.

In the province of Khyber Pakhtunkhwa, risks are further compounded by a low literacy ratio, rampant poverty, uneven population spread, a lack of sufficient capacities to mitigate the impact of disasters, and a lack of awareness about disasters and related risks, especially among the rural populations. Consequently, even now, the reactive approach is still the dominant way of dealing with disasters, especially in rural and remote districts of Khyber Pakhtunkhwa province.

The 2005 earthquake and the super floods of 2010 and 2022 served as an enduring reminder of the country's vulnerability, with their impact still visible today. The core lesson is that prior preparation in the face of disasters is the only way to preserve lives and livelihoods.

Given the aforesaid facts, the Government of Khyber Pakhtunkhwa recognized the imperative to establish a robust disaster and emergency management system in the province. This system aimed to encompass the full disaster management cycle preparedness, response, and recovery to minimize impacts and risks to the maximum extent possible. As a result, a robust disaster management system has been established across the province following the enactment of the National Disaster Management Act in 2010 and the amended National Disaster Management Act 2012 in Khyber Pakhtunkhwa. However, many more milestones need to be achieved, so that the whole province, concerned government departments, district administrations, local governments, and communities are prepared to the maximum possible extent to mitigate the impacts of any disaster through collective community level response/actions to develop a disaster resilient Khyber Pakhtunkhwa.

Keeping in view the above mentioned facts and a prerequisite as per National Disaster Management Act 2010; para 14 (2a) page 738²¹, the Provincial Disaster Management Authority, Government of Khyber Pakhtunkhwa has undertaken this attempt to develop a clear and concise provincial disaster risk reduction policy which can serve as the guiding document to prepare for, prevent, cope with and mitigate disasters in the provinces and develop a systematic approach in setting up a roadmap towards disaster resilient Khyber Pakhtunkhwa. It is envisioned that the implementation of this policy in Khyber Pakhtunkhwa Province will facilitate the establishment of a robust disaster risk management system, which will serve the government line departments and communities in areas of gender responsive disaster prevention, mitigation, preparedness, response, and recovery, ultimately safeguarding all the lives and livelihoods of the citizens of Khyber Pakhtunkhwa.

²¹ National Disaster Management Authority, Government of Pakistan (2010). "National Disaster Management Act-2010".

2.2. Alignment of the DRR Policy of Khyber Pakhtunkhwa with National and Global Frameworks

Following the 2005 devastating earthquake and 2004 tsunami in the Sumatra Andaman Sea of Indonesia, to the COVID-19 pandemic sweeping across the globe during 2019-2020, it has been established that all countries need to focus on reducing their risks and increasing preparedness for disasters by managing within their capacities. Following the catastrophe of 2004, a World Conference on Disaster Risk Reduction was convened in Japan from January 18-22, 2005. During this conference, representatives from 168 countries, including Pakistan, signed a protocol of formulating a ten-year framework, called the “Hyogo Framework for Action (HFA)”, aimed at building the resilience of nations and communities to disasters. This framework highlighted five key priorities for actions to mitigate disaster risks from 2005 to 2015.

After the successful implementation of the framework set out in the HFA, the third United Nations World Conference on Disaster Risk Reduction was organized on 18th March, 2015 again in Sendai, Japan. In this conference, the participating countries agreed to collaborate for disaster risk management through a 15-year agreement. The agreement is called “Sendai Framework for Disaster Risk Reduction (SFDRR)” which reiterates the need to take concrete steps through global actions to take appropriate prevention, mitigation, and preparedness measures to reduce hazard risk from 2015 to 2030. SFDRR is complemented by the Sendai Framework’s Gender Action Plan, stressing that gender responsive, equitable, accessible, and participatory approaches are key to empowerment, recognizing that vulnerable groups are disproportionately affected by disasters²². The Sustainable Development Goals (SDGs) 2030 agenda also emphasizes safeguarding vulnerable populations by building the resilience of the poor and those in vulnerable situations and reducing their exposure and vulnerability to climate related extreme events through climate action and poverty reduction, directly linked with national level progress in development.

In the same vein, the policy is firmly based on Pakistan’s responsibilities under international human rights law, including the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW), which commits to integrating gender perspectives in disaster risk reduction and climate change. It further aligns with the commitment under Beijing+30, reminding us that women and girls are disproportionately affected by conflict, disaster, and displacement. Furthermore, alignment with the Convention on the Rights of Persons with Disabilities is ensured to take *“all necessary measures to ensure the protection and safety of persons with disabilities in situations of risk and humanitarian emergencies”*.²³

Pakistan has consistently participated in these global initiatives. Given the significant disasters the country has faced over the past two decades, there has been considerable progress at all levels to address the impacts of both natural and human induced disasters. Since 2005, several initiatives have been undertaken to strengthen the national and provincial disaster management system, most notably the National Disaster Management Act of 2010. Under this act, the national, provincial, and district disaster management authorities have been established throughout the country. To align the act with the Sendai Framework for Disaster Risk Reduction, a National Disaster Risk Reduction Policy was formulated in 2013.

Similarly, the National Disaster Management Plan (NDMP) 2012 and 2025 both emphasize diverse and participatory methods with the ‘all of society’ approach, consistent with SFDRR, reinforcing that the marginalized groups, including women, children, the elderly, and persons with disabilities, shall be prioritized in all stages of disaster risk management. Moreover, Pakistan’s Climate Change Policy (revised 2021) and National Adaptation Plan (NAP) underscore that the most vulnerable and poorest ones are the worst hit by climate induced disasters,

²²Prevention Web, (2015), “Gender Action Plan to Support Implementation of the Sendai Framework for Disaster Risk Reduction 2015–2030”.

²³ United Nations Human Rights of the High Commissioner, (2006), “Convention on the Rights of Persons with Disabilities”,

underpinning the need for equity based targeted measures. This is also clearly outlined under the Climate Change Gender Action Plan, emphasizing gender responsive approaches for climate action planning. Further, a shock responsive approach is stressed in ongoing and emerging social protection frameworks to target the most vulnerable segments. This policy aligns with all those mentioned earlier in broader national level frameworks, plans, and guidelines.

In view of the global and national commitments and priorities for disaster risk reduction and disaster resilience, various steps have also been undertaken in Khyber Pakhtunkhwa, aimed at establishing and strengthening the disaster management system in the province. In line with the National Disaster Management Act of 2010, the PDMA Khyber Pakhtunkhwa promulgated the amended National Disaster Management Act in 2012, followed by developing a strategic document “Road Map for Disaster Risk Management for 2014-2019”. Besides that, PDMA has accomplished several other significant milestones toward establishing disaster resilience, including establishing the District Disaster Management Unit (Renamed as per the Amended National Disaster Management Act 2012). Each district has a dedicated Additional Deputy Commissioner (Relief) who is responsible for overseeing disaster risk reduction and emergency response matters within the district. Though the progress is very satisfactory, it still has a long way to go in establishing a robust disaster management system with a focus on disaster risk reduction and developing disaster and climate resilience throughout the province.

2.3. Vision

A disaster resilient Khyber Pakhtunkhwa, where proactive disaster risk reduction, early warning, timely response, and inclusive recovery lead to sustained development, wellbeing, and protection for everyone, especially the vulnerable and at risk groups.

2.4. Mission Statement

To establish a proactive, inclusive, and evidence-based disaster risk reduction system in Khyber Pakhtunkhwa, that is system-based, multi-sectoral, and integration-focused, placing resilience and sustainability at the core. Through strengthened governance, multi-hazard risk assessment, community engagement, participation, and capacity building, the policy aims to enhance preparedness, early warning, emergency response, and recovery mechanisms.

2.5. Policy Objectives

In order to make the policy effective for disaster risk reduction in Khyber Pakhtunkhwa, and further to enable the government departments, non-government organizations, and most importantly, the communities, as the central stakeholders, a set of policy objectives has been defined. These objectives aim to enable proactive and sustainable actions to address the impacts of disasters and climate change.

- To reduce or avoid potential losses from hazards.
- To capture the changing climate and its adverse effects on Khyber Pakhtunkhwa.
- To devise better strategies for inclusive prevention, mitigation, preparedness, response and recovery of livelihood assets, and translate them into actions.
- To build the resilience of poor and vulnerable households by investing in their capacities to prepare for, cope with, recover from, and adapt to shocks.

2.6. Policy Principles

The DRR Policy of Khyber Pakhtunkhwa is built on core principles of fostering community resilience, institutional strengthening, and adopting an inclusive and sustainable approach in disaster risk reduction. To achieve this, the

following key principles have been outlined for the formulation of the DRR Policy of Khyber Pakhtunkhwa.

2.6.1. Partnership with Communities

During any disaster, local communities are invariably the most affected, and simultaneously serve as the first responders. They actively engage in response efforts through collective actions and volunteerism, despite lacking adequate knowledge of first aid, search and rescue operations, and gender responsive emergency response management techniques.

To enhance gender responsive emergency response and disaster risk reduction capabilities, strong local partnerships should be built among governmental, non-governmental organizations, and communities to build capacities in adopting the CBDRM approach. By adopting this approach, communities can assess hazards and risks, develop risk reduction plans, and actively participate in their implementation. This phase wise capacity building process will empower communities to develop coordinated self-help mechanisms while effectively supporting government organizations in risk reduction and emergency response efforts.

Besides this, establishing inclusive Community Emergency Response Teams is crucial for PDMA Khyber Pakhtunkhwa and District Administrations. This force should consist of professionally trained volunteers, including both males and females, who receive appropriate training, are equipped with emergency response kits, and undergo regular drills and simulation exercises to ensure 24/7 readiness for emergencies.

A well maintained database of trained volunteers will be invaluable for key government departments such as the Emergency Services Department (Rescue 1122), Civil Defence, and Pakistan Red Crescent Society (PRCS), all of which work closely with the disaster affected communities and play a vital role in supporting the PDMA, district administrations, and affected communities during emergency situations.

2.6.2. Localization and Decentralization of the Disaster Management System in the Province

Strengthening district and local disaster management structures, empowering local authorities, and building community capacities are essential for a resilient and effective disaster risk management system. Localization enables decision making, fosters harmonization between provincial and local organizations, and ensures that DRM efforts are receptive and adaptive to local needs. In this regard, the DDMUs serve as primary entities to facilitate collaboration among governmental and non-governmental organizations and communities in strengthening disaster prevention, mitigation, preparedness, and response capabilities through joint efforts.

2.6.3. The Right to International Standards of Humanitarian Assistance and Sustainable Development

Every community that endures disaster losses possesses the right to receive help that meets and surpasses both humanitarian and development global standards. The policy maintains its commitment to succeed at global standards. It operates with neutrality and impartiality during the entire emergency response, guided by benchmarks established under the International Humanitarian Response Standards. The standards established today will direct all relief operations and serve to guide both short and long term rehabilitation activities as well as resilience development throughout the province.

2.6.4. Leave No One Behind: Priority to the Most Vulnerable and Destitute

A people centered approach to DRM prioritizes the most vulnerable, including women, elderly populations, children, persons with disabilities, ethnic minorities, refugees and asylum seekers, and other marginalized communities, as they are disproportionately affected. Special attention shall be given to addressing the needs of

these groups in mitigation, preparedness, emergency response, rehabilitation, and recovery efforts. This principle ensures impartial access to services, resources, and protection measures helping to reduce community vulnerabilities and promote inclusive resilience building. This can be achieved with the support of the international humanitarian community, including UN agencies.

It is recognized that unequal access to resources, decision making, protection, and services, as well as exposure to hazards and poor adaptive capacity, shapes vulnerability. Thus, intersectional gender analysis, inclusive participation, and accountability to affected populations must serve as the foundation for disaster preparedness, response, recovery, and resilience building initiatives. This can be accomplished through engaging women-led and community based organizations in DRM. In addition, ensuring gender and age disaggregated data collection and analysis, prioritizing high risk groups, for instance, GBV survivors and women with disabilities, designing and executing targeted, tailored interventions particularly suited to the local context, makes the DRM cycle more effective and inclusive.

