# Climate Ready Schools Framework

Elementary & Secondary Education Department

## Message by Minister for E&SE Khyber Pakhtunkhwa

Education is the cornerstone of a progressive and resilient society. However, climate change is posing an unprecedented challenge to our education system, particularly in Khyber Pakhtunkhwa, where schools and communities frequently experience extreme weather events such as heatwaves, flash floods, avalanches, and Glacial Lake Outburst Floods (GLOFs). These climate-induced disruptions not only affect school infrastructure but also hinder students' learning continuity, disproportionately impacting marginalised and vulnerable groups.

Recognising this challenge, the Khyber Pakhtunkhwa Climate Ready Schools Framework represents a major step towards ensuring that our schools are prepared for the realities of a changing climate. This framework sets out a strategic vision for climate-resilient school infrastructure, risk-informed planning, teacher training, and emergency preparedness, ensuring that students continue their education in safe and sustainable learning environments.

I would like to extend my profound appreciation to Bridging Technical Assistance (B-TAG) and the Foreign, Commonwealth & Development Office (FCDO) for their invaluable technical support in shaping this framework. Their expertise has helped us embed global best practices in climate adaptation within the provincial education sector.

The framework is not just a policy document—it is a roadmap for action. I urge all stakeholders, from education authorities to development partners, communities, and the private sector, to work together in implementing climate-resilient solutions that safeguard the future of our students. With collective commitment and strategic investment, we can ensure that Khyber Pakhtunkhwa's schools remain safe, adaptive, and prepared for the challenges of the 21st century.

**FAISAL KHAN TARAKAI**
Minister for Elementary & Secondary Education
Khyber Pakhtunkhwa

## Message by Secretary E&SE Department Khyber Pakhtunkhwa

The increasing frequency and intensity of climate-related disasters in Khyber Pakhtunkhwa present a critical risk to education continuity, school infrastructure, and student well-being. Climate change is no longer a distant threat—it is a present-day reality that requires immediate and coordinated action within the education sector.

The Khyber Pakhtunkhwa Climate Ready Schools Framework is a proactive initiative that sets out a structured approach to strengthening climate resilience in schools across the province. It outlines measures for risk-informed school construction, enhanced emergency preparedness, teacher training, and community engagement, ensuring that schools not only withstand climate-related shocks but also serve as hubs for climate awareness and preparedness.

I extend my gratitude to the Bridging Technical Assistance (B-TAG) and the Foreign, Commonwealth & Development Office (FCDO) for their technical support and knowledge contributions, which have greatly enriched this framework.

Climate resilience in education is not just about infrastructure—it is about equipping students, teachers, and school communities with the knowledge and tools to adapt to a changing climate. I encourage all stakeholders to take ownership of this framework, collaborate in its implementation, and ensure that every child in Khyber Pakhtunkhwa has access to a safe, resilient, and future-ready education.

**MASOOD AHMAD**
Secretary to Government of Khyber Pakhtunkhwa
Elementary & Secondary Education Department

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# Acronyms

ADB – Asian Development Bank

ADC – Additional Deputy Commissioner

AQI – Air Quality Index

ASDEO – Assistant Sub-Divisional Education Officer

CCFEWD – Climate Change, Forestry, Environment & Wildlife Department

CRC – Climate Resilience Cell

DC – Deputy Commissioner

DCTE – Directorate of Curriculum and Teacher Education

DDEO – Deputy District Education Officer

DDMU – District Disaster Management Unit

DEO – District Education Officer

DHO – District Health Officer

DMO – District Monitoring Officer

DPD – Directorate of Professional Development

DRM – Disaster Risk Management

DRR – Disaster Risk Reduction

DRR – Disaster Risk Reduction

E&SED – Elementary & Secondary Education Department

EWS – Early Warning System

FCDO – Foreign Commonwealth and Development Organization

GBV – Gender-Based Violence

GCC – Gender Child Cell

GLOF – Glacial Lake Outburst Flood

GoKP – Government of Khyber Pakhtunkhwa

GPE – Global Partnership for Education

INGO – International Non-Governmental Organization

I-SAPS – Institute of Social and Policy Sciences

IT – Information Technology

KP – Khyber Pakhtunkhwa

LGERDD – Local Government, Elections & Rural Development Department

NGO – Non-Governmental Organization

PDMA – Provincial Disaster Management Authority

PTC – Parent Teacher Council

PWD – Person with Disability

RPDC – Regional Professional Development Centre

RRSD – Relief, Rehabilitation and Settlement Department

SDEO – Sub-Divisional Education Officer

SDG – Sustainable Development Goal

SL – School Leader

TLC – Temporary Learning Centre

UNESCO – United Nations Educational, Scientific & Cultural Organization

UNICEF – United Nations Children's Fund

USAID – United States Agency for International Development

WB – The World Bank

# Executive Summary

Khyber Pakhtunkhwa (KP) faces increasing climate-induced challenges, including floods, heatwaves, earthquakes, and extreme weather events, which pose significant risks to the province's education sector.

The **Climate Ready Schools Framework** provides a comprehensive roadmap for safeguarding KP's education sector against climate risks. By integrating resilience strategies into school planning, governance, and community engagement, this initiative aims to protect educational infrastructure, promote uninterrupted learning, and equip students with the knowledge and skills necessary to thrive in a changing climate. This proactive approach will ensure that the education system in KP remains robust, inclusive, and prepared for future climate challenges.

The **Climate Ready Schools Framework** is a strategic initiative developed to enhance the resilience of KP's schools, ensuring the safety of students, continuity of learning, and long-term sustainability of the education system amid climate adversities.

**Key Challenges**

The framework identifies several critical climate-related risks affecting school education in KP, including:

- **Extreme weather events**, such as rising temperatures, severe flooding, and erratic rainfall patterns, disrupting education services.
- **Disaster-induced damage** to school infrastructure, resulting in prolonged school closures and increased financial burdens for reconstruction.
- **Gendered impacts**, particularly affecting girls' education due to unsafe school environments and heightened dropout risks in the aftermath of disasters.
- **Learning disruptions**, leading to long-term educational attainment gaps among students in high-risk areas.

**Strategic Interventions**

To address these challenges, the framework outlines key strategies for **building climate-resilient schools**, including:

- **Risk-Informed School Planning**: Conducting climate risk assessments at the provincial, district, and school levels to guide infrastructure development and resource allocation.
- **Climate-Resilient School Infrastructure**: Ensuring schools are designed to withstand floods, earthquakes, and extreme temperatures through hazard-sensitive site selection, disaster-resistant construction, and inclusive accessibility features.
- **Emergency Preparedness & Response**: Developing school-based disaster preparedness plans, conducting emergency drills, and integrating early warning systems into school governance.
- **Institutional Coordination & Governance**: Strengthening collaboration between education authorities, climate and disaster management departments, and local government agencies to implement risk mitigation policies effectively.
- **Climate Change Education & Awareness**: Embedding climate education into the curriculum, training teachers in climate-responsive teaching methodologies, and promoting student-led environmental initiatives.

- **Sustainable Financing & Public-Private Partnerships**: Mobilizing financial resources through government funding, donor support, and private sector investments to implement climate adaptation measures in schools.

**Implementation & Oversight**

The **Elementary & Secondary Education Department (E&SED)**, through its dedicated **Climate Resilience Cell (CRC),** and in collaboration with **Provincial Disaster Management Authority (PDMA), and other key stakeholders**, will oversee the implementation of this framework. The framework also proposes monitoring mechanisms to ensure continuous assessment, policy refinement, and capacity-building for climate adaptation in the education sector.

# Glossary of Terms[1]

**Adaptation** – The process of adjusting to actual or expected climate conditions and their effects to moderate harm or exploit beneficial opportunities.

**Air Quality Index (AQI)** – A standardized measurement used to communicate the level of air pollution and its potential health effects, with higher values indicating worse air quality.

**Avalanche** – A rapid flow of snow, ice, and debris down a slope, often triggered by temperature variations, vibrations, or additional snowfall, posing significant risks to mountainous communities and infrastructure.

**Barrier-Free Design** – Infrastructure designs that ensure accessibility for individuals with disabilities, promoting inclusive education.

**Climate** – The long-term pattern of temperature, precipitation, humidity, and atmospheric conditions in a specific region over an extended period.

**Climate Change Adaptation** – The process of modifying systems, structures, or behaviours to reduce vulnerability and enhance resilience to climate change impacts.

**Climate Resilience** – The capacity of a system, community, or society to anticipate, prepare for, respond to, and recover from climate-related shocks and stresses while maintaining essential functions.

**Continuity of Learning** – Ensuring uninterrupted education during disruptions caused by climate events through preparedness measures, alternative learning strategies, and emergency response mechanisms.

[1] **Note:** This glossary has been developed based on technical definitions provided by United Nations Office for Disaster Risk Reduction (UNDRR), World Meteorological Organization (WMO), Intergovernmental Panel on Climate Change (IPCC), United Nations Educational, Scientific and Cultural Organization (UNESCO), United Nations Environment Programme (UNEP), International Union for Conservation of Nature (IUCN), United Nations Framework Convention on Climate Change (UNFCCC), World Bank (WB), and relevant Government of Pakistan policies and frameworks

**Disaster Risk Reduction (DRR)** – The systematic approach to identifying, assessing, and reducing risks of disasters through prevention, mitigation, preparedness, and response measures.

**Drought** – A prolonged period of deficient rainfall that results in water shortages, negatively impacting agriculture, water supply, and school operations.

**Early Warning System (EWS)** – A mechanism that enables timely detection and dissemination of risk-related information to prevent or reduce disaster impacts.

**Education Continuity Planning** – Strategies that ensure uninterrupted learning during disasters through preparedness measures, emergency response, and alternative education delivery modes.

**Equity in Education** – Ensuring fair and inclusive access to quality education for all, with special focus on marginalized and vulnerable groups.

**Gender-Sensitive Adaptation** – Climate adaptation strategies that recognize and address gender disparities in disaster vulnerability and resilience.