2.6.5. Space for All: In Partnership with Communities, Civil Society, and International Partners

Disaster management is a shared responsibility and cannot be handled individually by the disaster management authorities at different levels. Effective disaster management requires a collaborative approach, involving government departments, civil society organizations, women-led organizations, international development and humanitarian partners, the private sector, and disaster affected communities. Through establishing multi-stakeholder platforms and an inclusive policy environment, diverse perspectives can be integrated, leading to bottom up approach improved coordination, resource mobilization, and the execution of comprehensive DRR strategies at all levels.

Since the establishment of the disaster management authorities, both governmental and non-governmental stakeholders have worked closely to enhance emergency response and further strengthen overall disaster resilience. The PDMA Khyber Pakhtunkhwa maintains strong professional working relationships with I/NGOs, cooperating partners, UN agencies, Multilateral Banks, and various humanitarian clusters in developing coordinated efforts for disaster response. This cooperation enables organizations to undertake joint responsibilities and pool their resources, and simultaneously enhances mutual learning between members while developing organizational abilities. This multi-sectoral partnership contains members from various sectors who use their expertise to create better outcomes in the province-wide disaster management system.

2.6.6. Efficiency and Effectiveness: Maximizing Available Resources

This Policy principle emphasizes the need to ensure efficiency and effectiveness in disaster management by making the best possible use of all available resources, including human, financial, institutional, and technological resources to optimize their use. In the context of limited funding and growing disaster risks, maximizing the use of existing capacities is not only practical but essential. The policy encourages coordinated planning, resource mapping, and integration of governmental and non-governmental efforts to minimize duplication, reduce wastage of resources, and ensure timely, impactful action during all phases of disaster management preparedness, response, recovery, and mitigation.

The 2005 earthquake revealed that resource management lacked efficiency, leading to the need for developing strategic resource distribution strategies. This experience led to the establishment of small scale warehouses in disaster prone districts, thereby maximizing available resources and effective use of emergency supplies with quick disbursement during any emergency. Likewise, the cluster approach was another good example introduced during the flood of 2010 in Pakistan, which proved to be an effective model for maximizing available resources. The supervision of disaster management authorities helped improve teamwork through data exchange, regular

meetings, and effective use of existing resources. These lessons teach that decentralized resource management combined with strengthened coordination will lead to better disaster preparedness and response outcomes.

2.6.7. Sustainability: Addressing Resource Limitations and Dependency on External Support

Disaster risk management must be built on long term sustainable financing measures, which will help reduce reliance on external aid. The combination of local disaster management committees and their capacity development, together with the integration of development planning with DRR, will boost local resilience and self-sufficiency. Extended implementation of disaster risk reduction measures, together with climate change adaptation and ecosystem based solutions, will maintain the sustainability of the disaster risk management initiatives even when the financial resources are scarce and limited.

2.7. Policy Pillars

The development of this Policy is guided by a set of policy pillars that serve as the foundation for a comprehensive and resilient disaster risk reduction framework. These pillars focus on strengthening governance and institutional mechanisms, enhancing multi-hazard, vulnerability, and risk-assessment, disaster risk reduction planning, strengthening early warning systems, promoting risk informed and sustainable development interventions, integrating Climate Change adaptation, building community resilience, and capacity building at all levels, incorporating a gender-responsive lens across policy pillars. Each pillar is designed to address key challenges and create a proactive, risk informed approach to disaster risk reduction. By aligning with national and global priorities, these policy pillars aim to build a safer and more resilient Khyber Pakhtunkhwa minimizing the impact of disasters on lives, livelihoods, and critical infrastructure, while ensuring long term sustainability. Efforts have also been made to align national development, climate change, and agricultural policies to minimize contradictions and maximize synergies.

2.7.1. Synchronization of Policies, Legislation, and Institutional Mandates for Disaster Risk Management

Several national and provincial policies, strategies, frameworks, and plans related to disaster risk management, climate change mitigation, and adaptation are currently in place. However, there remains a need for improved coordination and alignment among these policies, strategies, and plans to ensure coherence in planning and implementation. At times, departments and institutions develop strategic documents independently, which may limit opportunities for cross sectoral collaboration and integration. This can result in challenges during implementation, as the interconnected nature of disaster risk management, climate change mitigation, and adaptation requires a unified and harmonized approach. Strengthening coordination mechanisms, fostering inclusive consultative processes, and aligning policies with legislative and institutional frameworks at all levels will enhance the effectiveness and coherence of the disaster risk management efforts across the province.

2.7.2. Climate Change Adaptation

The Climate Risk Index 2022 has placed Pakistan among the top ten countries most impacted by climate change. Its impact is visible in Khyber Pakhtunkhwa, with rising temperatures, particularly in urban areas, glacial melting in northern areas, and extreme weather events such as cloudbursts, thunderstorms, snowstorms, glacial lake outburst floods, and flash flooding in Malakand and Hazara divisions. Additionally, recurrent drought conditions persist in the southern districts from time to time. Therefore, Climate Change mitigation and adaptation are crucial for strengthening disaster management in Pakistan. Climate Change Adaptation and Disaster Risk Reduction will be linked with capacitating communities to withstand climate induced disasters.

2.7.3. Multi Hazards Vulnerability Risk Assessment and Disaster Risk Information System

A comprehensive and inclusive Multi Hazard Vulnerability and Risk Assessment (MHVRA) needs to be conducted at all levels to support evidence based decision making and effective disaster risk management. Using scientific methodologies, MHVRA identifies inter-sectoral vulnerabilities, evaluates hazard exposures, and helps prioritize key areas for disaster risk reduction interventions. It facilitates strategic planning, resource allocation, and policy formulation, thereby fostering a proactive and resilient approach to disaster management in Khyber Pakhtunkhwa. MHVRA also guides government departments in initiating risk informed development, ensuring that infrastructure, housing, and livelihood projects are resilient, gender responsive, and sustainable. The resulting data not only strengthens disaster risk reduction efforts but also serves as a critical resource for development partners and donors. Notably, the MHVRA process must also be localized to reflect the risk profile that varies across locations. By appreciating how local risk is shaped in relation to socioeconomic contexts, geographic attributes, and environmental contexts, it will be possible to justify the idea of a decentralized risk governance model and ensure that local risk planning is inclusive, localized, and sensitive to local contexts.

As a key policy pillar, PDMA Khyber Pakhtunkhwa will undertake MHVRA in line with NDMA guidelines at all levels, leading to the development of comprehensive hazard and risk atlases and a comprehensive disaggregated database using IASC's Gender and Age Marker at the assessment stage. Further, engaging women-led organizations and ensuring UN disability inclusive communication guidelines in risk mapping, data collection, and analysis adds value to ensure an intersectional lens and differential risk exposure. Ultimately, this database will form the foundation of an integrated Disaster Risk Information System at PDMA, providing the general public and stakeholders with access to vital risk data for safer and more informed development planning across the province. Moreover, this in depth data and evidence base will serve as a foundation for effectively aligning and contextualizing the resilience building efforts with the Humanitarian Peace Development Nexus approach.

2.7.4. Trained Human Resources for All Phases of Disaster Management

During recent years, repeated natural and human induced disasters have emphasized the need for enhancing capacities at all levels as a continued process. Tremendous efforts have already been made by NDMA, PDMA Khyber Pakhtunkhwa, and various governmental and non-governmental organizations in building capacities through training and developing an inclusive and diverse pool of master trainers by imparting training on the Training of Trainers (ToTs) at the community level. Mass media have also played a vital role in raising public awareness, particularly at the grassroots. However, a more systematic collaborative approach is needed to avoid duplication and wastage of resources. This approach shall develop a pool of professional master trainers and emergency responders to manage disasters in an organized and efficient manner, and further enhance local capacities.

2.7.5. Community Participation through the Best Practices of CBDRM

At the onset of any disaster, the local communities are the most affected, as well as the front line responders. While local residents make attempts to cope with the effects of disasters and hazard's risk through collective efforts and volunteerism, they are still not professionally trained in first aid, search and rescue, or emergency response management operations. Therefore, it is necessary to establish a system through proper planning and implementation to develop phased capacities to enable communities at stake to develop a coordinated mechanism of self-help and support the government organizations in reducing the hazardous risks and prepare for any emergency on a 24/7 basis.

The community-based disaster risk management approach is widely recognized and adopted by various

countries, including those in Asia, as an effective model for strengthening communities against natural and climate induced hazards. This policy pillar will highlight some of the successful models from Asian countries to guide their replication and implementation in the province.

2.7.6. Enhancing the Disaster Response Capacity of the Province

Under the National Disaster Management Act 2010, Chapter VIII (27, 28) ²⁴ mentions the formation of a National Disaster Response Force; however, substantial progress has yet to be achieved. An effort will be made to establish such a force in Khyber Pakhtunkhwa, supported through appropriate training and equipment, which can effectively assist local administration in responding to disasters at the local level. The Community Emergency Response Teams (CERTs) will serve as a supporting youth volunteer corps for DDMUs, Rescue 1122, Civil Defence, PRCS, and humanitarian organizations, acting as initial response in the event of any disaster.

Giving utmost priority to enhancing capacities and the principle of leaving no one behind, this policy pillar will guide a phased establishment of a network of CERT trained volunteers across the province.

2.7.7. Promoting Risk Informed Development

Unplanned and poorly regulated development in Khyber Pakhtunkhwa has significantly contributed to the escalation of disaster risks rather than their reduction. Settlements in flood prone areas, construction on unstable slopes, and unchecked urban expansion without adherence to disaster and green building codes have placed communities at increased risk of floods, earthquakes, landslides, and other hazards. The lack of land use planning and weak-enforcement of development regulations have led to infrastructure that is not resilient to climate and disaster risks, thereby exposing lives, livelihoods, and public assets to avoidable vulnerabilities. In addition, current restrictions preventing refugees from constructing climate resilient structures in hosting areas significantly increase their vulnerability to climate induced disasters. Therefore, it is imperative to review these regulations to ensure alignment with the global principle of 'Leave No One Behind'.

Recognizing these challenges, promoting risk informed development is a critical policy pillar to guide future growth in a safer and more sustainable direction. This approach ensures that all development initiatives public or private integrate disaster risk considerations from risk assessment and the planning stages. By following the risk assessment process, enforcing green building codes, and strengthening effective land use planning, the policy will help reduce exposure to hazards, mitigate the creation of new risks, and protect investments. Ultimately, this will support the province in transitioning toward a development pathway that is resilient, inclusive, and responsive to the realities of climate change and disaster threats.

2.7.8. Strengthening Food Security, WASH, Livelihood, and Nutrition Systems

Khyber Pakhtunkhwa faces a complex interplay of natural and human induced disasters due to its distinctive geographical position and shared border with Afghanistan. Recurrent floods, earthquakes, and droughts, together with the concurrent problems brought on by civil unrest, militancy, and armed insurgencies in the region, force the people of Khyber Pakhtunkhwa to repeatedly relocate temporarily. Severe crises have put immense pressure on individuals who are forced to leave their homes, particularly in areas with poor living conditions and limited resources. The shortage of decent job opportunities, especially for refugees within host communities, worsens food insecurity and makes it difficult for vulnerable groups such as persons with disabilities, children, pregnant women, women headed households, the sick, and the elderly to access adequate nutrition. In addition to the issue of food insecurity, the absence of clean drinking water, sanitation, and hygiene (WASH) services worsens the situation, resulting in the spread of waterborne diseases and further deterioration of the health of both displaced and local populations. The ongoing issues of food scarcity, malnutrition, especially of children,

²⁴ National Disaster Management Authority, Government of Pakistan. (2010). "National Disaster Management Act (2010)".

protection, and inadequate water and sanitation facilities deteriorate the resilience of displaced communities and the local population, exacerbating their social and economic hardships. As the mainstay of rural and suburban livelihoods, agriculture is inherently vulnerable to natural calamities. This vulnerability cannot be addressed solely by introducing drought resistant varieties. Instead, it requires the adoption of holistic practices – such as reduced/zero tillage, agroforestry, precision agriculture, and the replacement of synthetic fertilizers with green manure. The measures not only build resilience but also enhance logistics and limit fossil fuel combustion, ultimately leading to reduced GHG emissions. Reduced or zero tillage, in combination with permanent crop cover, agroforestry, crop rotation, and elimination of agrochemicals, may also sequester carbon.

Addressing these challenges necessitates fortifying the systems responsible for ensuring food security, creating decent employment opportunities, improving nutrition, and providing access to clean water and sanitation facilities. By implementing various sustainable livelihood projects, providing targeted nutritional support, enhancing wash facilities, and fostering local resilience, affected communities will experience long term advantages in the face of recurring crises.

2.7.9. Establishment of Inclusive Multi Hazards and Integrated Early Warning System in Khyber Pakhtunkhwa

Communities living in remote northern and southern parts of Khyber Pakhtunkhwa, including refugees, are highly vulnerable to natural hazards due to limited access to communicate timely information, frequent power outages, and the absence of reliable internet or mobile connectivity. These communication barriers significantly delay the dissemination of early warnings, increasing the risk of loss and damage. District administrations face challenges in reaching these remote areas, constrained by rugged terrains and the lack of functional electronic, print, or social media communication channels. While many communities still rely on indigenous early warning methods, these can be significantly enhanced through integration with technologies and coordinated communication networks.

To address these gaps, the establishment of a robust and inclusive multi hazard and integrated early warning system is a crucial policy pillar. This system must incorporate gender responsive anticipatory actions by linking early warnings to predefined hazard thresholds that automatically trigger preparedness and early response activities. Developing anticipatory action protocols based on these thresholds will ensure timely action before disasters strike, reducing impacts on vulnerable populations. Community based early warning systems should be strengthened through trained, inclusive local response committees, equipped with emergency kits, and empowered to take immediate action. The integration of technology driven alerts with local knowledge systems and grassroots preparedness mechanisms will ensure warnings are not only delivered promptly but also acted upon effectively. Institutionalizing coordination between provincial and district levels, alongside predictable funding for anticipatory actions and early warning operations will significantly enhance the province's disaster readiness, reduce casualties, and improve community resilience against future hazards.

2.7.10. Build Back Better and Early Recovery from the Disasters

After the catastrophic 2005 Earthquake, the Government of Pakistan established the Earthquake Reconstruction and Rehabilitation Authority (ERRA) to implement the "Build Back Better" strategy. This initiative focused on the rehabilitation and recovery of local populations through reconstruction that complied with Pakistan's building codes. However, ERRA's focus was on rehabilitation and reconstruction in areas affected by the 2005 earthquake, primarily within the bounds of Azad Jammu and Kashmir and some northern districts of Khyber Pakhtunkhwa. Recognizing that the successful piloting of the "Build Back Better" approach had been widely acclaimed globally, the Government implemented these same best practices during the post disaster recovery of the 2010 super floods through the Planning Commission of Pakistan.

2.7.11. Building Community Resilience through Adaptive Social Protection

Pakistan has seen increased frequency and intensity of shocks, including natural disasters, economic shocks, and disease outbreaks in recent decades. These covariate shocks are impacting livelihoods and assets, risking the reversal of already minimal progress made in poverty reduction and human capital development. These shocks tend to disproportionately affect the poor and vulnerable masses who face significant constraints in preparing for, responding to, and recovering from them, thereby widening the equality and opportunity divide. The poorest and the most vulnerable, including children, women, persons with disabilities, children without parental care, including orphans, the sick, the elderly, refugees, displaced persons, and asylum seekers, are often those who are the most severely affected by shocks.

The broad spectrum of risks and hazards to which Pakistan is exposed underscores the importance of Adaptive Social Protection (ASP) to help protect the most vulnerable. ASP lies at the nexus of Disaster Risk Management, Climate Change Adaptation, and Social Protection.

Adaptive Social Protection considers how Social Protection programs, services, and systems can be leveraged to respond to compound shocks, such as those triggered by natural hazards, through preventive, preparedness, and responsive actions, and enhance the resilience of the vulnerable households, particularly the poor ones.

The Khyber Pakhtunkhwa Social Protection Policy (2022) stresses the importance of making social protection system of Khyber Pakhtunkhwa adaptive to the changing realities and needs of its citizens and responsive to the emerging risks and challenges, such as those related to climate change. It reiterates the government's commitment to investing in building the resilience of all poor and vulnerable households, especially those located in disaster-prone areas, by prioritizing them for existing social assistance schemes and initiating targeted pilots to promote sustainable livelihoods and incentivize savings, subsidized insurance of life, crops, and livestock.

2.7.12. Addressing Complex Emergencies

Khyber Pakhtunkhwa remains vulnerable to complex emergencies including conflict, displacement, refugee influxes, food insecurity, terrorism, and climate induced humanitarian crises. These overlapping risks require integrated, conflict-sensitive, and humanitarian approaches that strengthen coordination among government departments, humanitarian agencies, security institutions, and communities. The Policy emphasizes protection of vulnerable populations including IDPs, refugees, women, children, minorities, and persons with disabilities through inclusive planning, adaptive social protection, psychosocial support, and resilient recovery mechanisms. Furthermore, district-level crisis coordination systems, displacement-sensitive planning, digital information management systems, and regional cooperation frameworks shall be promoted to enhance preparedness, response, and long-term resilience.

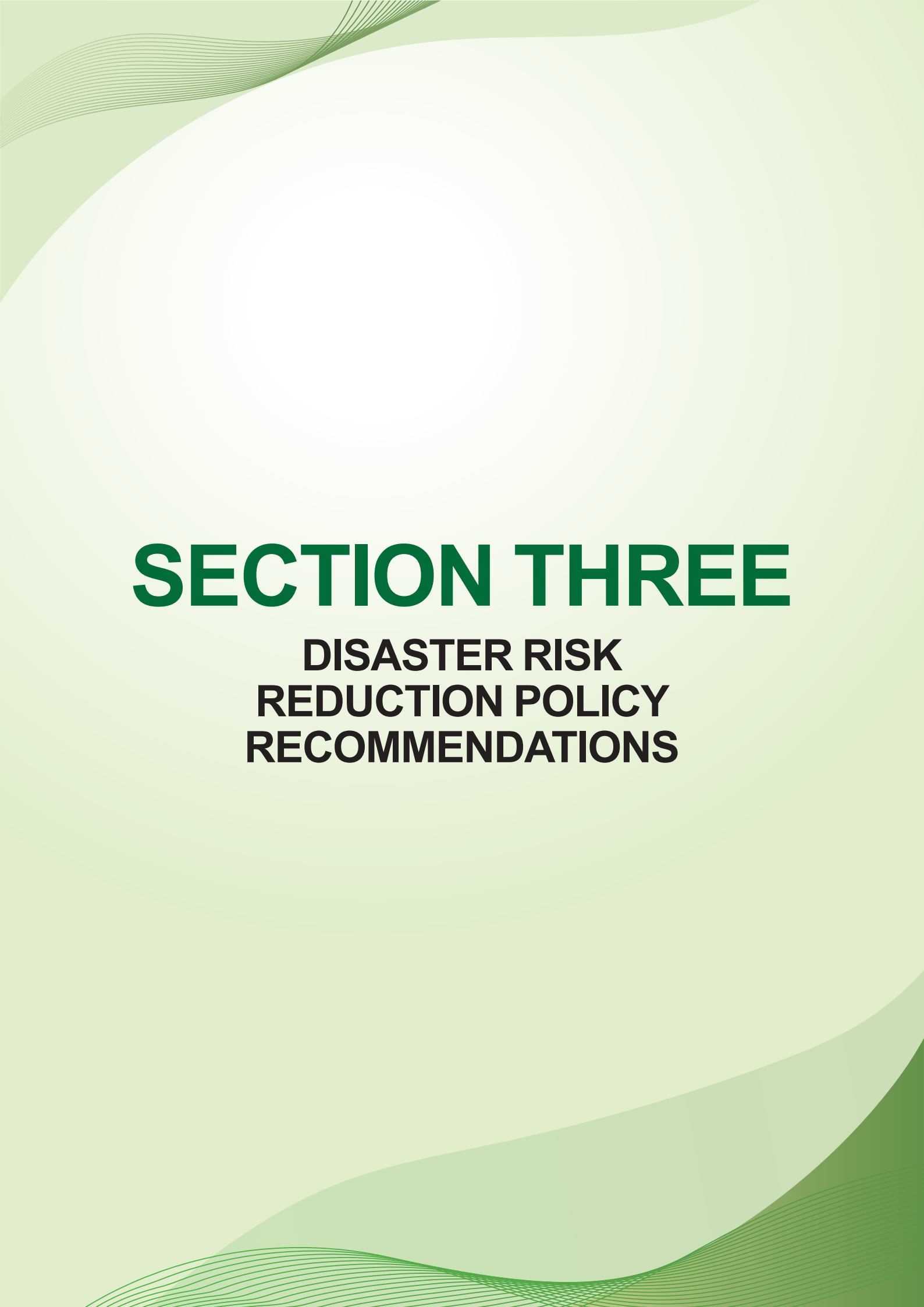
2.7.13. Disaster Risk Financing

The Policy recognizes the importance of sustainable and timely financial mechanisms for disaster preparedness, anticipatory action, emergency response, recovery, and resilience building. It promotes a transition from reactive financing toward proactive and risk-informed disaster risk financing systems integrated with climate adaptation and adaptive social protection frameworks. The Policy encourages the establishment of contingency funds, forecast-based financing, insurance and risk transfer mechanisms, and climate financing opportunities to reduce fiscal impacts of disasters. In addition, integration of MHVRA, early warning systems, and risk data into development planning and budgeting processes will be promoted to support evidence-based investment and timely financial response for vulnerable communities.

2.8. Policy Considerations for Khyber Pakhtunkhwa

The following interrelated considerations will be taken into account to formulate practical policy recommendations. Some of these include:

1. The impending and growing threats of climate change in Khyber Pakhtunkhwa. Policy must promote gender responsive climate change adaptation and sustainable DRR planning and development strategies.
2. Conservation of the glaciers and other endangered habitats. Introduce protective regulations and sustainable ecosystems management.
3. Inclusion of gender and vulnerable groups in disaster risk reduction. Ensure inclusive policies addressing the specific needs and capacities of the poor, refugee hosting areas, ethnic minorities, and vulnerable segments of society.
4. Key economic sectors of Khyber Pakhtunkhwa, including Tourist Destinations, CPEC, and Economic Zones. Integrate risk sensitive planning into sustainable economic development initiatives.
5. Prevailing complex emergencies and humanitarian crises, keeping in view the fragile context of the province. Adopt conflict sensitive approaches and flexible response mechanisms.
6. Knowledge and technology transfer from the developed world to improve effective disaster governance and management. Facilitate innovations and institutional learning.
7. Disaster diplomacy and cross border cooperation within and outside the Pakistani territory. Strengthen regional collaboration for shared risk management.
8. Encouraging partnership and funds mobilization from National and International fund pools. Develop a strategic framework for resource mobilization.
9. Food security, livelihood, water, sanitation, hygiene, social protection, health, and nutrition. Mainstream gender responsive food security, livelihood, WASH, social protection, child protection, welfare, education, health, and nutrition in DRR programming.
10. Recognizing the critical importance of mental wellbeing during and after disasters, the policy emphasizes the need to address psychological impacts. This includes reducing trauma through community-based interventions and strengthening mental health services in areas prone to disasters.



SECTION THREE

DISASTER RISK REDUCTION POLICY RECOMMENDATIONS

SECTION THREE: DISASTER RISK REDUCTION POLICY RECOMMENDATIONS

The Policy recommendations presented under each thematic pillar are the result of an extensive, inclusive, and multi tiered consultative process. This process involved active engagement with stakeholders at the national, provincial, and district levels. Consultations at the community levels further enriched the consultation process to ensure that local perspectives, aspirations, challenges, and knowledge were meaningfully reflected. These dialogues brought together representatives from government institutions, civil society, academia, and development partners, fostering a shared understanding and ownership of disaster risk reduction priorities across all levels. Based on these wide ranging inputs, the following have been mentioned as policy recommendations against each policy pillar.