**Glacial Lake Outburst Flood (GLOF)** – A sudden and catastrophic release of water from a glacial lake, typically triggered by ice dam failure, seismic activity, or increased water pressure.

**Green Infrastructure** – An approach that integrates natural systems into urban planning and construction to improve sustainability and resilience.

**Hazard Mapping** – The process of identifying areas at risk from specific hazards, such as floods, earthquakes, and landslides, to guide disaster preparedness and response planning.

**Heatwave** – A prolonged period of excessively high temperatures that can cause severe health impacts, school closures, and learning disruptions.

**Inclusive Education** – An approach that ensures students with disabilities and other marginalized groups receive equal access to learning opportunities.

**Learning Loss** – The decline in students' academic progress due to prolonged disruptions in education caused by climate-induced disasters, school closures, or other crises.

**Mitigation** – Measures taken to reduce or eliminate the impact of disasters, such as strengthening buildings, improving drainage systems, and reducing carbon emissions.

**Nature-Based Solutions** – Strategies that use natural ecosystems to address climate risks, such as afforestation, wetland restoration, and sustainable land management.

**Parent-Teacher Committee (PTC)** – A school-based governance body that facilitates community participation in education management and climate resilience planning.

**Provincial Disaster Management Authority (PDMA)** – The government agency responsible for coordinating disaster risk reduction, emergency preparedness, and response in Khyber Pakhtunkhwa.

**Public-Private Partnership (PPP)** – A collaborative model between government entities and private sector stakeholders to support climate-resilient school infrastructure and emergency preparedness.

**Renewable Energy** – Energy generated from natural resources such as sunlight, wind, and geothermal heat that are sustainable and environmentally friendly.

**Resilient Infrastructure** – Infrastructure designed to withstand climate-induced hazards and disasters while ensuring continuity of essential services.

**School Disaster Preparedness Plan** – A structured plan developed by schools to outline emergency response protocols and disaster mitigation strategies.

**Sendai Framework for Disaster Risk Reduction (SFDRR)** – A global framework (2015-2030) outlining principles and priorities for reducing disaster risks and building resilience.

**Sustainable Development Goals (SDGs)** – A set of 17 global goals established by the United Nations, including **SDG 4 (Quality Education)** and **SDG 13 (Climate Action)**.

**Smog** – A form of severe air pollution caused by a combination of emissions from vehicles, industries, and climatic conditions, leading to respiratory illnesses and reduced visibility.

**Temporary Learning Centres (TLCs)** – Emergency educational facilities set up in disaster-affected areas to provide temporary schooling.

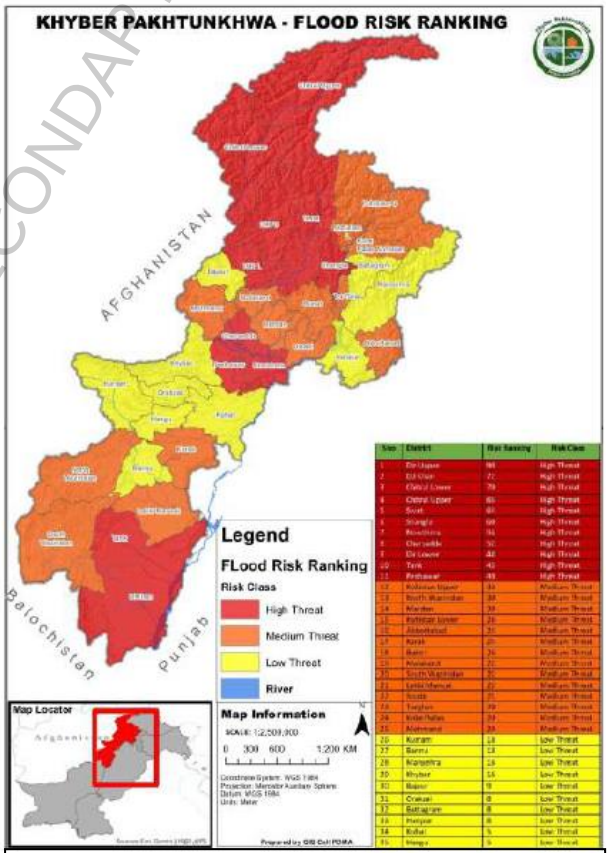
**Thunderstorm** – A severe weather event characterised by lightning, heavy rain, strong winds, and sometimes hail, which can cause disruptions in school operations and damage infrastructure.

**Universal Accessibility** – The principal of ensuring that school buildings, facilities, and resources are usable by all individuals, including those with disabilities.

# SECTION 1: Climate Change and School Education in Khyber Pakhtunkhwa: Challenges and Implications

Khyber Pakhtunkhwa (KP) is among the most climate-vulnerable regions of Pakistan, exposed to an array of climatic and geophysical hazards that pose significant risks to lives, livelihoods, and infrastructure. The province's diverse topography, spanning from the glaciated Hindu Kush mountains in the north to semi-arid plains in the south, amplifies its susceptibility to extreme weather events and natural disasters. The increasing frequency and intensity of climate-induced hazards underscore the urgent need for resilience-building measures, particularly within critical public service sectors such as education.

## 1.1 Extreme Weather and Climatic Variability




Source: PDMA's Summer Hazards Contingency Plan 2024

Khyber Pakhtunkhwa exhibits a highly diverse climate, with its geography shaping distinct regional vulnerabilities to extreme weather events. The province's southern districts endure prolonged and intensifying heatwaves, with temperatures frequently exceeding 40°C, exacerbating risks related to water scarcity, land degradation, and agricultural decline. In contrast, the northern highlands experience extreme winter conditions characterized by heavy snowfall, avalanches, and sub-zero temperatures, leading to the seasonal isolation of entire communities. The unpredictability of seasonal variations has been further aggravated by climate change, resulting in erratic precipitation patterns contributing to frequent and severe flash floods and landslides. Monsoon rainfall has become increasingly irregular, intense, and spatially concentrated, overwhelming drainage systems, destabilizing slopes, and displacing communities. Moreover, KP's river systems, particularly the Swat and Kabul Rivers, experience fluctuating water levels due to climate-induced shifts in hydrological patterns. Riverine flooding has become an annual occurrence, with extensive inundation of agricultural lands and settlements, further compounding socio-economic vulnerabilities.

Glacial retreat and its consequences have emerged as an additional challenge for the province, particularly in mountainous districts such as Chitral and Swat. Rising temperatures have accelerated glacial melt, leading to the formation and expansion of glacial lakes. The instability of these water bodies has heightened the risk of Glacial Lake Outburst Floods (GLOFs), which have the potential to cause large-scale devastation within minutes. As temperatures continue to rise, the frequency of such events is expected to increase, placing thousands of lives and critical infrastructure at risk. The province's exposure to these climate-induced hazards underscores the urgent need for robust adaptation strategies, particularly in the realm of infrastructure resilience, early warning systems, and disaster preparedness.

## 1.2 Rising Disaster Risk due to Climate Change

The frequency and intensity of extreme weather events in KP have escalated significantly over the past two decades, reflecting broader trends of climate variability across the region. Hydrometeorological hazards such as floods, droughts, heat waves, and storms have become more frequent and severe, with far-reaching consequences for communities and public services. The province has witnessed an increasing number of hydrological disruptions, including shifts in monsoon rainfall patterns and prolonged dry spells, leading to alternating cycles of flooding and water scarcity. The unpredictable nature of these climatic shifts poses serious challenges to agriculture, food security, and human settlements, while also straining public infrastructure, including transport, health, and education facilities.

Among the most alarming trends is the rise in forest fires across KP, particularly in regions such as Malakand and Hazara, where extended dry periods have created highly flammable conditions. These fires not only contribute to biodiversity loss and air pollution but also increase the risk of soil erosion and landslides, which further destabilize already fragile ecosystems. The 2010 and 2022 floods serve as stark examples of the intensifying nature of climate-induced disasters. The 2010 floods affected millions across KP, with entire districts submerged and essential infrastructure severely damaged. More recently, the 2022 floods caused large-scale destruction, displacing thousands and resulting in widespread economic and social disruption. These events are no longer sporadic occurrences; rather, they reflect a systemic shift in the province's climate vulnerability, necessitating comprehensive policy interventions focused on climate resilience, disaster risk reduction, and sustainable land-use planning.

## 1.3 Geophysical Risks: Seismic Activity and Earthquakes

In addition to climate-induced hazards, KP's location in a seismically active zone further compounds its disaster risk profile. The province has historically experienced high-magnitude

earthquakes, with the 2005 earthquake serving as a devastating example of the potential destruction associated with seismic activity. This event resulted in over 9,000 schools collapsing or becoming structurally unfit for use, displacing hundreds of thousands of students and disrupting education for an entire generation. The interaction between seismic risks and climate change is particularly concerning, as earthquakes frequently trigger secondary disasters such as landslides, which are exacerbated by extreme rainfall and deforestation. The fragility of KP's infrastructure—particularly in rural and mountainous regions—necessitates an urgent shift towards disaster-resistant construction practices, retrofitting of existing structures, and improved seismic preparedness measures. Without integrated risk assessment and policy coordination, the province remains highly susceptible to cascading disasters that could have severe socio-economic implications.

## 1.4 Climate Impacts on KP's School Education Sector

The rapid escalation of climate risks has profound implications for KP's education sector, affecting school infrastructure, student attendance, learning continuity, and long-term educational outcomes. The cascading effects of climate disasters on education are both immediate and long-term, necessitating urgent policy interventions to safeguard learning environments.

### 1.4.1 Damage to School Infrastructure

Climate-induced disasters pose a severe risk to educational infrastructure in Khyber Pakhtunkhwa, significantly disrupting access to safe and continuous education. The monsoon floods 2022 had a particularly devastating impact, severely damaging the province's educational infrastructure. According to the KP E&SED Flood Relief Report 2022, a total of 1,790 schools were affected across 36 districts. Of these, 150 schools were completely destroyed, and 1,640 sustained partial damage. Primary schools bore the brunt of these impacts, accounting for 1,491 damaged facilities, including 132 schools completely destroyed and 1,359 partially damaged schools (E&SED, 2022, p. 3). Districts such as D.I.Khan, Swat, Tank, and Nowshera were among the most severely affected, with substantial implications for student attendance, retention rates, and educational continuity, particularly for vulnerable student populations, including girls. *District-wise damaged schools are as follows.*

| S.N | District | Partially Damaged Schools | Fully Damaged Schools | Total |
|---|---|---|---|---|
| **1** | Abbottabad | 99 | 2 | 101 |
| **2** | Bajaur | 10 | 1 | 11 |
| **3** | Bannu | 66 | | 66 |
| **4** | Battagram | 23 | | 23 |
| **5** | Buner | 24 | 9 | 33 |

| | | | | |
|---|---|---|---|---|
| **6** | Charsadda | 30 | | 30 |
| **7** | Chitral Lower | 15 | 2 | 17 |
| **8** | D I KHAN | 183 | 34 | 217 |
| **9** | Dir Upper | 29 | 8 | 37 |
| **10** | Dir Lower | 206 | 2 | 208 |
| **11** | HARIPUR | 26 | | 26 |
| **12** | Karak | 40 | | 40 |
| **13** | Khyber | 14 | 3 | 17 |
| **14** | Kohistan Lower | 11 | 33 | 44 |
| **15** | Kohistan Upper | 12 | 4 | 16 |
| **16** | Kolai Palas | 8 | 1 | 9 |
| **17** | Kurram | 4 | | 4 |
| **18** | Lakki Marwat | 85 | 3 | 88 |
| **19** | Lower-Chitral | 8 | | 8 |
| **20** | Malakand | 6 | | 6 |
| **21** | Mansehra | 48 | 2 | 50 |
| **22** | Mardan | 27 | | 27 |
| **23** | Mohmand | 12 | | 12 |
| **24** | North Waziristan | 11 | | 11 |
| **25** | Nowshera | 48 | | 48 |
| **26** | Orakzai | 6 | 2 | 8 |
| **27** | Peshawar | 7 | | 7 |
| **28** | SD Bannu | 10 | | 10 |
| **29** | SD Dara Zinda, D.I.Khan | 31 | 1 | 32 |
| **30** | SD Jandola, Tank | 24 | 5 | 29 |
| **32** | Shangla | 104 | | 104 |
| **33** | Swabi | 51 | | 51 |
| **34** | Swat | 173 | 26 | 199 |
| **35** | Tank | 165 | 12 | 177 |
| **36** | Torghar | 2 | | 2 |
| **37** | Upper Chitral | 22 | | 22 |
| | **Grand Total** | **1640** | **150** | **1790** |

Additionally, KP's diverse topography and climatic conditions exacerbate the vulnerability of educational infrastructure. In mountainous regions, heavy snowfall, avalanches, and landslides frequently result in road blockages, isolating schools and disrupting access for students and teachers. Schools in these regions often remain inaccessible for extended periods, intensifying learning disruptions and increasing dropout risks (PDMA KP, 2022).

The financial implications of climate-induced infrastructural damage are substantial. The reconstruction costs for the affected schools from the 2022 floods alone were estimated at approximately PKR 8.394 billion (E&SED, 2022, p. 5). The fiscal strain further compounds the already limited education budget, diverting resources from broader educational development

and enhancement efforts. Without targeted investments in resilient infrastructure and strategic preparedness, the KP education system will remain vulnerable to recurrent climatic shocks, undermining efforts toward inclusive and equitable education.

### 1.4.2 Disruptions in Student Attendance and Learning Continuity

Climate disasters not only destroy school buildings but also severely disrupt student attendance and learning continuity. Extreme weather events necessitate prolonged school closures, which in turn lead to significant learning losses. In 2022, thousands of schools in KP were converted into relief shelters, leading to the suspension of regular academic activities. Heatwaves, particularly in the southern districts, have also resulted in school closures due to unsafe learning conditions, especially in facilities lacking proper ventilation and cooling mechanisms. The displacement of families due to floods further worsens educational instability, with many children never returning to school after prolonged absences.

### 1.4.3 Gendered Impacts of Climate Disasters on Education

The intersection of climate vulnerability and gender disparities in KP's education system is particularly concerning. Girls are disproportionately affected by climate-induced school closures, as families often prioritise boys' education in post-disaster recovery periods. Schools operating in temporary learning spaces following disasters frequently lack gender-sensitive facilities, such as separate toilets and secure environments, discouraging female students from attending classes. Economic shocks triggered by climate disasters further exacerbate the risk of female dropout, as families facing financial constraints often withdraw girls from school first.

A recent case study of District Nowshera (Gul et al., 2024) confirms that floods significantly disrupt girls' education due to school closures, infrastructure damage, and household economic distress. The study found that while no female students lost their lives in the 2022 floods, two girls' schools were completely destroyed, and 79% of the surveyed schools suffered partial damage. The damage extended to essential facilities, including washrooms (26%) and water supply systems (26%), exacerbating barriers to girls' continued education. Additionally, the floods disrupted academic activities for periods ranging from five days to two months, depending on the severity of the damage (Gul et al., 2024). A particularly alarming impact of the floods was the increased psychological distress among female students. 40% of students reported a persistent fear of floods, leading to reluctance to return to school. Other reported mental health issues included trauma (25%), anxiety (19%), and depression (16%), with many girls exhibiting withdrawal from academic activities due to post-flood stress and insecurity (Gul et al., 2024). These findings suggest that beyond infrastructural rehabilitation,

psychosocial support mechanisms need to be integrated into climate adaptation strategies for education.

Another study (Ahmed et al., 2022), highlighted that female dropout rates tend to rise after climate disasters. The study found that 21% of respondents reported female dropouts in the surveyed flood-affected areas of KP, with contributing factors including displacement, financial constraints, and increased household responsibilities. Many affected girls had to assist their families in household work or contribute financially, leading to a permanent disengagement from education. The lack of alternative education arrangements further worsens the situation for girls. While 49% of affected schools established temporary learning centres or shifted students to rented spaces, 51% of schools had no alternative arrangements, leaving female students particularly vulnerable to long-term educational disruption (Ahmed et al., 2022). The same study underscores that flood-prone rural communities are at the highest risk of educational exclusion, with girls from these areas significantly less likely to re-enrol once displaced from formal schooling.

In the absence of timely interventions, climate-induced gender disparities in education will continue to widen. Future resilience strategies must integrate gender-sensitive adaptation measures, including ensuring the provision of separate, secure sanitation facilities, targeted re-enrolment campaigns for affected girls, and psychosocial support services to address mental health challenges. Strengthening community engagement through Parent-Teacher Committees (PTCs) can also play a critical role in mitigating the long-term consequences of climate disasters on girls' education.

## 1.5 A Framework for Climate-Ready Schools in Khyber Pakhtunkhwa:

### 1.5.1 Global Perspective on Climate-Ready Schools

Climate-ready schools are educational institutions designed or adapted to withstand the impacts of climate change while promoting environmental sustainability and resilience. Globally, there is a growing recognition of the need to make schools safe, energy-efficient, and responsive to climate-related risks such as extreme weather, heat waves, floods, and poor air quality.

In countries like the United States, Canada, Australia, and parts of Europe, efforts are underway to modernize school infrastructure with green building materials, renewable energy sources like solar panels, improved ventilation systems, and disaster preparedness plans. In developing nations, initiatives focus on low-cost, resilient structures and community-based solutions to ensure that schools remain safe and accessible during climate-related events.

Incorporating climate education into school curricula is also a key component, empowering students to understand climate issues and take action. Climate-ready schools serve not only as places of learning but also as community hubs for resilience and adaptation in the face of global environmental challenges.

### 1.5.2 Climate-Ready Schools in Khyber Pakhtunkhwa

Despite the growing threats posed by climate change, KP's education infrastructure remains highly vulnerable to climate shocks, with most school buildings designed without considering climate risks. Schools are often constructed in flood-prone areas, on landslide-prone slopes, or without adequate heat and cold resistance measures, leaving them highly susceptible to climate-induced structural degradation. The lack of climate-resilient design standards has resulted in recurrent infrastructure failures, leading to long-term school closures and repeated financial burdens on reconstruction.

Additionally, KP's education sector lacks a coordinated response framework to prevent, mitigate, and adapt to climate impacts. Currently, climate-related school disruptions are addressed in a reactive, crisis-driven manner, with emergency responses focused on short-term relief rather than long-term adaptation and resilience-building. While various initiatives in Disaster Risk Reduction (DRR) have been implemented, they have not been integrated into a unified policy framework for climate-adaptive education.

A Framework for Climate-Ready Schools in KP is essential to shift from reactive crisis management to proactive climate resilience planning. This framework will provide strategic direction on designing, constructing, and managing schools to withstand climate-induced hazards, ensuring that educational institutions are safe, functional, and adaptive in the face of environmental challenges.

The increasing climate-induced vulnerabilities in KP necessitate a paradigm shift in the education sector's resilience planning. A comprehensive Framework for Climate-Ready Schools must be underpinned by forward-looking policy imperatives that integrate climate adaptation strategies, risk-informed planning, and institutional coordination. Addressing climate risks within the education sector requires policies that ensure climate-responsive educational infrastructure, adaptive financing, and a governance framework that facilitates multi-sectoral collaboration.

a. ***Strengthening Institutional Capacity through Operationalising Climate Resilience Cell (CRC) at E&SED:*** **To embed climate adaptation within the education governance system,** the operationalisation of the Climate Resilience Cell (CRC) within the Planning Wing of E&SED is imperative. This institutional mechanism, previously tested in the Monitoring &

Evaluation (M&E) Wing of the E&SED, will serve as the focal body for integrating climate resilience into education policies, planning processes, and emergency response mechanisms. E&SED may establish the CRC as a project under the Annual Development Programme (ADP) to institutionalize its role. Its mandate will include coordinating with PDMA, local governments, and the Planning & Development Department (P&DD) to ensure education sector resilience is mainstreamed into broader provincial adaptation planning. The CRC will be responsible for:

i. **Climate Change Adaptation in the Education Sector** – Developing risk-informed school planning strategies, monitoring climate-induced disruptions, and ensuring sectoral alignment with KP's Climate Change Action Plan (2022).

ii. **Gender Mainstreaming in Education** – Addressing gendered vulnerabilities in climate adaptation, ensuring targeted interventions for reducing dropout rates among female students following disasters.

iii. **Inclusive Education** – Ensuring that climate-adaptive infrastructure and disaster response mechanisms cater to the needs of students with disabilities and marginalised communities.