3.1. Synchronization of Policies, Legislation and Institutional Mandate for Disaster Risk Management

1. Desk review of related laws, policies, strategies, plans, and formulate a strategy to establish linkages between existing DRM and climate change related strategic documents at both provincial and national levels to identify overlaps and gaps.
2. Establishment of a joint task force or coordination mechanism to maintain harmonious alignment between laws, policies, and strategies related to disaster and climate risk management by different departments. Line departments need integrated guidelines and SOPs that will help integrate DRM and climate change within their sectoral policies and ensure their overall compliance with the DRR policy of Khyber Pakhtunkhwa.
3. Conduct regular meetings for policy dialogues and joint planning, which should include representation from government departments alongside civil society groups, local women led organizations, the private sector, and development partners for shared alignment on objectives. Revised legislation, along with integrated inter agency agreements, should define clear institutional roles and responsibilities in DRM.
4. The hazard and risk mapping system should be integrated into land use planning, inclusive of agriculture, livestock, rangelands, and forest led operations, as well as housing, marketplaces, and other infrastructure driven plans, hazard specific building codes, infrastructure implementation, developmental guidelines, and implementation of legal coverage.
5. All DRR strategies outlined in Provincial and District DRM plans should be designed and implemented in alignment with the relevant provisions of the SFDRR, SDGs, and the Paris Agreement.

3.2. Establishment of Multi Hazard and Integrated Early Warning System in Khyber Pakhtunkhwa

1. Procurement and establishment of an automated flood telemetric network all over the province, as envisaged in the National Master Plan for Flood Telemetry Network in Pakistan and high tech state of the art weather and flood forecasting system comprising Quantitative Precipitation Measurement (QPM), mobile weather surveillance radars, and Automatic Weather Stations (AWS), etc. with monitoring and transmitting capabilities on all major rivers and nullahs in remote districts of the Province; along with creating a reliable mechanism for flow of information about rainfall and flash flooding to the concerned DDMUs, PDMA and all other important stakeholders at the province level besides NDMA.
2. Develop and install multi hazard early warning system in the disaster prone locations of the province and ensure accessible dissemination of the alerts to the relevant stakeholders.

3. Develop operational guidelines for an inclusive end to end early warning system to ensure the timely dissemination of authentic information from reliable sources in an organized manner to the at risk populations.
4. Incorporate AI driven algorithms and machine learning models into Early Warning Systems to analyze real time weather, hydrological, and seismic data. These systems should enhance the accuracy and lead time of forecasts for all significant hazards, enabling timely alerts and anticipatory actions.
5. Establishment of local level inclusive early warning system committees in remote areas of disaster prone districts, and enable them to receive and disseminate critical information through reliable communication equipment.
6. Document and incorporate the indigenous early warning practices into formal early warning protocols. These traditional methods should be complemented with scientific tools like AWS and mobile alert systems to improve the local relevance and acceptance.
7. Establish pilot indigenous high tech hybrid early warning systems in selected high risk districts to demonstrate how local early warning practices can be effectively combined with the satellite based hazard monitoring and forecast models.
8. Incorporate nutrition specific and nutrition sensitive indicators (e.g., child wasting trends, food security data) into early warning systems to enable timely response and prevent worsening of malnutrition during crises.

3.3. Climate Change Adaptation

1. In collaboration with the Ministry of Climate Change and Environmental Coordination, National Disaster Management Authority at the National level, as well as the Climate Change, Forestry, Environment, and Wildlife Department of Khyber Pakhtunkhwa, the PDMA will redefine the roles and responsibilities of each relevant government and non-government organization, duly encompassing the entire spectrum of disaster management. Additionally, the respective organizations will develop comprehensive departmental and district level disaster management and climate change adaptation plans, incorporating their respective climate and disaster risk profiles and projections to address the impacts of climate induced disasters effectively.
2. Working together, the above entities will also work together to strengthen linkages among the disaster risk reduction efforts and broader agendas of climate change adaptation, natural resource management, and sustainable development, thereby promoting synergies across sectors and policy domains.
3. The Irrigation Department, in coordination with PDMA and District Administration, will ensure strict enforcement of the provincial river/flood plain acts to prohibit illegal construction, settlements, etc. along the right of way of the river.
4. The Health Department shall develop updated contingency plans for heatstroke prevention, alongside integrating disaster risk reduction strategies in the health sector in coordination with the PDMA Khyber Pakhtunkhwa.
5. For real time forecasting and response actions, companies/relevant agencies/ departments should create a lake breach and flood inundation assessment system for northern areas, combined with thunderstorms and flash floods modeling for the mountainous regions and urban areas.
6. To respond effectively to changing circumstances, the district administration shall develop inclusive evacuation plans for communities living in the vulnerable areas.

7. Expansion of the FAO established Agriculture, Climate, and Water (ACWA) Portal currently operational in Sindh and Punjab to the Khyber Pakhtunkhwa Province. The ACWA Portal will serve as a centralized digital platform for climate, water, and agriculture data, supporting evidence based decision making and strengthening climate resilience across the Indus Basin.
8. Promote the cultivation of crops that endure droughts and heat conditions while showing resistance to flooding in different agro climatic zones. The implementation of intercropping with agroforestry and mixed cropping systems should receive support because it helps men and women farmers decrease their dependence on a single crop while building climate resilient cropping systems.
9. Promote rainwater harvesting and floodwater management strategies to utilize flood/storm surge to conserve water and to address water scarcity in the vulnerable districts and valleys of the province.
10. Partnerships between PDMA, the Climate Change, Forestry, Wildlife, and Environment Department, and other relevant stakeholders shall be strengthened to ensure sustainable biodiversity.
11. Weather prediction services with early alert systems and agricultural guidance for the farming community should be developed and distributed to farmers to decide the suitable time for crops, irrigation schedules, pest treatments, and harvest times. This can be supported through mobile technology, local extension services, farmer field schools, and climate smart agricultural practices.
12. Since intensity and frequency of disasters are significantly influenced by the climate, hazards zonation and disaster risk assessment shall be treated as an ongoing, continuous process, with updates every five years. Regularly updated, climate inclusive MHVRA data will serve as a crucial foundation for disaster risk reduction, climate risk planning, and implementation.

3.4. Multi Hazard Vulnerability Risk Assessment and Disaster Risk Information System

1. Establish state of the art GIS and remote sensing laboratories at PDMA Khyber Pakhtunkhwa to maintain digital mapping records and relevant databases. The unit needs to be fully equipped with a skilled technical team capable of data analysis and modelling using satellite imageries, GIS/RS software, and specialized hardware.
2. Carry out multi hazard zonation and disaster risk assessment in the disaster-prone districts and integrate into the province wide MHVRA, systematically cataloging at all tiers based on their exposures, vulnerabilities, capacities, and risks to various hazards.
3. While PDMA shall consider and analyze the specific vulnerabilities of the marginalized populations (specifically women, children, the elderly, sick people, and PWDs), the MHVRA shall also incorporate age, gender, and diversity disaggregated data and integrate refugee information into the PDRIS. By doing so, the policy will align with the UNHCR's Result Based Management and Protection Cluster standards, thereby promoting equity, accountability, and more inclusive disaster risk reduction planning.
4. In collaboration with government, academia, and non governmental stakeholders, carry out a detailed MHVRA in compliance with the standard guidelines developed by the NDMA. Most importantly, this MHVRA shall focus on a multi hazard approach. The process shall include gender sensitive data collection and participatory approaches that engage women, PWDs, the elderly, and other at risk groups. All collected data should be submitted for integration into PDMA's e-MHVRA/PDRIS system, ensuring targeted interventions for vulnerable populations and important government and private properties.
5. The PDRIS at PDMA shall develop a risk calculator, modeled after the NatCat framework of the NDRMF, to

estimate disaster risk for both the general public and the responsible government organizations involved in infrastructure development.

6. Based on the MHVRA findings, the Relief, Rehabilitation and Settlement Department shall prepare a prioritized list of disaster prone districts to guide future planning and risk informed development initiatives, i.e., IPC acute food insecurity analysis, etc.
7. Introduce AI based and geospatial analysis tools to process satellite imageries, social vulnerability data, and historical disaster patterns for conducting a more detailed and dynamic MHVRA.
8. Conduct sector specific MHVRA to identify infrastructure built in hazard prone areas, propose DRR measures for their safety/protection, and develop land use planning strategies to minimize future risks to the infrastructure planned for construction.
9. Carry out detailed MHVRA in northern districts prone to GLOFs. These assessments should include glacier monitoring, lake mapping, downstream vulnerability analysis, and the identification of evacuation routes and safe zones.
10. Engage local communities in risk mapping exercises, combining indigenous knowledge with scientific data to prepare village level risk profiles. Establish localized early warning systems and train local committees in GLOF preparedness, response planning, and safe evacuation protocols.
11. Undertake detailed MHVRA in major touristic districts to assess risks from all potential hazards. The assessment should identify hazard prone tourism routes, infrastructure, and facilities to inform risk reduction planning.
12. Conduct MHVRA along CPEC routes, prepare disaster risk reduction plans, and develop DRR strategies to enhance preparedness and resilience in high priority areas.
13. Create localized hazard maps and inclusive early warning communication systems in the tourism hubs. Train local tour operators, hospitality staff, and transport providers in basic disaster preparedness and evacuation protocols to ensure the safety of visitors during emergencies.
14. Conduct a micro scale inclusive MHVRA for selected urban cities to map household level exposures to various hazards, especially to urban storm, heavy rainfall runoff, and health related hazards.
15. Carry out a detailed MHVRA of selected industrial areas and economic zones, assessing risks arising from primary and associated hazards.
16. PDMA shall prepare standard guidelines and SOPs for governmental and non governmental stakeholders for developing standardized disaster management plans at the district level.
17. Develop a provincial plan followed by a district disaster management plan for all districts, with priority given to those districts/tehsils that are prone to various types of hazards. The district/tehsil disaster management plans shall integrate components for gender and social inclusion, which will ensure that disaster response and recovery efforts fulfill the needs of women, children, elderly citizens, PWDs, and other vulnerable groups. Disaster management plans need to establish priorities for hazards and risks that originate from the effects of climate change and new emerging disaster threats.
18. The Government of Khyber Pakhtunkhwa, through NDMA and relevant federal authorities, shall advocate for a formal agreement with the Afghan Government to establish a joint cross border flood and river monitoring mechanism for the Kabul River. This mechanism should facilitate regular data sharing, early warning

mechanism for the Kabul River. This mechanism should facilitate regular data sharing, early warning dissemination, and collaborative response planning during peak monsoon/flood seasons.

19. Submission of a proposal to establish a SUPARCO Space Center in Khyber Pakhtunkhwa to facilitate micro and macro level MHVRA and maintain a comprehensive digital MHVRA database.

3.5. Trained Human Resources for All Phases of Disaster Management

1. Strengthen the existing PDMA's Training and Awareness Unit by engaging qualified DRM and CCA professionals, trainers, and partnering with relevant research based institutions to design and deliver regular, certified gender responsive DRM capacity building programs.
2. The Gender and Child Cell of PDMA Khyber Pakhtunkhwa will design capacity building programs to lead and support the protection agenda within DRR at the provincial level.
3. In partnership with academia and the education department, PDMA will organize conferences and seminars, develop standardized curricula on inclusive Disaster Risk Reduction and Climate Change for schools and colleges, and design tailored training programs for teachers. Additionally, PDMA will foster collaborations with universities, NGOs, and the private sector to promote scientific research, training, internship opportunities, and innovations in disaster risk management.
4. Establish the Provincial Disaster Management Resource Center (PDMRC) at PDMA to collect and make a repository and archive of the natural and human induced disaster data in digital format. Additionally, a state of the art library will be established to catalogue different hazard and risk maps/atlasses, periodicals, magazines, and publications of national and international significance. The PDMRC will serve as a research hub, facilitating academic institutions in conducting scientific research and innovation in disaster risk management and climate resilience.
5. The PDMA will roll out mandatory basic and advanced DRM training for key government officials, including district administrators, line department personnel, and local government representatives. A standardized curriculum will be developed to ensure consistency and harmonization of training across the province.
6. Conduct regular multi agency simulation drills and tabletop exercises to enhance inter agency coordination, preparedness, and response capacities at all administrative levels.
7. Design and implement gender responsive disaster risk management training that promotes women's leadership and participation in disaster preparedness, response, and recovery actions.
8. Scale up community level training programs to develop first responders and community CERT and DRM champions, especially among youth, women, persons with disabilities, and other marginalized groups. Ensure also the inclusion of a chapter on Nutrition in Emergencies (NiE) in the DRR training curricula.
9. Incorporate Mental Health and Psychosocial Support (MHPSS) in health contingency plans, and strengthen the capacities of health workers in psychological first aid and crisis counseling.