**b.** ***Institutionalizing Climate-Resilient School Design Standards:*** A resilient school infrastructure is foundational to ensuring continuity in education amidst climate-induced shocks. Policies should require that all school construction projects adhere to climate-adaptive building codes, ensuring structures can withstand extreme weather events such as flooding, seismic activity, and extreme temperature variations. Additionally, climate risk assessments should be systematically integrated into school site selection and construction planning. The use of nature-based solutions—such as elevated school structures in flood-prone areas, reinforced roofing for extreme heat resistance, and sustainable drainage systems—can significantly enhance the longevity of educational facilities**.**

***c. Developing Provincial Guidelines on Climate-Responsive Education Management:*** Embedding climate resilience into school governance is imperative. Provincial education policies must integrate climate risk assessment tools, emergency preparedness mechanisms, and adaptation strategies into routine education sector planning. Schools should develop and operationalise contingency plans that ensure minimal disruption to learning in the face of climate-induced school closures. This includes the development of flexible academic calendars, digitised learning platforms, and teacher training programs incorporating climate-responsive pedagogy. Additionally, policies should support

establishing school-based climate risk monitoring systems, allowing real-time assessment of vulnerabilities and timely response to emerging threats.

d. ***Strengthening Climate-Resilient School Financing Mechanisms:*** Transitioning to climate-resilient schools demands a robust financial strategy. The government should establish dedicated financial instruments to support investments in climate-adaptive school infrastructure, research on climate-responsive education models, and emergency response programs. Innovative financing solutions, such as green climate funds and climate bonds, can be leveraged to enhance resource mobilisation. Additionally, integrating climate-smart financing into provincial education budgets can ensure that climate adaptation measures are systematically accounted for in long-term sectoral planning**.**

e. ***Public-Private Partnerships for Climate-Resilient Education:*** Collaborative governance is critical for implementing climate adaptation strategies in education. Public-private partnerships (PPPs) can mobilise technical expertise, financial resources, and innovative solutions to support the operationalisation of climate-resilient schools. Engaging research institutions and international development agencies can facilitate knowledge-sharing on best practices in climate-adaptive education. Moreover, corporate social responsibility (CSR) initiatives can be tapped to fund school infrastructure retrofitting projects and the development of digital learning platforms that enable education continuity during climate emergencies.

f. ***Enhancing Community Engagement in School-Based Climate Adaptation:*** A whole-of-society approach is fundamental to strengthening school resilience. Schools should function as community resilience hubs, fostering climate awareness and local adaptation initiatives. Local communities, parents, and students must be actively involved in decision-making processes regarding school adaptation measures. This includes participatory climate risk mapping, community-led school safety assessments, and climate action programs that integrate local knowledge into resilience-building efforts. Additionally, fostering intergenerational learning on climate adaptation can create a culture of sustainability within school communities.

The mounting climate challenges in KP necessitate an urgent shift from reactive disaster response to proactive climate adaptation planning. A Framework for Climate-Ready Schools provides a strategic roadmap for integrating resilience-building measures across school infrastructure, learning continuity, and governance systems. By embedding climate adaptation into provincial education policies, KP can safeguard its education sector against future climate

extremities while equipping students with the knowledge and skills necessary for building a climate-resilient society.

# SECTION 2: POLICY LANDSCAPE FOR CLIMATE-READY SCHOOLS

## 2.1 National Adaptation Plan (NAP) 2023

Pakistan ranks among the most climate-vulnerable countries globally, facing intense threats such as rising temperatures, floods, droughts, and glacial melt. Despite its minimal contribution to global emissions, the country endures disproportionate climate impacts, including the 2022 Mega floods that submerged a third of the country and affected 33 million people.

The NAP provides a strategic, inclusive framework for building national climate resilience. It identifies key vulnerabilities and outlines adaptation strategies across seven critical areas:

1. Agriculture-Water Nexus
2. Natural Capital
3. Urban Resilience
4. Human Capital
5. Disaster Risk Management (DRM)
6. Gender, Youth, and Social Inclusion
7. Climate Financing & Implementation

**Key Elements:**

- **Vision**: A climate-resilient Pakistan built on collaboration, equity, and sustainable development.
- **Guiding Principles**: Strategic, inclusive, evidence-based, and locally grounded actions that leave no one behind.
- **Priority Actions**:
    - Promote climate-smart agriculture
    - Manage water and natural resources sustainably
    - Improve urban planning and service delivery
    - Strengthen public health and education systems
    - Build early warning systems and disaster preparedness
    - Empower marginalized groups for inclusive adaptation

**Implementation:**

The NAP adopts a whole-of-society approach, ensuring multi-level governance, coordinated planning, and a strong monitoring & evaluation system. It emphasizes integration of climate adaptation into national and provincial development plans.

**Financing:**

With an estimated requirement of US$348 billion by 2030, the plan highlights the need for both international climate finance and innovative domestic mechanisms, including green bonds, debt-for-climate swaps, and public-private partnerships.

## 2.2 Policy and Strategic Framework

The policy landscape governing climate-resilient education in KP is shaped by a range of international commitments, national policies, and provincial frameworks. As climate-induced hazards—such as flash floods, heatwaves, GLOFs, and extreme weather events—continue to disrupt the education sector, it has become imperative to embed climate resilience into education planning, school infrastructure development, and governance mechanisms.

The Framework for Climate-Ready Schools in KP is positioned within this evolving policy landscape, aligning with global, national, and provincial priorities while addressing the existing policy gaps. This section examines key policy and strategic instruments that inform and shape climate resilience in the school education sector of KP.

KP's education sector operates within a broader climate adaptation and disaster risk reduction policy environment, informed by international agreements, national frameworks, and provincial strategies. The Government of KP has made strides in aligning climate adaptation objectives with Pakistan's National Climate Change Policy (NCCP 2021), Nationally Determined Contributions (NDCs), and disaster risk reduction strategies. These policies draw upon global commitments such as the Paris Agreement, Sustainable Development Goals (SDGs), and the Sendai Framework for Disaster Risk Reduction to integrate climate resilience into governance and institutional frameworks.

At the provincial level, climate adaptation and disaster preparedness measures are reflected in several key documents, including KP Climate Change Policy 2022, KP Climate Change Action Plan 2022, KP Climate Change Diagnostic and Investment Plan, and Provincial Disaster Risk Management Plans and Contingency Plans.

These policies collectively underscore the necessity of resilience-building in education, yet the lack of a dedicated framework addressing climate resilience in schools remains a critical gap. The Framework for Climate-Ready Schools in KP is designed to operationalise these policy commitments, ensuring that climate resilience is systematically embedded within school planning, infrastructure, and governance.

## 2.3 Linkages with International Commitments

KP's climate-resilient education framework aligns with global policy instruments, drawing on best practices in climate adaptation, disaster resilience, and sustainable education governance.

### 2.3.1 United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement

Pakistan's ratification of the United Nations Framework Convention on Climate Change (UNFCCC) in 1994 laid the foundation for its commitment to climate action. This was further reinforced through the Paris Agreement (2015), a legally binding international treaty that mandates integrating climate adaptation across various sectors, including education. Article 12 of the Paris Agreement specifically calls for the enhancement of education, institutional preparedness, and public awareness in addressing climate change (UNFCCC, 2015). The Framework for Climate-Ready Schools in Khyber Pakhtunkhwa aligns with these commitments by operationalising climate resilience within the education sector. This is achieved through the institutionalisation of climate preparedness principles in school governance, the integration of adaptation measures into school infrastructure planning, and the development of climate-awareness initiatives within learning communities. These interventions directly contribute to Pakistan's international obligations under the UNFCCC and reinforce the country's commitment to strengthening climate resilience in education.

### 2.3.2 Sendai Framework for Disaster Risk Reduction (2015-2030)

The Sendai Framework for Disaster Risk Reduction (2015-2030) provides a complementary approach by focusing on disaster risk education, school safety measures, and inter-sectoral coordination (UNDRR, 2015). It mandates cross-sectoral cooperation, school-level disaster preparedness, and climate risk integration in education governance. The KP Climate-Ready Schools Framework incorporates these principles by institutionalising structured emergency response strategies, school safety planning, and systematic collaboration between education and disaster management stakeholders.

### 2.3.3 Sustainable Development Goals (SDGs)

The SDGs provide a globally recognised framework for advancing sustainable and inclusive development. The intersection between education and climate resilience is explicitly recognised under SDG 4 (Quality Education) and SDG 13 (Climate Action) (United Nations, 2015). SDG 4 advocates for Education for Sustainable Development (ESD), underscoring the need to embed climate literacy, adaptation strategies, and disaster preparedness within school curricula and educational planning. SDG 13, which focuses on climate action, calls for strengthening institutional responses to climate-induced vulnerabilities through education, awareness-building, and cross-sectoral collaboration. In alignment with these global objectives, the Framework for Climate-Ready Schools in KP ensures that climate adaptation principles are embedded within provincial education sector policies, school-level disaster

preparedness strategies, and community-led resilience initiatives. This approach contributes to the broader SDG targets while ensuring that KP's education system is equipped to navigate climate risks effectively.

## 2.4 National Climate Change Policy (NCCP) 2021

The National Climate Change Policy (NCCP) 2021 serves as Pakistan's primary strategic framework for addressing climate risks across key sectors, including education (Ministry of Climate Change, 2021). Recognising the education sector's vulnerability to climate-induced disruptions, the policy underscores the importance of climate risk assessments for school infrastructure, the integration of disaster risk education into curricula, and the establishment of climate-resilient education policies. These directives provide a foundation for provincial-level interventions that address the heightened climate vulnerabilities faced by schools in KP. The Framework for Climate-Ready Schools builds upon the NCCP's directives by institutionalising risk-informed planning in education governance, promoting climate-adaptive infrastructure investments, and embedding disaster preparedness within school management systems. Through these measures, the framework ensures that KP's education sector remains aligned with the national climate adaptation agenda while advancing locally tailored resilience strategies.

## 2.5 Khyber Pakhtunkhwa Climate Change Policy 2022

The Khyber Pakhtunkhwa Climate Change Policy 2022 outlines a provincial approach to addressing climate risks across various sectors, including education (Government of KP, 2022). The policy explicitly highlights schools as critical institutions requiring urgent adaptation measures, particularly in light of frequent climate-induced disruptions, infrastructure vulnerabilities, and the growing need for cross-sectoral coordination in disaster preparedness. The policy advocates for climate-resilient school infrastructure development, the integration of adaptation measures into education sector planning, and strengthened interdepartmental coordination to facilitate school-level climate response strategies. The Framework for Climate-Ready Schools in KP translates these policy commitments into structured implementation strategies, ensuring that climate resilience is not merely a conceptual priority but an actionable directive within the province's education sector. By embedding climate adaptation within governance structures, learning continuity strategies, and school-level emergency preparedness measures, the framework operationalises the commitments set forth in the KP Climate Change Policy.

## 2.6 Khyber Pakhtunkhwa Education Sector Plan (ESP) 2020-25

The Khyber Pakhtunkhwa Education Sector Plan (ESP) 2020-25 provides a strategic roadmap for transforming the province's education system through policy interventions, capacity-building initiatives, and governance reforms. It focuses on equitable access, retention, and quality improvement, ensuring education services reach marginalised communities, including girls, children with disabilities, refugees, and students in disaster-prone areas.

The ESP explicitly recognises climate change as a major challenge and underscores the need to embed climate resilience within school planning, infrastructure development, and curriculum design. In line with Sustainable Development Goal 4 (SDG-4), it emphasises education continuity despite climate-induced disruptions and advocates for climate-adaptive infrastructure such as improved ventilation, resilient building materials, and elevated school structures in flood-prone areas. It also stresses the importance of integrating Disaster Risk Reduction (DRR) strategies into school management, ensuring preparedness for floods, heatwaves, and earthquakes.

The plan highlights cross-sector collaboration among key provincial institutions, including the Provincial Disaster Management Authority (PDMA), Climate Change Forestry, Environment and Wildlife Department (CCFEWD), Planning & Development Department, and Finance Department. It supports the establishment of the Climate Resilience Cell (CRC) within the E&SED, tasked with mainstreaming climate resilience into education policies, budgeting, and implementation.

By institutionalising climate adaptation strategies, strengthening governance mechanisms, and fostering inter-agency coordination, the ESP establishes a future-ready education system capable of withstanding climate challenges while promoting inclusive, sustainable learning environments.

## 2.7 Khyber Pakhtunkhwa Climate Change Action Plan 2022

The Khyber Pakhtunkhwa Climate Change Action Plan 2022 functions as an operational mechanism for embedding climate adaptation across public institutions, including education (Government of KP, 2022). The action plan emphasises targeted investments in infrastructure resilience, institutional capacity-building, and climate-sensitive policy development. Schools, as essential public institutions, require systematic integration into climate adaptation strategies, particularly in regions highly susceptible to flooding, temperature extremes, and geophysical risks such as earthquakes and landslides. In alignment with these policy directions, the Framework for Climate-Ready Schools in KP facilitates the institutionalisation of school-level adaptation strategies, structured governance interventions, and infrastructure resilience assessments. This ensures that schools across the province are equipped to anticipate, absorb, and recover from climate-induced shocks without compromising learning continuity.

## 2.8 KP Climate Change Diagnostic and Investment Plan

The KP Climate Change Diagnostic and Investment Plan serves as a foundational policy instrument that assesses sectoral vulnerabilities and identifies investment priorities for climate resilience (Government of KP, 2022). Within the education sector, the plan underscores the need for risk-informed infrastructure development, targeted resource allocation for resilience-building, and institutional strengthening to implement long-term adaptation measures. The Framework for Climate-Ready Schools in KP leverages these diagnostics to ensure that education sector planning is informed by evidence-based climate

risk assessments and strategically directed towards sustainable, cost-effective resilience interventions. By aligning school infrastructure development with investment-focused climate adaptation strategies, the framework provides a structured roadmap for embedding climate resilience within KP's education system.

## 2.9 Provincial Disaster Risk Management and Contingency Plans

The Provincial Disaster Risk Management and Contingency Plans, developed by the PDMA, provide an institutional framework for enhancing disaster preparedness across public institutions, including schools. These plans incorporate disaster risk reduction strategies, early warning systems, and inter-departmental coordination protocols for climate-induced emergencies (PDMA, 2022). Within the education sector, contingency planning plays a critical role in ensuring that schools remain operational during climate crises, evacuation procedures are effectively managed, and disaster response mechanisms are well-coordinated across agencies. The Framework for Climate-Ready Schools in KP integrates these mechanisms, strengthening the education sector's capacity to respond to climate hazards while maintaining institutional continuity. Through the formalisation of school-level disaster preparedness measures, structured response protocols, and enhanced coordination between education and disaster management authorities, the framework ensures that the province's schools are equipped to manage the impacts of climate-induced disruptions effectively.

## 2.10 Guidelines for Continuation of Education during Emergencies.

The Khyber Pakhtunkhwa Relief, Rehabilitation & Settlement Department (RR&SD), in collaboration with the E&SED, developed comprehensive Guidelines for Continuation of Education during Emergencies in 2023. These guidelines specifically address the challenges posed by floods, earthquakes, conflicts, and pandemics, with a strong focus on ensuring uninterrupted education for girls during both natural and man-made crises.

Additionally, E&SED and RR&SD have established an effective coordination mechanism at both policy and execution levels for timely and effective response to such emergencies. This framework enhances vertical and horizontal collaboration, enabling a more effective and collective response to educational disruptions caused by emergencies.

## 2.11 Bridging Policy Gaps for Climate-Resilient Schools

The existing policy landscape at international, national, and provincial levels provides a strong foundation for embedding climate resilience within KP's education sector. However, despite the presence of robust policy instruments addressing various aspects of climate adaptation, the absence of a dedicated, school-specific climate resilience framework remains a critical policy gap. The Framework for Climate-Ready Schools in Khyber Pakhtunkhwa is specifically designed to bridge this gap by aligning global climate commitments, national policy directives, and provincial adaptation strategies into a structured, actionable policy instrument. By embedding climate adaptation principles into school infrastructure planning, learning continuity strategies, and governance mechanisms, KP can ensure that its education sector is

resilient, responsive, and prepared to navigate future climate challenges while fostering a culture of climate literacy and sustainability.

## 2.12 Institutional Roles and Key Departments For Climate Adaptation In Khyber Pakhtunkhwa

The governance of climate adaptation in Khyber Pakhtunkhwa relies on a complex network of institutions, each with distinct responsibilities in policy formulation, disaster risk management, environmental regulation, and education sector resilience-building. As climate risks escalate, particularly in the context of education infrastructure vulnerability, the role of provincial institutions in mainstreaming climate resilience into school governance has become increasingly critical. Effective interdepartmental coordination, resource mobilisation, and policy integration are fundamental to ensuring that schools in KP are equipped to withstand climate-induced disruptions while maintaining learning continuity and institutional sustainability.

The Framework for Climate-Ready Schools in KP is built upon existing institutional mandates, aligning with the strategic direction set by the KP Climate Change Policy 2022, the KP Climate Change Action Plan, guidelines for Continuity of |Education During Emergencies and Provincial Disaster Risk Management Plan. The successful implementation of this framework depends on collaborative governance, where different departments, including climate, disaster risk management, education, health, and local government agencies, work together to develop and implement risk-informed policies and adaptation strategies. However, despite the existence of well-defined mandates, challenges remain in ensuring institutional coordination, resource allocation, and policy coherence. Addressing these challenges is crucial for enhancing school-level climate resilience and strengthening KP's education sector adaptation strategies.

### 2.12.1 Elementary and Secondary Education Department (E&SED)

The E&SED is the primary governing body for school education policy, planning, and administration. E&SED is responsible for integrating climate resilience into education sector governance, developing risk-informed school infrastructure policies, and ensuring the systematic inclusion of climate adaptation measures within provincial education strategies. To institutionalise climate adaptation efforts within the education system, E&SED is establishing the Climate Resilience Cell (CRC) within its administrative structure. This specialised unit is tasked with developing and operationalising climate-resilient education strategies, conducting climate risk assessments for school infrastructure, and integrating climate adaptation principles into school management systems. The primary objective of the CRC is to ensure that education systems in KP are climate-adaptive, disaster-resilient, and well-equipped to respond to environmental disruptions.

The Climate Resilience Cell will work closely with school management authorities, district education offices, and development partners to advance climate-informed education planning, capacity-building for teachers and administrators, and school-level adaptation

interventions. Through structured engagement with provincial, district, and local institutions, E&SED aims to embed resilience measures into school governance frameworks, ensuring that schools remain safe, functional, and prepared to mitigate the risks posed by climate-induced disasters.

### 2.12.2 Climate Change, Forestry, Environment & Wildlife Department (CCFEWD)

The Climate Change, Forestry, Environment & Wildlife Department (CCFEWD) serves as the lead authority for climate governance in KP, responsible for developing climate adaptation and mitigation policies, overseeing environmental sustainability, and implementing cross-sectoral climate resilience strategies. The KP Climate Change Policy (2022) and KP Climate Change Action Plan (2022), both formulated under CCFEWD's leadership, provide the overarching policy framework for climate risk management across public sectors, including education. The Climate Change Cell, housed within CCFEWD, plays a technical advisory role, conducting climate vulnerability assessments, coordinating climate finance initiatives, and aligning provincial adaptation measures with national and international climate commitments. Through its regulatory wing, the Environmental Protection Agency (EPA KP), CCFEWD is also responsible for enforcing environmental compliance, ensuring sustainable land use, and implementing eco-friendly infrastructure standards in public sector projects, including school construction and retrofitting. Given that educational facilities are among the most exposed public assets in KP, stronger integration between CCFEWD and the Education Department is required to institutionalise school-level climate adaptation policies, develop risk-sensitive infrastructure plans, and enhance compliance with environmental regulations.