3.6. Addressing Complex Emergencies

1. Efforts will be made to empower district governments with a crisis management cell under the DDMUs, which can significantly enhance response capabilities. Livelihood generation, particularly for youth in high risk districts, should be prioritized through targeted programs in agriculture, tourism, and mining. An accessible public grievance redressal system would ensure citizens have access to responsive and accountable public services.

2. Economic recovery interventions must focus on conflict affected communities by introducing gender transformative livelihood restoration schemes, subsidies, microfinance support, and cash for work initiatives based on inclusive eligibility criteria. Establishing special economic zones, facilitating farmers' access to quality inputs, improved services, credit, and government initiated support programs, as well as vocational training at all levels, will enhance employment prospects. At the same time, village councils and local governments must be empowered to lead participatory development initiatives. Priority sectors, such as marble mining, agriculture, livestock, and ecotourism, can offer sustainable economic pathways.
3. Security remains a cornerstone of the recovery process. Strengthening community policing and intelligence networks, especially in conflict prone and border regions, is critical. District level counterterrorism units trained for rapid and asymmetrical response, along with improved border control and intelligence sharing, will help stabilize volatile areas. Public mine risk education must also be expanded to protect vulnerable populations, particularly children.
4. For long term peacebuilding, local structures and alternative dispute resolution mechanisms, such as Jirgas, inclusive peace committees, refugee shuras/elders, and interfaith dialogue platforms must be strengthened. Training community mediators to resolve tribal and sectarian disputes and establishing a dedicated Community Trust Fund can provide much needed grassroots support to peace initiatives.
5. Social protection should be broadened by expanding the BISP, Pakistan Bait ul Maal, and other provincial social protection programs to include conflict affected families, widows, and orphans. Safe return packages for displaced populations complete with housing, compensation, and income support will facilitate a smooth reintegration. Community led reconstruction through cash for work schemes should be encouraged to restore dignity and local ownership. Prioritize nutritionally vulnerable populations, especially pregnant and breastfeeding women and children under five years of age.
6. Protect mother, infant and young child feeding during emergencies by ensuring MIYCF guidelines are implemented in the disaster affected communities.
7. Infrastructure rehabilitation must be prioritized through a "Rebuilding to Stabilize" initiative focused on essential facilities such as schools, hospitals, and roads. Public private infrastructure restoration programs will further accelerate recovery while creating jobs.
8. For Internally Displaced Persons (IDPs), a comprehensive reintegration strategy is needed. This includes support for housing, vocational training, and microenterprise development, as well as alternative education programs to ensure continuity for displaced children. Restoring land and property rights is also key to long term settlement.
9. Efforts will be made to integrate displacement sensitive approaches and clearly define coordination mechanisms with humanitarian partners during security crises and refugee influxes, ensuring a more comprehensive response to both climate and conflict related emergencies.
10. Gender sensitive recovery demands the establishment of Women's Crisis Support Centers that offer psychosocial, legal, and shelter support. Women's participation must be institutionalized in peacebuilding processes, with a minimum of 30% representation in local committees and the promotion of women led microenterprises.
11. Trauma and emergency healthcare services require expansion through mobile medical units, particularly for conflict zones. Training healthcare providers in psychosocial and trauma care will help meet the urgent and long term needs of affected population.
12. Women's specific health needs shall be prioritized under the health component by ensuring the availability of

female health service providers, essential medicines, equipment, and related commodities.

13. Justice, human rights, and the rule of law must be foundational pillars. Strengthening alternative dispute resolution systems and expanding legal empowerment initiatives will improve access to justice. Upholding religious freedoms and judicial independence is vital for inclusive and equitable recovery.
14. The protection of vulnerable and minority groups shall be given high priority. Establishing a Provincial Minority Rights Commission and Enforcing Hate Crime Laws will promote inclusion. Support for at risk religious institutions will further ensure community safety.
15. To disrupt conflict economies, a specialized task force should be created to monitor illicit trade and terror financing. At the same time, legal livelihood alternatives must be introduced in regions historically dependent on smuggling or poppy cultivation.
16. Institutional reforms are essential for sustainable peace and social cohesion. Reviewing anti terrorism laws, improving public accountability, and expanding conflict resolution processes will build a more transparent and resilient governance system. Alternative dispute mechanisms should be scaled up in high risk areas.
17. Modern and high tech solutions must be utilized for crisis response. Tools such as biometric registration, real time conflict mapping, and digital aid platforms will ensure transparency, accuracy, and efficiency in the delivery and monitoring of aid.
18. Formulating formal agreements with UN agencies and humanitarian partners, which will enhance coordination, while donor funds for complex emergencies can attract global support. Cross border peacebuilding initiatives will help contain the regional spillover of extremism and contribute to long term stability.

3.7. Community Participation through Best Practices of CBDRM

1. Strengthen local governance systems for disaster risk reduction, ensuring DDMUs and local governments have the autonomy, resources, and skills needed to assess and manage risks at their levels.
2. DDMUs to ensure that local level planning aligns with national and provincial disaster risk reduction strategies, fostering vertical coherence.
3. PDMA shall develop a community and school based disaster risk management framework with close collaboration of the relevant Government Organizations, especially Civil Defence, Rescue 1122, Social Welfare, Pakistan Red Crescent Society, and other Non-Governmental Organizations, including the local women led organizations, for strategizing and implementation.
4. PDMA to identify and document successful CBDRM and SBDRM models from national and global experiences to showcase the best practices for replication. In collaboration with I/NGOs and UN agencies, PDMA will develop model Village Councils based on these practices to serve as replicable examples across the province.
5. Keeping in view the physical and socio-cultural conditions and practices of the province, the PDMA shall update, contextualize, and uniform standard curriculum on inclusive community based disaster risk management in local languages to ensure its amenability and ownership at the local level. The standardization will help establish uniformity in the establishment of local level disaster management committees and impart training to community members.
6. Formulation of fully equipped local disaster management committees with the support of the district government, non governmental organizations, and civil societies. The PDMA shall organize various basic

trainings and TOTs to develop a pool of master trainers of both male and female members at the local level and provide training to the members of local disaster management committees. The District Government will ensure liaison, regular review meetings, and coordination with the local disaster management committees.

7. DDMUs and respective Rescue 1122 shall engage local disaster management committees in conducting regular drills and mock exercises to develop ownership, enhance preparedness for actual situations, and ensure the sustainability of these committees.
8. Besides imparting training by the master trainers, the local level disaster management committees will be trained to conduct MHVRA and develop disaster management plans of their respective areas under the supervision of the DDMUs and local government, duly ensuring quality assurance, data validity, and evidence based reliability.
9. PDMA, together with the DDMUs, shall compile the men and women volunteers, master trainers, and local level disaster management committee members' database to ensure close coordination and activate volunteers during any imminent disaster threats. DDMUs shall ensure that they compile an updated database and share it with PDMA regularly for their use in related research, the updating of training modules, and the alumni database.
10. The DDMUs to ensure the establishment of appropriately located, safe, and accessible disaster risk management centers at the Tehsil levels. This center will serve as a hub for local disaster management committees and other community initiatives to facilitate regular meetings. Moreover, the disaster risk management center will be used as a field storage site to store sufficient emergency response equipment.

3.8. Enhancing Disaster Response Capacity of the Province

Anticipatory Actions for an Effective Disaster Response

1. Integrate anticipatory action protocols within the provincial disaster preparedness frameworks. The PDMA will establish a Multi Stakeholder Anticipatory Action Task Force to coordinate planning and implementation across key departments and partners, including PMD, FFC, Irrigation, Agriculture, Livestock, Health, Education, Social Welfare, District Administration, KPCPWC, and humanitarian and development agencies.
2. Working in collaboration with non-governmental organizations, the United Nations, GIZ, district administrations, and other stakeholders, the PDMA will define early warning triggers, pre agreed financing arrangements, and early action plans that can be activated before hazards strike.
3. To operationalize inclusive anticipatory actions, a Forecast-based-Financing (FbF) mechanism will be established, ensuring the automatic disbursement of pre-arranged funds once forecast thresholds are reached, thereby enabling timely and effective early actions.
4. In collaboration with the Agriculture and Livestock Departments and DDMUs, PDMA shall work to safeguard livelihood assets such as livestock and standing crops through anticipatory measures like early relocation, provision of emergency fodder, and timely harvesting, guided by the climate forecasts.
5. Community level inclusive anticipatory planning will be institutionalized through the development and implementation of action plans at the village council levels, supported by localized early warning systems and trained disaster management committees.
6. The Education and Health Departments shall develop sector specific disaster preparedness plans for schools and hospitals that incorporate forecast based triggers to enable timely closures and preparedness actions. Moreover, separate disaster preparedness and response plans will be developed for nutrition under the oversight of the nutrition directorate of the Health Department.

7. Engage private sector partners to sponsor MHPSS initiatives (e.g. telemedicine platforms, etc.)

Building Disaster Response Capacities

8. Extension of Rescue 1122 services to the remaining/other districts/tehsils, especially in those districts on a priority basis that are prone to various hazards, particularly flash and riverine floods.
9. Development of the Provincial Disaster Response Plan based on review and analysis of responses generated in the past disasters to help in supporting a systematic approach towards sustainable emergency response management.
10. Integrate anticipatory action into the provincial and district emergency preparedness and response plan, aligned with NDMA guidelines and sectoral plans.
11. Working with the Education Department, the PDMA shall formulate a Provincial School Safety Framework and ensure its implementation in high priority disaster prone districts as a model for replication across other regions of the province.
12. Partner with the Health Department and humanitarian organizations to deploy mental health professionals during emergencies.
13. Revamping with a high tech and state of the art Provincial Emergency Operation Center (PEOC) at PDMA to provide further digital gadgets and equip it with regular staff to ensure 24/7 services. Side by side, further strengthening of District Emergency Operations Centers (DEOCs) for swift disaster response and ensuring close coordination with the PEOC and further with the NEOC at the national level.
14. Procurement, capacity building on the use of drone technology for risk monitoring, environmental surveillance, and emergency response.
15. Establish local level inclusive Community Emergency Response Teams (CERTs) by engaging youth volunteer corps, including refugee youth, etc. These teams will be formed under the leadership of DDMUs, with close coordination among other Government Departments, including Rescue 1122, Civil Defense, and other Non-Governmental Organizations, for developing CERTs in dealing with emergencies.
16. Prepare hazard specific contingency plans under the specified guidelines of the PDMA especially contingency plans for monsoon flooding duly encompassing visible climate extremes, their impact, exposure of vulnerable communities and complete focus on all relevant types (flash, riverine, urban floods and GLOFs), locust swarms attack, winter contingency plans, earthquake and even for biological hazards to prepare for swift emergency response.
17. The Social Welfare Department shall be engaged in the contingency planning process to support the development of protection contingency plans covering women, girls, PWDs, and transgender individuals.
18. Establishment of regional warehouses fully catering to the maximum case load needs for emergency response management. Currently, the main warehouse/HRF is located in Jalozai, District Nowshera. However, there is an urgent need to establish such warehouses at the Regional/Divisional levels, particularly in remote districts that are already at high disaster risk due to uncertain and extreme climate vulnerabilities.
19. Take practical measures to revitalize the Boy Scouts and Girl Guides teams at the school level and engage parent teacher committees (PTCs) to ensure all stakeholders' involvement to cope with the emergencies. This should be duly incorporated into all relevant plans, particularly the emergency response plan.
20. The role of public private partnership is of paramount importance in the changing environment for mobilizing financial and human resources. In this regard, PDMA, together with the Provincial Chamber of Commerce,

shall establish a working committee that will be responsible for mobilizing resources and involvement of the private sector to support the DRR and emergency response.