### 2.12.3 Climate Change Cell, Planning & Development Department (P&DD)

After the 18th amendment, Climate Change has become a provincial subject. To streamline climate action and to improve climate governance at the provincial level, the Climate Change Cell was established at the Planning and Development Department, Khyber Pakhtunkhwa.

The Cell is providing its technical support to all administrative departments of the Provincial Government with the vision: "Empowering Khyber Pakhtunkhwa to thrive through the holistic integration of Climate Sensitive Planning, robust Climate Finance, and effective Climate Governance, ensuring sustainable development, resilience, and prosperity for present and future generations." The Climate Change Cell has the following objectives;

i. To improve Climate Governance at the provincial level.
ii. To provide policy inputs on various interventions at all levels of the government.
iii. To act as a core provincial coordination point for climate action.
iv. To harness the international climate financing opportunities and carbon markets for the province.
v. To mainstream climate change into planning and process.
vi. To act as an information and learning hub, building the capacity of relevant stakeholders at the provincial level.

### 2.12.4 Relief, Rehabilitation, and Settlement Department (RRSD)

The Relief, Rehabilitation, and Settlement Department (RRSD) is tasked with overseeing disaster preparedness, emergency response, and rehabilitation strategies following climate-related disasters. Given KP's high exposure to floods, heatwaves, GLOFs, landslides, and earthquakes, RRSD plays a critical role in coordinating pre-emptive disaster mitigation strategies, particularly in sectors that are highly vulnerable, such as education.

The Department is responsible for developing provincial disaster management policies, formulating risk-informed contingency plans, and ensuring that disaster preparedness measures are mainstreamed across KP's governance systems. RRSD works in close coordination with PDMA, local governments, and sectoral agencies to strengthen early warning mechanisms, evacuation plans, and post-disaster recovery strategies. Despite these efforts, institutional fragmentation and limited coordination with the Education Department pose challenges in ensuring that school infrastructure planning incorporates disaster risk reduction (DRR) principles. Enhancing RRSD's collaboration with education sector stakeholders will be instrumental in strengthening school safety frameworks, improving emergency response protocols, and ensuring resilient learning environments in the face of climate threats.

### 2.12.5 Provincial Disaster Management Authority (PDMA KP)

The PDMA KP, functioning under RRSD, is the primary agency responsible for disaster risk management, emergency preparedness, and climate-induced hazard mitigation. PDMA is mandated to develop hazard risk maps, conduct vulnerability assessments, and coordinate disaster response efforts across the province. The authority formulates annual contingency plans that outline district-specific risk management strategies, integrating flood preparedness, earthquake resilience, and school safety protocols within its broader DRR agenda.

PDMA works through the District Disaster Management Units (DDMUs) to ensure that disaster risk reduction measures are implemented at the local level, working with municipal agencies, health departments, and education authorities to develop community-based adaptation initiatives. In the education sector, PDMA's role is particularly significant in integrating school disaster preparedness programmes, strengthening climate-sensitive school infrastructure designs, and ensuring that education continuity plans are included in broader emergency response mechanisms. Despite these efforts, challenges remain in coordinating education sector-specific DRR policies, largely due to limited inter-agency engagement and insufficient integration of school resilience planning within PDMA's core functions. Strengthening PDMA's linkages with education sector institutions and local authorities is necessary to institutionalise school safety planning, enhance risk communication channels, and improve overall preparedness for climate-induced disruptions.

### 2.12.6 Local Government, Elections & Rural Development Department (LGERDD)

The Local Government, Elections & Rural Development Department (LGERDD) plays a pivotal role in climate resilience planning at the community level. It oversees municipal service provision, urban planning, waste management, and local climate governance, ensuring that district and tehsil-level authorities integrate climate-sensitive policies within their development plans.

In the context of school resilience, LGERDD's role is particularly significant in managing climate-adaptive urban development strategies, ensuring climate-resilient water and sanitation systems, and integrating community-driven adaptation models into local governance. Given that school environments are directly affected by municipal-level climate challenges, such as flooding, heat stress, and air pollution, stronger collaboration between LGERDD and the Education Department is required to ensure that climate adaptation is effectively embedded in school development plans.

### 2.12.7 District and Local Administrations

District and local administrations play an instrumental role in implementing climate-resilient education policies at the community level. These authorities are responsible for overseeing school infrastructure development, ensuring compliance with climate-resilient building codes, and integrating climate preparedness strategies into local education plans. The provinces of Khyber Pakhtunkhwa have created a dedicated position in each district i.e. Additional Deputy Commissioner (Relief) reporting to RR&SD, fully responsible for effective coordination among all the line departments during emergencies.

Through their regulatory functions, district governments ensure that education facilities are developed under climate adaptation principles, providing safe drinking water, improved sanitation facilities, and sustainable energy solutions for schools in climate-sensitive regions. Additionally, local administrations facilitate community engagement and awareness campaigns, ensuring that school adaptation measures are well-integrated within local climate governance frameworks.

By strengthening the link between district administrations, local education authorities, and disaster management agencies, KP can significantly enhance its ability to implement school-level climate adaptation strategies. Increased capacity-building at the district level, combined with improved technical coordination between E&SED, RR&SD, PDMA, and CCFEWD, will be essential for scaling up climate-resilient education initiatives across the province.

### 2.12.8 Interdepartmental Coordination and Institutional Challenges

The governance of climate adaptation in the education sector requires enhanced cross-departmental collaboration, structured resource allocation, and long-term institutional engagement. The Provincial Climate Change Task Force and Inter-Agency Working Groups have been established to facilitate cross-sectoral coordination, yet institutional fragmentation,

overlapping responsibilities, and limited implementation capacity continue to pose significant challenges.

To improve institutional alignment and operational efficiency, formal mechanisms must be strengthened between E&SED, CCFEWD, RR&SD, P&DD, PDMA, LGERDD, and district administrations. Establishing regular coordination platforms, increasing data-sharing frameworks, and institutionalising climate resilience measures within school governance systems will significantly enhance KP's ability to safeguard its education sector against climate risks.

The institutional framework for climate adaptation in KP provides a strong governance structure for advancing school resilience, but challenges remain in ensuring effective policy execution and interdepartmental coordination. The E&SED, supported by the Climate Resilience Cell (CRC), will serve as the focal department for implementing the Framework for Climate-Ready Schools, working in collaboration with CCFEWD, PDMA, RR&SD, LGERDD, and district authorities. Strengthening institutional capacities, enhancing policy coherence, and mobilising climate finance will be critical in ensuring that KP's education sector is well-prepared to withstand climate-induced challenges and sustain long-term learning continuity.

# Section 3: Strategic Framework for Climate-Ready Schools in Khyber Pakhtunkhwa

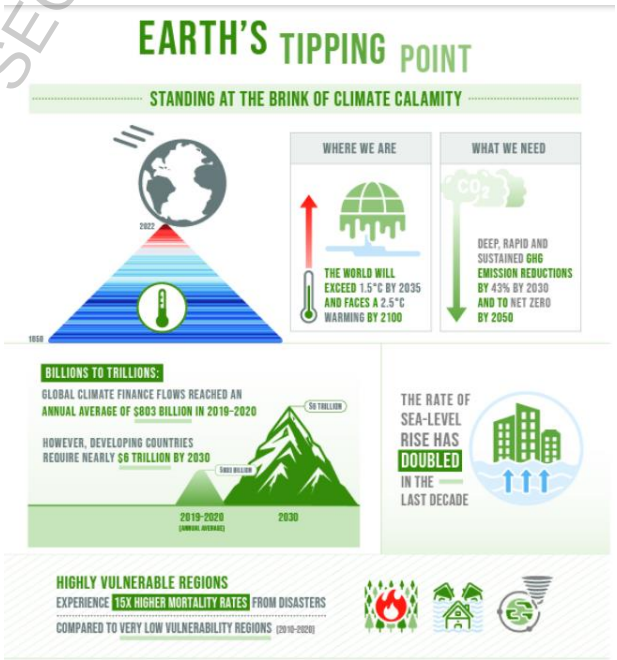
The Framework for Climate-Ready Schools in KP necessitates a structured climate risk assessment mechanism, ensuring systematic identification, monitoring, and mitigation of climate vulnerabilities within the education sector. Given the province's exposure to multiple climate-induced hazards—including floods, heatwaves, earthquakes, GLOFs, and landslides, an integrated risk assessment process is imperative for data-driven decision-making, resource allocation, and policy formulation.

The risk assessment framework is tiered across provincial, district, and school levels, ensuring that strategic planning is guided by comprehensive risk profiling. The approach aligns with global best practices, including the Comprehensive School Safety Framework (CSSF) and the Sendai Framework for Disaster Risk Reduction (SFDRR), ensuring that schools are not only reactive to disasters but also proactively resilient to evolving climate threats. *(4(a). Climate-Responsive Strategic Planning and Policy Integration)*

## 3.1 SDG 13 Climate Change

Climate change is affecting every country in the world. It is disrupting national economies and affecting lives and livelihoods, especially for the most vulnerable. Already, we are seeing how climate change can exacerbate weather events and threaten us with food and water scarcity, which can lead to conflict.

Despite this challenge, we do have an opportunity to take actions that will reduce greenhouse gas emissions and build climate resilience whilst creating more jobs, greater prosperity, and better lives for all. To achieve this goal, the world must transform its energy, industry, transport, food, agriculture, and forestry systems.



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Our work aims to support producer organisations across the globe to implement climate mitigation and adaptation measures such as reforestation, plantation renewal and agroforestry, enabling them to build their resilience to the increased risk of extreme heat, floods, pests, and diseases.

Our sister charity, Shared Interest Foundation, also supports smallholder farmers to build their climate resilience and protect their environment by distributing seedlings, delivering technical assistance and promoting solutions such as innovative biopesticides.

## 3.2 Provincial-Level Climate Risk Assessment

At the provincial level, climate risk assessments serve as the foundation for long-term adaptation planning, enabling structured interventions across school infrastructure development, emergency preparedness, and governance reforms. The E&SED, in coordination with the PDMA, and the Climate Change, Forestry, Environment & Wildlife Department (CCFEWD), is responsible for executing a province-wide vulnerability assessment strategy.

The key objectives at the provincial level include:

1. Conducting comprehensive climate vulnerability assessments to map high-risk districts, assessing the impact of climate hazards on school education, infrastructure, and learning continuity.

2. Developing a provincial climate risk database—integrating school vulnerability profiles, hazard mapping data, and climate risk projections, accessible to district education authorities and local governance bodies.

3. Aligning climate risk assessment outcomes with the KP-ESP 2020-25, ensuring explicit policy directives for climate-resilient school infrastructure and emergency preparedness measures.

4. Institutionalising the Climate Resilience Cell (CRC) within E&SED, which will coordinate school-level climate adaptation strategies, facilitate knowledge-sharing, and provide technical guidance for school disaster resilience planning.

These strategic measures ensure that school climate risk assessments inform resource allocation decisions, adaptation planning, and the integration of resilience principles into KP's education sector governance.

## 3.3 District-Level Climate Risk Assessment

At the district level, risk assessments are contextualised to reflect localised vulnerabilities, socio-environmental factors, and hazard-specific risks affecting school systems. The District Education Office (DEO), in coordination with the District Disaster Management Unit (DDMU), local health authorities, and municipal bodies, is responsible for implementing risk mapping strategies and developing district contingency plans.

The key responsibilities at the district level include:

1. The District Education Officer (DEO), supported by Deputy District Education Officers (DDEOs) and Sub-divisional Education Officers (SDEOs), will oversee the execution of district-wide climate vulnerability assessments, ensuring a structured identification of at-risk schools.

2. Risk assessment findings will be integrated into district disaster management frameworks, guiding contingency planning, infrastructure retrofitting efforts, and emergency response mechanisms.

3. Collaboration with PDMA, local government agencies, Rescue 1122, and environmental bodies to establish early warning systems, school-level preparedness drills, and climate risk communication networks.

4. Regular capacity-building workshops for district education officials and school administrators, equipping them with the technical knowledge required to interpret risk assessment data, implement school-level adaptation plans, and coordinate responses during climate-related emergencies.

These district-level risk assessments serve as a bridge between provincial adaptation policies and school-level implementation strategies, ensuring that climate resilience measures are tailored to the specific vulnerabilities of each district.

### 3.2.1 School-Level Climate Risk Assessment

*(Annex A: Climate Resilience Assessment Checklist)*

At the school level, climate risk assessments are operationally embedded within school governance mechanisms, ensuring that school leaders, Parent-Teacher Councils (PTCs), and local communities play an active role in identifying risks, implementing safety measures, and strengthening climate preparedness.

The core responsibilities at the school level include

1. Headteachers/Principals, guided by Assistant Sub-divisional Education Officers (ASDEOs), will lead periodic climate risk assessments, focusing on infrastructure vulnerabilities, hazard proximity, and school preparedness capacities.

2. Establish School Climate Resilience Committees, consisting of PTCs, teaching staff, and community representatives, to coordinate school-based risk awareness, climate action initiatives, and community engagement programmes.

3. Develop school-specific Climate Resilience Plans, which outline emergency evacuation procedures, disaster response roles, and climate adaptation measures for school facilities and learning environments.

4. Integrate climate resilience education within curricular and extracurricular activities, ensuring that students, teachers, and school personnel are well-equipped to respond to climate hazards through preparedness drills and environmental sustainability projects.

5. Strengthen reporting mechanisms to District Education Offices (DEOs) and relevant authorities, ensuring that school climate risk data is systematically recorded, analysed, and acted upon.

This school-level risk assessment framework ensures that climate adaptation is embedded in school governance processes, fostering a proactive approach to disaster preparedness and environmental sustainability.

A multi-tiered climate risk assessment framework is fundamental to the long-term sustainability of the Climate-Ready Schools initiative in KP. By systematically embedding climate risk assessments at the provincial, district, and school levels, the province can ensure early identification of vulnerabilities, data-driven resource allocation, and effective adaptation planning.

At the provincial level, strategic oversight and policy integration are crucial for ensuring that education sector plans incorporate robust climate resilience measures. At the district level, risk mapping and inter-agency coordination enhance the effectiveness of local adaptation strategies. At the school level, empowering school leadership and engaging communities ensures that risk assessments translate into tangible, school-specific resilience measures.

### 3.2.2 Climate-Smart School Infrastructure: Guidelines for Climate-Resilient and Inclusive School Construction and Retrofitting

The education sector in KP faces heightened vulnerabilities due to climate-induced hazards, including intensifying heatwaves, prolonged cold spells, flash floods, torrential rains, earthquakes, and GLOFs. Ensuring that school buildings are designed and maintained to withstand these hazards is essential for protecting students and staff, safeguarding education infrastructure, and maintaining learning continuity. The *Framework for Climate-Ready Schools in KP* integrates climate resilience with universal accessibility, ensuring that all school facilities adhere to inclusive and hazard-resistant design principles.

The E&SED, in collaboration with the Communication and Works Department (C&W), PDMA, the Climate Resilience Cell (CRC), and relevant local government entities, will ensure that all school construction projects comply with climate-adaptive and accessibility standards. These guidelines align with national and international best practices, drawing from frameworks such as the *Comprehensive School Safety Framework (CSSF)*, the *Sendai Framework for Disaster Risk Reduction (SFDRR)*, and the *Accessibility Code of Pakistan (2006)*.

### 3.2.3 Key Principles of Climate-Resilient and Inclusive School Infrastructure

#### a. Hazard-Sensitive and Inclusive Site Selection

School construction must prioritise low-risk zones, avoiding flood-prone areas, landslide-prone slopes, earthquake fault lines, and riverbanks vulnerable to erosion. Comprehensive climate hazard mapping and geospatial analysis must guide school site selection, ensuring that new educational facilities are built in safe and stable locations. In addition, all school infrastructure must comply with accessibility standards, ensuring easy entry and movement for students with disabilities, including level surfaces and barrier-free walkways (Government of Pakistan, 2006).

#### b. Structural Resilience, Disaster-Resistant, and Barrier-Free Designs

All school structures must be engineered to withstand region-specific climate hazards while ensuring full accessibility for children with disabilities. Key measures include:

(i) **Elevated plinth levels** in flood-prone areas to mitigate water ingress.

(ii) **Seismic-resistant foundations** reinforced with structural bracing.

(iii) **Wind-resistant roofing designs** to withstand high-speed storms.

(iv) **Multi-story school designs** that prioritise classrooms and essential facilities on upper floors in high-risk districts.

(v) **Accessible ramps and widened doorways** to ensure that students with mobility impairments can move safely within school premises.

(vi) **Inclusive emergency egress plans**, incorporating tactile floor indicators, auditory alarm systems, and visual signage for safe evacuation during extreme weather events.

#### c. Regular Structural Integrity Audits and Accessibility Compliance

Routine structural integrity assessments are essential for ensuring compliance with climate-resilient construction standards and accessibility requirements. The E&SED and DEOs will

conduct **annual infrastructure and accessibility audits**, identifying vulnerabilities and implementing necessary reinforcements. A **data-driven asset management system** will support evidence-based decision-making on retrofitting priorities, ensuring that climate adaptation measures align with accessibility needs.

**i. Heat-Resistant and Cold-Resistant Building Materials and Passive Climate Adaptation**

Given the diverse climatic zones in KP, school infrastructure must incorporate region-specific climate adaptation measures.

### a. Heat-Resistant Design for Southern and Lowland Districts

In southern and central KP, where temperatures often exceed 45°C, schools must integrate **heat-resilient architectural designs**. These include:

(i) **Reflective roofing materials and cool coatings** to minimise heat absorption and reduce indoor temperatures.

(ii) **Passive cooling strategies**, such as cross-ventilation, shaded outdoor areas, and green roofs, to naturally regulate temperatures.

(iii) **Use of sustainable building materials** that provide thermal insulation, reducing reliance on mechanical cooling solutions.

(iv) **Accessible cooling areas** to provide safe spaces for students with disabilities to regulate body temperature during extreme heat events.

### b. Cold-Resistant Design for Northern and Mountainous Districts

In northern KP, where winters are severe with heavy snowfall, school infrastructure must incorporate **cold-adaptive materials and insulation techniques**. This includes:

(i) **Thermal insulation** for walls, roofs, and floors using locally available materials to retain heat and minimise energy consumption.

(ii) **Double-glazed windows and solar orientation** to maximise passive solar heating, ensuring indoor thermal comfort.

(iii) **Solar-powered heating systems** and renewable energy-based insulation technologies, reducing dependence on fuel-based heating.

(iv) **Winter accessibility measures**, such as covered walkways, snow-resistant ramp designs, and heated entrances for students with disabilities.

### ii. Flood-Resistant School Designs and Drainage Solutions

Due to the high risk of flash floods, urban flooding, and GLOFs in KP, school infrastructure must be adapted to prevent water damage and ensure learning continuity. Key interventions include:

(i) **Elevated foundation designs** for schools in flood-prone areas, ensuring classrooms remain operational during flood events.

(ii) **Reinforced drainage systems**, including rainwater channels, underground reservoirs, and rapid water discharge mechanisms.

(iii) **Multi-hazard resistant construction materials**, such as water-resistant cement and flood-resistant coatings for school walls and floors.

(iv) **Barrier-free evacuation routes**, including accessible raised pathways and elevated emergency assembly points.

### iii. Water Conservation and Sustainable Sanitation Practices

Climate adaptation must also incorporate **sustainable water management** to ensure resilience against droughts and water shortages. Recommended measures include:

(i) **Rainwater harvesting systems** integrated into school rooftops for sustainable water collection.