21. Cogent measures shall be ensured for integrating and mainstreaming Corporate Social Responsibility (CSR) in all the phases of disaster management, which is a business model for companies to integrate social and environmental concerns into their operations and interactions with stakeholders, going beyond legal obligations to benefit society and the environment.
22. To strengthen emergency response coordination, the policy shall explicitly reference the IASC Cluster System and outline PDMA Khyber Pakhtunkhwa's leading role in working with the UNHCR and other cluster leads. Together, UNHCR and PDMA Khyber Pakhtunkhwa shall establish a coordinating committee, develop SOPs, conduct joint planning and regularly conduct simulation exercises, and further ensure that DEOCs are appropriately trained to coordinate with clusters at the field levels.
23. Formation of the damage and needs assessment teams under the DDMUs and arranging training on Multi Sector Initial Rapid Assessment for them on standard templates. Furthermore, incorporate the MIRA methodology into the PDMA's early response mechanism.
24. In order to acquire fresh satellite images after the disaster event, PDMA, in close coordination with all the relevant departments, shall associate with the International Disaster Charter to acquire free of cost satellite based data to benefit quick damage assessment.
25. With close coordination of DDMUs, PDMA to identify safer locations for establishing shelter and relief camps. There is a dire need to identify, beyond schools, other areas like community centers, playgrounds, and government hostels/guest houses that can be used as shelter places in emergencies.
26. Conduct targeted evacuation drills and simulation exercises to ensure safe evacuation from schools, shelter places, health facilities, and all other sectoral facilities during emergencies. Evacuation protocols to be aligned with real time weather and hazard forecasts, enabling early, safe, and voluntary evacuations through district level trigger based plans developed in collaboration with local authorities.
27. Develop a professional wildfire response unit at the Forest Department and Rescue 1122, fully equipped with modern and high tech firefighting tools, communication systems, and protective equipment.

3.9. Promoting Risk Informed Development

1. Provincial Planning and Development Department, in collaboration with PDMA, shall work together to institutionalize the risk informed development approaches within provincial and district development planning systems and will ensure DRR is mainstreamed across sectoral plans and public investment decisions through updated guidelines and practical tools.
2. Moreover, the Planning and Development Department shall develop a mechanism for providing incentives and encourage sectoral departments and local governments to identify, reduce, and manage risks with a proactive approach.
3. Promote co-benefits across disaster risk reduction, climate change adaptation, social protection, and environmental resilience through integrated action.
4. Conduct sectoral level gender responsive MHVRA and suggest suitable land use planning recommendations for future development projects, besides arranging funds for retrofitting and repairing of sector specific vulnerable infrastructure.
5. Promote the development of sector specific district level risk informed development plans, grounded in local

data and developed through inclusive stakeholder engagement.

6. Embed “Build Better Before” principles into policy, alongside the existing emphasis on “Build Back Better”.
7. PDMA, together with the Pakistan Engineering Council and Academia, shall develop standard guidelines based on international best practices with a mechanism for its strict compliance for all new constructions of infrastructure and housing schemes, especially in the hazard prone districts.
8. Integrate hazard and risk data into land use planning processes and ensure its application in approving housing schemes, infrastructure projects and urban development and expansion plans.
9. Implementation of the building code of Pakistan in the true spirit shall be made mandatory for all buildings and especially for government buildings in urban and rural areas.
10. Strengthen the institutional capacities of planning and regulatory bodies to assess, monitor, and manage disaster and climate risks within development initiatives. In this regard, the PDMA shall take steps to enhance the technical human resource capacities by arranging specialized training courses for different ministries/departments and civil society leaders to develop an understanding of Risk Informed Development in their respective domains of planning, development and implementation.
11. Enforce the application of green building codes for all new construction projects especially in flood prone, seismic, and urban heat island zones to promote energy efficiency, water conservation, and structural resilience against natural hazards.
12. Train urban planners, local authorities, and construction professionals on the application of green building codes in the context of disaster risk reduction and climate change adaptation. Establish monitoring systems to ensure compliance with all RID related infrastructure and development projects.
13. Implementation of the model RID projects in major public sectors. Such models will help establish best practices, create standardized processes for future initiatives, address bottlenecks, and replicate them across other sectors.
14. Establish a provincial level monitoring mechanism to track compliance with risk informed planning standards and penalize unauthorized or hazardous developments.
15. Promote community participation and develop awareness on safe construction practices, local hazard risks, and the importance of compliance with planning regulations.
16. Encourage the adaptation of nature based solutions and resilient infrastructure designs that reduce disaster risk while promoting a sustainable environment.
17. Initiate community based urban tree plantation programs to encourage district government and municipal corporation/committees to collaborate with civil societies, schools, and neighborhood associations to implement urban tree plantation drives to maintain green spaces.
18. Identify heatwaves and flood prone urban centers and prioritize them for urban forest development to reduce surface runoff, regulate temperature, and act as natural buffers against climate extremes.
19. Introduce the concept of an enabling environment for risk informed development by applying six dimensions of the framework, and initiate a baseline assessment of the enabling environment as the foundation for strengthening provincial and local capacities for RID.
20. Showcase casestudies/models of how risk informed investments generate co benefits across climate resilience, poverty reduction, health, education, and gender equality.

3.10. Strengthening Gender Responsive Food Security, WASH, Livelihood, and Nutrition Systems

Strengthening Gender Responsive Climate Resilient Agriculture and Food Security

1. To enhance the resilience of food production systems in the face of climate change, a multifaceted approach is necessary for adaptation. This includes promoting drought resistant and nutritious crops, introducing agroforestry practices, and adopting conservation agriculture techniques to ensure long term agricultural productivity. Contemporary irrigation methods, such as drip, trickle, and rainwater harvesting, must be elevated to tackle water scarcity and enhance agricultural practices.
2. Multiple initiatives should be promoted through multi cropping, vertical farming, and the integration of livestock and fisheries, reducing dependency on single crop systems and improving food security and nutrition. It is crucial to enhance food stockpiles at the local level and improve supply chain networks to guarantee a steady food supply during emergencies.
3. To improve resilience, predictive systems for monitoring droughts, pest infestations, and locust outbreaks should be developed. This will facilitate prompt actions and reduce crop damage. Collaborations between public and private sectors will be encouraged to support sustainable farming methods, enhance post-harvest handling, and optimize food distribution networks.

Strengthening Gender Responsive WASH Systems in Disaster Contexts

4. To enhance the resilience of water and sanitation systems in areas prone to disasters, it is crucial to prioritize the construction of infrastructure that can withstand the impacts of Climate Change. This encompasses the development and improvement of infrastructure that can withstand floods, droughts, and other severe weather conditions, with a special emphasis on areas that are susceptible and isolated, in particular, refugee hosting areas/communities.
5. It is equally important to integrate WASH into disaster risk reduction and humanitarian response planning. It is crucial to include WASH components at every stage from preparedness and early warning systems to emergency response and post disaster recovery. This ensures that communities are protected during emergencies and recover in a healthy and dignified manner.
6. Efforts must be made to ensure that everyone has access to clean drinking water and proper sanitation facilities, particularly for women, children, and marginalized groups in both displaced and host communities. Providing these essential services helps to prevent the spread of diseases and promotes overall health and wellness.
7. Promotion of hygiene education and behavior change. Long term awareness initiatives shall be implemented to promote essential practices, such as handwashing with soap, menstrual hygiene management, and the proper storage and treatment of water, before, during, and after emergencies.
8. In preparation for potential future emergencies, it is crucial to stockpile essential emergency WASH supplies, including hygiene kits, water purification tablets, dignity kits, and storage containers. Local emergency response teams must receive proper training and be equipped with the necessary resources to respond quickly to affected areas.
9. The effectiveness of water related interventions greatly depends on the coordination and collaboration of various institutions. Effective coordination among disaster management authorities, health departments, water sector stakeholders, and local governments will guarantee prompt, effective, and comprehensive responses during emergencies.

10. Enhance data monitoring and risk mapping to ensure effective management of the crisis. By creating vulnerability and risk maps for water quality and implementing real time monitoring systems, decision makers can effectively track water quality, detect disease outbreaks, and respond quickly to service interruptions thus enhancing preparedness and resilience across the province.

Enhancing Gender Responsive Livelihood Protection and Economic Resilience

11. To enhance the economic resilience of communities impacted by climate change, PDMA shall collaborate with various government and non-government partners to encourage the development of alternative income sources, including fisheries, handicrafts, and apiculture. PDMA will collaborate with financial institutions to offer soft loans, interest free credits, and insurance schemes, thereby facilitating easier access to financial support for smallholder farmers, women entrepreneurs, and home based workers.
12. In regions that are particularly vulnerable to climate change, it is crucial to enhance climate smart livestock management practices, such as conserving fodder and implementing effective disease control measures. Innovative technological solutions, such as drone assisted seeding, precision farming, and digital advisory services, will be implemented to ensure sustainable agricultural practices.
13. Capacity building programs should concentrate on empowering youth and women in finding alternative livelihoods. At the same time, cash transfers, food aid, and emergency employment schemes should be expanded to safeguard the most vulnerable individuals. Special priority shall be given to nutritionally at risk groups particularly pregnant and breastfeeding women, children under five, and persons with disabilities when designing and delivering cash transfers and food aid interventions.

Securing Gender Responsive Nutrition and Public Health in Disaster Contexts

14. To protect public health during emergencies, the focus is on fortifying staple foods and implementing targeted nutrition programs for mothers and children. This includes the management of acute malnutrition, as well as the protection and promotion of appropriate infant and young child feeding practices, such as breastfeeding and complementary feeding for children under five years old. In regions affected by drought, efforts to provide nutritious meals for students are growing, but it is crucial to incorporate nutrition programs into disaster response plans to combat malnutrition effectively. Public awareness regarding healthy eating habits, breastfeeding, and proper handwashing to be enhanced, along with real time monitoring of food security and nutrition trends to guide prompt policy decisions.
15. Integrate the Minimum Initial Service Package (MISP) for sexual and reproductive health into all health emergency response plans. This should ensure the availability of health services, family planning, and safe delivery care for women of reproductive age, while also addressing complex pregnancies, newborn health, and the prevention and management of sexual and gender based violence.

Institutional Strengthening and Policy Integration for DRR

16. To encourage integrated and inclusive resilience, strategies shall be developed to support climate resilient agriculture, ensure food security, and promote nutrition sensitive disaster risk reduction. A specialized climate finance unit shall be established within PDMA to coordinate and allocate funds for communities affected by natural disasters, taking into account their diverse needs. The institutional capacities of the PDMA and Agriculture Departments shall be strengthened to ensure an adequate and prompt response. Collaboration among the agriculture, livestock, and health sectors, social protection departments, and disaster management authorities will be enhanced through data informed measures. Local communities shall be allowed to implement inclusive, sustainable, indigenous, and evidence based approaches to ensure food and livelihood security.

3.11. Promoting Disaster Risk Financing Mechanism

1. PDMA shall collaborate with governmental and non-governmental organizations, including women led and women's rights organizations, to identify potential projects for risk financing and will engage with financial institutions to access disaster risk financing funds.
2. To promote and mobilize public private partnerships, the PDMA shall work with different risk financing institutions, like Zari Taraqati Bank Limited, Bank of Khyber, Akhuwat Foundation, and insurance companies to introduce various risk financing models and soft loan schemes.
3. Continue enhancing the model to improve the prediction of future fiscal burdens, including detailed forecasting of potential fiscal risks and the creation of a comprehensive fiscal risk statement. This will enable the government to anticipate and manage long term financial challenges more effectively.
4. The disaster risk financing strategy of the province should incorporate a risk layering approach. The core principle of the risk layering approach is to meet the financial cost of response using a menu of financial instruments rather than relying on a single financing instrument, depending upon the frequency, severity, impact, and predictability of the disaster. i.e. using Contingency Budgets or Reserve Funds as the first layer, Contingent Financing (e.g. ex ante loan agreements) as the second layer, and Risk Transfer to the market through insurance as the third layer.
5. Develop and implement Takaful (Islamic insurance) services to provide life insurance coverage for families, alongside non-life insurance products for private dwellings, public infrastructure, along with agricultural assets creation and matching grants. This will increase financial protection for the key sectors and communities.
6. Introduce an affordable life insurance product as a complementary offering to the Sehat Card, targeting the general population to provide coverage for death related expenses. This will enhance the financial security of vulnerable populations, especially in rural and underserved areas.
7. Investigate the potential for the region's involvement in both Climate and Livelihood Information Services (CLIS) and Livelihood and Livestock Insurance Schemes (LLIS) to offer financial protection for farmers and livestock owners.
8. Assess and revise the existing financial rules to ensure the efficient and timely release of funds to districts for disaster response and preparedness purposes. This revision will streamline the process for immediate relief efforts and improve the overall disaster response capacity.
9. Expand and strengthen the implementation of cash transfer mechanisms post disaster to ensure rapid financial assistance to affected populations.
10. Strengthen PPPs to mobilize resources and support infrastructure and services during and after a disaster.
11. Foster a deeper understanding of the government's contingent liabilities in the context of disaster risks like Kissan Cards and BISP. This will include mapping potential liabilities, understanding their financial implications, and ensuring that proper financial provisions are made for future disaster related expenses.

3.12. Build Back Better and Gender Responsive Early Recovery from the Disasters

1. Promote a “whole of cycle” approach that links preparedness, response, and recovery through to development via DRR, building a feedback loop from response/recovery into upstream planning and investment.
2. Preparation of compensation policy guidelines by the PDMA to address hazard specific compensation issues, ensuring an inclusive, rights based approach that is age, gender, and disability sensitive in the impact of disasters.
3. Build the capacities of the concerned organizations on compensation guidelines and further raise awareness of the general public through an aggressive, inclusive awareness campaign with the help of mass media.
4. Establishment of inclusive provincial and district level compensation committees for transparent disbursement and development of mechanisms for monitoring and evaluation to maintain integrity, transparency, and accountability.
5. To include broader stakeholders to support the compensation process during any emergency situation, the PDMA shall keep close liaison, organize regular meetings, and enhance public private partnership with other financial institutions during the emergency response situation.
6. Establishment of a recovery and reconstruction unit at PDMA with the provision of technical human resources and other allied facilities. The unit will be responsible for developing guidelines and implementation plans and ensuring their strict compliance.
7. Working with the UNHCR and other cluster leads, the PDMA shall develop a relocation framework, ensuring that any relocation from disaster prone areas is voluntary, consultative, and accompanied by safeguards to protect the rights, livelihoods, and social cohesion of affected communities.
8. Strict compliance with the DRR checklist developed by the Planning Commission of Pakistan for all new construction and rehabilitation work.
9. In line with the principles of “Build Back Better” and the “Build Better Before” concept to reconstruct disaster resilient housing and infrastructure, priority must be given to the reconstruction of the housing and infrastructure that are resilient to a disaster and less susceptible to future risks, as well as increasing the resilience of the community.
10. To share best practices and lessons learnt from other countries about the recovery phase, the PDMA shall develop close liaison with the International Recovery Platform to organize training and symposiums and develop case studies.
11. PDMA shall work with universities and KPCPWC to conduct scientific research on developing disaster resilient infrastructure and propose various measures for all engineering works.
12. Develop training courses on psychosocial support in the recovery process and its delivery at all levels.
13. Strengthen systems that support continuity and coherence from risk anticipation through recovery and longer term risk reduction.

3.13. Building Community Resilience through Adaptive Social Protection

1. PDMA Khyber Pakhtunkhwa shall work towards integrating household poverty and vulnerability data contained in the Social Protection sector (e.g., the BISP National Socio-Economic Registry (NSER), Zakat Registry, disability registry, data on orphans, women headed households, chronically ill and elderly, and the IPC acute food insecurity analysis) with the disaster risk assessment data. This will help in developing a better understanding of who is most at risk, where the most vulnerable people are located, their socio-economic conditions, for targeted assistance before or during the disasters and for an informed, needs based foundation for policy and program design. PDMA Khyber Pakhtunkhwa shall work towards establishing data and information sharing protocols, facilitating continuous and automatic data exchange between the DRM and Social Protection sectors.
2. ASP highlights the need for linking Early Warning Systems with social protection programs and promoting Anticipatory Action Planning (AAP) based on predefined action plans & SoPs and pre-arranged financing linked to index based forecast triggers.
3. Social registries are instrumental in identifying those most vulnerable to shocks as well as for estimating the effects of a disaster on a household. PDMA Khyber Pakhtunkhwa shall work closely with BISP and provincial SP entities in expanding the National and Provincial Socio-Economic Registry (N/PSER)'s coverage within high risk areas and updating HHs' information in those areas more frequently. PDMA Khyber Pakhtunkhwa shall also work closely with BISP for incorporating disaster risk and vulnerability into NSER's PMT formula.
4. Building resilience of the poor and vulnerable households to covariate shocks lies at the heart of Adaptive Social Protection. Building a strong, comprehensive social protection system for adequate and high coverage provides the requisite foundation for this. PDMA shall work in partnership with social protection entities for developing a toolbox of SP programs focusing on building resilience (supporting the capacity to prepare for, cope with, recover from, and adapt to shocks) of at risk communities in Khyber Pakhtunkhwa. In doing so, PDMA to ensure that the refugees and displaced persons have access to the ASP mechanism. PDMA shall also work with SP entities for appraising and adjusting design parameters of existing programs, e.g., adjusting targeting approaches to incorporate disaster risk and vulnerability into eligibility and beneficiary selection criteria, fine tuning benefits parameters to enhance resilience building outcomes, etc.
5. ASP stresses the need for having a strong multi sectoral coordination mechanism (arrangements and partnerships) between programs in the core sectors of Social Protection, Disaster Risk Management, and Climate Change Adaptation, as well as with programs from other sectors working on building household's resilience to shocks e.g. agriculture, livestock, human development (education and health), and livelihood programs. PDMA shall take the lead in constituting an ASP Technical Working Group to improve coordination and alignment between various actors involved. The committee shall improve existing contingency planning and SOPs, and develop operational guidelines for the use of SP programs in the event of shock, to assign clear roles and responsibilities to each level of government, from central to local, as well as to ensure clear resource mobilization.
6. ASP emphasizes the need for quantifying the amount of finance required for events of different magnitudes, identifying pre-planned financial instruments, and linking them to existing distribution mechanisms. The disaster risk financing strategy of the province should incorporate a risk layering approach rather than relying on a single financing instrument, depending upon the frequency, severity, impact, and predictability of the disaster. i.e. using Contingency Budget or Reserve Funds as the first layer, Contingent financing (ex ante loan agreements) as the second layer, and risk transfer to the market through insurance as the third layer.

7. Social Protection payment systems are often the only government service regularly transferring cash to many poor and vulnerable households. ASP emphasizes establishing a mechanism for using a pre-existing SP delivery system for the disbursement of cash-based emergency assistance to the affected households. Electronic payment systems are the preferred option due to their advantages of speed, accuracy, flexibility, and transparency. PDMA shall work towards using the Unified Social Protection e-payment platform for emergency relief payments.
8. PDMA shall work in collaboration with SP entities, PP&SPRU Zakat and Ushr, Social Welfare, BISP, PBM and Labour Department in the province for securing financing for long term programs, supporting household resilience, including through preparedness and adaptation.



SECTION FOUR

POLICY IMPLEMENTATION MECHANISM

SECTION FOUR: POLICY IMPLEMENTATION MECHANISM

4.1. Establish Effective Governance Mechanisms and Coordination Platforms

Following the approval of the Disaster Risk Reduction Policy of Khyber Pakhtunkhwa, the Provincial and District Governments will be mandated to implement it within their respective domains. In this regard, the PDMA Khyber Pakhtunkhwa and DDMUs will be responsible for implementation at the provincial and district levels, respectively. Furthermore, the concerned line departments will prepare their own sectoral disaster management plans in light of provincial DRR policy to ensure organizational level implementation. This will enable the Provincial and District Administrations to develop well structured strategic level action plans to address all types of emergencies. To monitor the progress of policy recommendations at the provincial and district levels, a steering committee, namely the “Khyber Pakhtunkhwa Disaster Risk Reduction Policy Implementation and Oversight Committee (KP DRR IOC)”, will be established. The Additional Chief Secretary can establish the committee and nominate its members. Some of the key responsibilities of the committee are as follows:

- Provide strategic policy directions and technical support for the effective and inclusive implementation of the policy.
- Conduct provincial level consultation workshops and meetings to monitor progress and evaluate the work of all those organizations involved in the implementation of the disaster risk reduction policy.
- Develop strategies for mobilizing financial and technical resources, including organizing donor conferences and engaging with the funding agencies.
- Assess the need for policy revisions based on emerging challenges, technical advancements, and evolving disaster risk reduction patterns at the global, national, and provincial levels.
- Gauge the progress through the specified criteria for progress review of each region.
- Shall hold biannual progress review meetings and present implementation proceedings to the Provincial Disaster Management Commission through detailed reports on administrative matters and implementation progress.

4.2. Formation of Thematic Working Groups and their Involvement in the Policy Implementation Process

In addition to the formation of the Steering Committee, seven provincial level thematic working groups will be formed to monitor progress on the KP DRR Policy. These thematic groups have already been constituted under PDMA Khyber Pakhtunkhwa Office Order No. PDMA/GCC/PDRRP/2024 25/009 dated October 10, 2024.

These thematic working groups played an active role in the development process of the DRR Policy of Khyber Pakhtunkhwa. They will continue to function by organizing quarterly meetings under the supervision of DG PDMA Khyber Pakhtunkhwa. They will oversee the progress by submitting a quarterly report to KP DRR IOC. These thematic working groups are as follows:

1. Institutional Development
2. Hydro Meteorological Hazards
3. Earthquake, Landslide, and Related Hazards
4. Food Security, Agriculture, Nutrition, Drought, and Heatwaves
5. Impact of Climate Change and Needs for Adaptation
6. Complex Emergencies
7. Adaptive Social Protection

4.3. Ensuring Policy Implementation through Multi Level Disaster Management Plans

In addition to forming high level progress review committees, the provincial and district governments will actively participate in developing inclusive disaster management plans within their respective jurisdictions. This will help establish strategic directions to achieve defined targets and play a proactive role in implementing the DRR Policy of Khyber Pakhtunkhwa. These measures have been planned to ensure effective policy implementation.

4.3.1. Development of Provincial and District Disaster Management Plans

In line with the Disaster Risk Reduction Policy, the PDMA Khyber Pakhtunkhwa and the respective DDMUs will prepare inclusive disaster management plans at the provincial and district levels, respectively. These plans, based on the best global and national practices in disaster risk reduction, shall be prepared with a ten year implementation period in mind. Furthermore, the KP DRR IOC shall ensure that these plans are implemented under supervision, with gender responsive monitoring and evaluation. The provincial and district disaster management plans shall be prepared in consultation with all relevant government departments, as well as partners organization with expertise in disaster related matters. To enhance inclusivity, district administrations will conduct consultations with community level stakeholders, including local government representatives, civil society organizations, particularly women led organizations, religious leaders, community activists, and volunteers.

4.3.2. Integrate Risk Informed Development in Planning Structures

All concerned Provincial and District Government Departments should institutionalize risk informed development across planning and financing systems. They will ensure that disaster resilience and sustainable solutions are integrated into development plans and implementation through close consultations with NDMA, PMDA, relevant UN organizations, and other technical partners. Key actions include:

- Develop provincial and district level risk informed planning guidelines, linked to the Annual Development Plans and aligned with global development standards and climate change adaptation priorities.
- Develop a provincial framework to ensure risk assessments and DRR priorities are embedded in PC 1s, sector strategies, and budget planning cycles.
- Support planning departments and sector ministries to adopt tools for screening public investments against hazard exposure and vulnerability.
- Ensure that local development plans include provisions for risk mapping, scenario planning, and contingency strategies.
- Facilitate peer to peer learning between districts, especially those already piloting RID approaches.
- The Thematic Working Groups will ensure that sectoral development plans have been prepared, considering DRR as a cross cutting theme and ensuring that sector specific disaster management plans are developed as a strategic step toward mainstreaming DRR into the development process.

4.4. Financial Arrangement for Policy Implementation

To strengthen provincial and district administrative capacity for disaster risk reduction, it is crucial to have a robust financial plan for institutional strengthening, capacity building, and addressing unforeseen emergencies. Therefore, this policy has shed light on financial arrangements that may further strengthen the disaster management institutional setup. In this context, a separate fund should be allocated as a recommendation put forward to the Provincial Disaster Management Commission by the KP DRR IOC. Additionally, the Planning and Development Department should allocate a fixed amount under the Annual Development Programs and other sources to mobilize financial resources for the implementation of policy led measures.

The committee will secure financial resources from multiple streams, including:

- **Provincial Government Budget** – Allocations through the Annual Development Programs (ADPs). A separate budget from the ADP can be allocated for the District Government on disaster risk reduction. This budget should be different than the emergency response fund.
- **Provincial Disaster Risk Financing Strategy** – The Provincial Government can mobilize resources through the implementation of its Disaster Risk Financing Strategy and other related provincial funding mechanisms to support risk informed development, preparedness, and mitigation measures across sectors at the administrative levels.
- **Federal Government Grants** – Support from the National Disaster Management Authority and other federal initiatives, including the mobilization of financial and technical resources through the National Disaster Risk Management Fund (NDRMF).
- **Donor Agencies and Development Partners** – Funding from international organizations such as the United Nations, GIZ funded by BMZ, International Financial Institutions, bilateral and multilateral donors.
- **Private Sector Engagement and Public Private Partnerships** – Mobilizing resources through CSR initiatives and building strong public-private partnerships. Such associations should prioritize investments in disaster and climate resilient critical infrastructure, promote nature based solutions, and expand insurance mechanisms to reduce disaster risks and enhance community protection.
- **Emergency and Contingency Funds** – Allocation of specific funds for immediate response and disaster preparedness.

4.5. Monitoring and Evaluation Accountability, and Learning (MEAL)

Monitoring and evaluation are critical for disaster risk reduction. To measure the progress and outcomes of the Disaster Risk Reduction Policy of Khyber Pakhtunkhwa, as well as the implementation of specific risk reduction interventions, it will be crucial to implement a rigorous, gender responsive monitoring, evaluation, and reporting system. The MEAL committee will be constituted as a subcommittee to work with various departmental and district stakeholders in creating this strategy and establishing a monitoring framework. The reports generated therefrom shall be examined by the same panel, along with other technical experts, to recommend any course corrections for the effective implementation of the Khyber Pakhtunkhwa disaster risk reduction policy, improve upon responsibilities of who does what and most importantly establish a learning mechanism to inform future policy implementation.

4.6. Feedback Mechanism

An effective feedback mechanism is crucial to ensure the adaptive and responsive implementation of the DRR Policy in Khyber Pakhtunkhwa. Feedback processes will be integrated across all levels of policy execution from provincial to district and community levels to capture practical insights, implementation challenges, and emerging needs. DDMUs and line departments will conduct regular consultation workshops and community feedback sessions to gather views from local stakeholders, including elected representatives, civil society organizations, community based organizations, and women led organizations, as well as local level disaster management committees. These inputs will be systematically compiled and submitted to the KP DRR IOC for review and consideration. In addition, an online feedback platform will be developed under the PDMA's Disaster Risk Information System to enable real time sharing of suggestions, concerns, and progress reports by citizens and implementing partners. The feedback received through these formal and digital channels will be assessed periodically and incorporated into monitoring and evaluation reports. This continuous learning loop will not only ensure transparency and accountability but also strengthen policy responsiveness and improve the effectiveness of DRR interventions over time.

4.7. Conclusion

The DRR Policy of Khyber Pakhtunkhwa has been designed as a dynamic and evolving document that requires continuous evaluation and updates. While its implementation follows a five year cycle, the policy remains flexible and subject to review at any time in response to global, national, or provincial development. This includes major disasters, emerging innovations in disaster risk reduction, and advancements in climate change adaptation and mitigation strategies.

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ANNEXURES

Annexure I: Formation of Thematic Working Groups and their Involvement in the Policy Development Process

To develop an agreeable policy, taking into consideration all important government and non governmental counterparts, the PDMA Khyber Pakhtunkhwa established seven thematic working groups and notified them through the office of the PDMA Khyber Pakhtunkhwa via No. PDMA/GCC/PDRRP/2024 25/009 dated October 10, 2024. Through various meetings and conducting FGDs and KIIs, the PDMA Khyber Pakhtunkhwa gathered input from these organizations to develop the Disaster Risk Reduction Policy of Khyber Pakhtunkhwa. The following thematic working groups were as follows:

1. Institutional Development

A well structured and robust institutional setup is the backbone of an effective disaster management system. This thematic working group focuses on strengthening policies, governance structures, coordination mechanisms, and legal frameworks to enhance disaster preparedness, response, and recovery. By fostering collaboration among government agencies, UN agencies, non governmental organizations, and communities, the group aims to institutionalize a proactive and resilient disaster management system across Khyber Pakhtunkhwa.

Names of Organizations Included in the Thematic Working Group for Institutional Development	
1. National Disaster Management Authority	2. Climate Change, Forestry, Environment, and Wildlife Department
3. Planning and Development Department	4. Khyber Pakhtunkhwa Commission on the Status of Women
5. Finance Department	6. Revenue Department
7. Establishment Department	8. Local Government and Rural Development Department
9. Law Department	10. Centre for Public Policy Research at the Institute of Management Sciences, Peshawar
11. Irrigation Department	12. Centre for Disaster Preparedness and Management, University of Peshawar
13. Home Department	

2. Water Resources and Associated Hazards

Water related hazards, including floods, glacial lake outburst floods, and water scarcity, pose significant risks to lives, livelihoods, and infrastructure. This working group is tasked with assessing vulnerabilities, improving water resource management, and integrating climate resilient solutions to mitigate disaster impacts. Through sustainable planning and scientific approaches, it aims to enhance flood early warning systems, promote watershed management, and strengthen community resilience to water related disasters.

Names of Organizations Included in the Thematic Working Group for Water Resources and Associated Hazards	
1. Irrigation Department	2. Rescue 1122 Department
3. Climate Change, Forestry, Environment, and Wildlife Department	4. Local Government and Rural Development Department
5. Public Health Engineering	6. HOD, Water Resource Management Department, Agriculture University, Peshawar
7. Pakhtunkhwa Highways Authority (PKHA)	8. Center for Water Informatics and Climate Resilience, Institute of Management Sciences, Peshawar
9. Communication and Works Department	10. Space and Upper Atmosphere Research Commission
11. On Farm Water Management, Soil and Water Conservation, and Agriculture Department	12. Pakistan Meteorological Department
13. Culture, Sports, Tourism, C Youth Affairs	14. Water and Power Development Authority
15. Energy and Power Department	16. Khyber Pakhtunkhwa Commission on the Status of Women
17. Civil Defense Department	

3. Impact of Climate Change and Needs for Adaptation

Climate change is exacerbating the frequency and intensity of disasters, making risk assessment a critical component of DRR planning. This group focuses on conducting scientific risk assessments, analyzing climate change induced hazards, and integrating climate adaptation strategies into development planning. By leveraging data driven approaches, it aims to provide a comprehensive understanding of vulnerabilities, ensuring informed decision making for long-term disaster resilience.

Names of Organizations Included in the Thematic Working Group for Climate Change and Needs for Adaptation	
1. Agriculture Department	2. Survey of Pakistan
3. Climate Change, Forestry, Environment and Wildlife Department	4. Geological Survey of Pakistan
5. Irrigation Department	6. Space and Upper Atmosphere Research Commission
7. Local Government and Rural Development Department	8. Bureau of Statistics
9. Finance Department	10. Climate Change Center, Agriculture University, Peshawar
11. Information and Public Relations Department	12. HOD, Water Resource Management Department, Agriculture University, Peshawar
13. Food Department	14. Climate and GIS Cell, PCDD
15. Culture, Sports, Tourism & Youth Affairs Department	16. Center for Water Informatics and Climate Resilience, Institute of Management Sciences, Peshawar
17. Livestock & Fisheries Department	18. Communication and Works Department

Names of Organizations Included in the Thematic Working Group for Climate Change and Needs for Adaptation	
19. Science, Technology, and IT Department	20. Education Department
21. Federal Steering Committee on Research and Development	22. Health/Nutrition
23. Pakistan Meteorological Department	

4. Earthquakes, Landslides, and Related Hazards

Khyber Pakhtunkhwa is highly susceptible to seismic activity and geological hazards such as earthquakes and landslides, which threaten both urban and rural settlements. This working group is dedicated to strengthening earthquake resilience through improved building codes, land use planning, and community preparedness. It also emphasizes risk reduction strategies for landslide prone areas, ensuring the safety of infrastructure and minimizing human and economic losses.

Names of Organizations Included in the Thematic Working Group for Earthquakes, Landslides, and Related Hazards	
1. Rescue 1122 Department	2. Civil Defense Department
3. Communication and Works	4. Public Health Engineering Department
5. Pakhtunkhwa Highways Authority	6. Pakistan Engineering Council
7. Local Government and Rural Development Department	8. Health/Nutrition Department
9. Education Department	10. Survey of Pakistan
11. Geological Survey of Pakistan	12. Center for Excellence in Geology, University of Peshawar
13. Earthquake Engineering Center, University of Engineering and Technology, Peshawar	14. Head of Department, Geography Department, University of Peshawar

5. Food Security, Agriculture, Nutrition, Drought and Heatwaves

With rising temperatures and shifting weather patterns, droughts and heatwaves are becoming more frequent, affecting agriculture, livestock, water security, and public health. This thematic group focuses on developing sustainable water management strategies, promoting drought resistant crops, and enhancing heatwave preparedness measures. Through scientific assessments and policy interventions, it aims to build resilience against prolonged dry spells and extreme weather conditions, safeguarding both human and ecological systems.

Names of Organizations Included in the Thematic Working Group for Food Security, Agriculture, Nutrition, Drought, and Heatwaves	
1. Rescue 1122 Department	2. Civil Defense Department
3. Agriculture (Extension and Research) Department	4. Communication and Works Department
5. Public Health Engineering	6. Pakhtunkhwa Highways Authority
7. Climate Change, Forestry, Environment, and Wildlife Department	8. Irrigation (small dams) Department
9. Labor Department	10. Information and Public Relations
11. Education Department	12. Food Department
13. Livestock and Fisheries Departments	14. Health/Nutrition Department
15. Climate Cell, Planning and Development Department	16. Geography Department, University of Peshawar
17. Pakistan Meteorological Department	18. Federal Seed Certification and Registration Department
19. Space and Upper Atmosphere Research Commission	20. Center for Disaster Preparedness and Management, University of Peshawar
21. Climate Change Center, Agriculture University, Peshawar	22. HOD, Water Resource Management Department, Agriculture University, Peshawar
23. Center for Water Informatics and Climate Resilience, Institute of Management Sciences, Peshawar	

6. Complex Emergencies

With rising temperatures and shifting weather patterns, droughts and heatwaves are becoming more frequent, affecting agriculture, livestock, water security, and public health. This thematic group focuses on developing sustainable water management strategies, promoting drought resistant crops, and enhancing heatwave preparedness measures. Through scientific assessments and policy interventions, it aims to build resilience against prolonged dry spells and extreme weather conditions, safeguarding both human and ecological systems.

Names of Organizations Included in the Thematic Working Group for Complex Emergencies	
1. Rescue 1122 Department	2. Civil Defense Department
3. Storm Water Drainage	4. Finance Department
5. Establishment Department	6. Law Department
7. Home Department	8. Information and Public Relations
9. Planning and Development Department	10. Network of Disaster Management Authority
11. Center for Disaster Preparedness and Management, University of Peshawar	

7. Adaptive Social Protection

Vulnerable communities are disproportionately affected by disasters, requiring targeted social protection mechanisms to enhance resilience. This working group focuses on integrating DRR into social protection programs, ensuring that marginalized populations receive financial support, livelihood opportunities, and disaster responsive safety nets. By developing inclusive policies, it seeks to build long term resilience, enabling communities to recover faster and adapt to future hazards.

Names of Organizations Included in the Thematic Working Group for Adaptive Social Protection	
1. Social Protection Reforms Unit, Planning and Development Department	2. Bureau of Statistics
3. Khyber Pakhtunkhwa Commission on the Status of Women	4. Employees' Old Age Benefits Institution
5. Elementary and Secondary Education Department	6. Health (Social Health Protection Initiative)
7. Zakat and Ushr Department	8. KP TEVTA
9. Labor (Workers Welfare Board, Employees' Social Security Institution)	10. Benazir Income Support Program
11. Centre for Public Policy Research at the Institute of Management Sciences	12. Agriculture Department
13. Climate Change, Forestry, Environment, and Wildlife Department	14. Local Government and Rural Development Department
15. Sarhad Rural Support Program	16. Industries and commerce
17. Livestock and Fisheries Department	18. Pakistan Bait ul Mal



**Provincial Disaster Management Authority (PDMA)
Relief, Rehabilitation and Settlement Department,
Government of Khyber Pakhtunkhwa**