(ii) **Water-efficient sanitation facilities**, including dual-flush toilets, handwashing stations with motion sensors, and low-water-use plumbing.

(iii) **Accessible sanitation facilities**, ensuring that all washrooms comply with the *Accessibility Code of Pakistan (2006)*, featuring wide entryways, handrails, and tactile indicators for visually impaired students.

## 3.2.4 Integration of Renewable Energy and Sustainable Water Management

### a. Renewable Energy Solutions

To enhance **energy efficiency**, schools should integrate **renewable energy systems**, including:

i. Solar photovoltaic (PV) systems for off-grid electricity supply, ensuring reliable energy access in remote areas.

ii. Hybrid solar-wind systems for sustainable energy generation, particularly in wind-prone northern districts.

iii. Solar thermal systems for water heating and classroom insulation, reducing operational energy costs.

### b. Water Conservation and Climate-Resilient Sanitation

Schools in water-scarce regions must implement efficient water management systems, including:

i. Rainwater harvesting infrastructure to ensure sustainable water supply, particularly in semi-arid districts.

ii. Climate-resilient sanitation systems, incorporating wastewater recycling, water-efficient toilets, and sustainable drainage systems to prevent waterlogging and flood damage.

## 3.2.5 Implementation and Oversight Mechanisms

The effective implementation of climate-smart infrastructure guidelines necessitates structured governance mechanisms to ensure compliance, accountability, and continuous improvement.

# Section 4: School-Based Disaster Preparedness and Emergency Response

This Framework provides a comprehensive roadmap for ensuring that schools systematically assess climate risks, develop resilience plans, and implement preparedness measures to safeguard education in the face of climate-related emergencies. By embedding climate risk management within school governance structures, strengthening institutional coordination, and ensuring that educational authorities, school leaders, and community stakeholders play an active role in preparedness efforts, this framework establishes a strong foundation for institutional resilience and uninterrupted learning.

## 4.1 Developing School Resilience Plans

*(Annex B: PC-I Checklist to Ensure Compliance to PBC 2007 and ACP 2006)*

### School-Based Climate Risk Mapping and Hazard Identification

An essential first step in school-based climate resilience planning is the identification and mapping of hazards and vulnerabilities at the individual school level. Given the diverse terrain and localised climate risks across KP, each school must undertake a systematic vulnerability analysis to assess its specific exposure to climate hazards and formulate evidence-based preparedness strategies.

The responsibility for conducting school-specific climate risk assessments rests with school leaders, including headteachers, principals, and school leaders (SLs), under the technical guidance of ASDEOs and oversight by DEOs. These assessments will focus on:

a. **Mapping hazard-prone zones within and around school premises**, identifying flood-prone areas, seismic fault lines, avalanche-prone slopes, and regions susceptible to extreme temperature fluctuations.

b. **Assessing structural vulnerabilities of school buildings and facilities**, ensuring compliance with the *Accessibility Code of Pakistan 2006*, including evaluating ramps, accessible toilets, door widths, handrails, and emergency evacuation pathways.

c. **Profiling at-risk student groups**, ensuring specific measures are developed for the protection of young children, girls, children with disabilities, and those from socio-economically disadvantaged backgrounds.

Findings from these assessments will be consolidated into School Climate Vulnerability Profiles, which will be reviewed, validated, and approved by DEOs. These profiles will serve as

foundational planning documents that guide school-specific resilience interventions while supporting informed decision-making at district and provincial levels regarding resource allocation, infrastructure adaptation, and inclusive disaster preparedness.

## 4.2 Emergency Preparedness Drills and Evacuation Protocols

Once climate risks have been systematically assessed and documented, schools must operationalise preparedness strategies through regularly conducted emergency response drills and structured evacuation protocols. These practical simulations and response exercises are fundamental to ensuring that students, teachers, and school personnel are adequately trained to respond effectively to emergencies, minimising casualties and disruptions. All schools will be required to conduct scheduled emergency preparedness drills tailored to specific climate hazards identified during risk assessments. These drills will align with district-level emergency response frameworks led by DDMUs and Rescue 1122 and will focus on:

a. ***Earthquake response drills***, equipping students with the knowledge and practice of drop-cover-hold techniques, safe exit procedures, and designated safe zones within school premises.

b. ***Flood evacuation drills***, preparing students to evacuate efficiently to higher ground, avoid waterlogged areas, and use designated safe routes under teacher supervision.

c. ***Avalanche and landslide response drills***, particularly for schools in mountainous districts, focusing on immediate evacuation, emergency assembly points, and terrain safety awareness.

d. ***Heatwave and extreme cold preparedness measures***, ensuring students are aware of hydration, protective clothing requirements, and safe sheltering protocols to prevent heatstroke or cold-related health risks.

To institutionalise a consistent and effective approach to school emergency management, schools will be required to develop structured evacuation protocols detailing:

a. Clearly marked, accessible evacuation routes, ensuring that students and staff, including those with disabilities, can move quickly and safely to designated assembly points.

b. Pre-designated safe assembly zones, where students and staff regroup under the supervision of assigned emergency personnel until further instructions are issued.

c. Defined emergency response roles and responsibilities, ensuring that teachers, administrative staff, and PTCs have assigned functions in evacuation, first aid, and student supervision.

d. Visible, regularly maintained emergency signage, including accessible evacuation maps, tactile indicators for visually impaired students, and auditory alarms for hearing-impaired students, displayed prominently across school premises.

The DEOs will be responsible for monitoring compliance, ensuring that schools conduct, document, and refine emergency drills based on lessons learned. This structured approach enables progressive improvements in school preparedness measures, ensuring that emergency response protocols remain updated and reflective of evolving climate risks while adhering to national accessibility standards.

## 4.3 Continuous Monitoring and Improvement of Preparedness Plans

A robust monitoring and evaluation framework is critical to ensuring that school-based climate risk preparedness measures remain effective, adaptable, and responsive to evolving threats. DEOs, in collaboration with school leaders and disaster management officials, will conduct annual audits of School Resilience Plans, focusing on:

a. Assessing the effectiveness of preparedness drills, ensuring that all schools demonstrate competency in emergency response protocols.

b. Evaluating compliance with climate resilience guidelines, ensuring that infrastructure, evacuation plans, and hazard mapping assessments remain updated.

c. Identifying gaps in school safety infrastructure, advocating for targeted investment in hazard mitigation measures, including reinforced buildings, improved drainage systems, and early warning integration.

To institutionalise preparedness as a permanent component of school governance, the E&SED will integrate school-based risk preparedness within the broader education policy framework, ensuring that:

a. School Resilience Plans become a mandatory part of school accreditation and performance evaluation.

b. Climate risk preparedness is embedded into teacher training and professional development programmes.

c. Climate education is incorporated into school curricula, ensuring that students develop climate literacy and risk awareness from an early age.

Ensuring school-based climate risk preparedness and emergency response is a critical pillar of KP's education sector resilience strategy. By embedding structured risk assessment, preparedness drills, and institutional coordination mechanisms within school governance, the Framework for Climate-Ready Schools establishes a comprehensive, proactive approach to climate adaptation. Through collaborative planning, institutional accountability, and continuous improvement, KP can ensure that its schools remain safe, operational, and climate-resilient, safeguarding educational continuity for future generations.

## 4.4 Climate-Responsive Early Warning Systems and Communication Strategies

Establishing robust early warning systems and structured communication strategies is essential for minimising climate-related risks and ensuring student and staff safety, educational continuity, and timely emergency responses in KP. Schools must be formally integrated into provincial and district early warning mechanisms, allowing them to receive real-time alerts on potential climate hazards and take proactive measures to mitigate risks. Effective school-level communication protocols will enable swift coordination among educational authorities, local governments, disaster management agencies, and community stakeholders, ensuring a clear and structured approach to managing emergencies.

### 4.4.1 Integration of Schools into District and Provincial Early Warning Systems

To effectively anticipate, prepare for, and respond to climate risks, KP's District Education Offices and schools must be integrated into provincial and district-level early warning systems. The E&SED, through the CRC, will facilitate the incorporation of school networks within the PDMA Early Warning System (EWS). This will ensure that hazard alerts, risk forecasts, and emergency instructions are disseminated in a timely and systematic manner to schools via DDMUs and Deputy Commissioners' Offices (DCs).

To operationalise this, the following measures will be institutionalised:

- **Integration of Schools into PDMA's Early Warning Systems**: District Education Offices through respective DEO will be formally included in district-level contingency planning processes, receiving direct and automated alerts related to flash floods, torrential rainfall, extreme heatwaves, avalanches, earthquakes, and (GLOFs).

- **Formalised Communication Networks between Schools and District Authorities**: DEOs will establish clear and structured communication pathways with DCs, DDMUs, and PDMA, ensuring that emergency alerts reach all schools efficiently. This includes SMS-based notifications, WhatsApp group messages and broadcasts, and real-time digital platforms.

- **Regular Testing of Early Warning Reception and Response Protocols**: DEOs will conduct periodic evaluations to assess the efficacy of their response mechanisms upon receiving hazard alerts. Reports highlighting gaps in alert reception, delayed response times, or coordination challenges will be generated by ASDEOs for submission to DEOs, facilitating continuous improvements in early warning effectiveness.

This structured integration will significantly enhance schools' capacity to act pre-emptively, reducing the impact of climate-induced emergencies on education.

### 4.4.2 School-Level Communication Protocols for Climate Emergencies

Clear, structured school-level communication protocols are vital to ensuring rapid, well-coordinated responses during climate emergencies. Schools must develop formalised communication frameworks, ensuring that all relevant stakeholders—students, teachers, administrative staff, PTCs, and district authorities—receive timely and accurate emergency instructions.

To achieve this, the following school-level actions will be implemented:

1. **Defining Roles and Responsibilities in Emergency Communication:** Each school will designate an Emergency Communication Focal Person (ECFP), typically a senior administrative staff member, responsible for receiving, verifying, and disseminating early warning alerts. The ECFP, working under Headteachers, will:

   a. Act as the primary liaison between schools, ASDEO, and DEO, ensuring that emergency messages are promptly received and transmitted.

   b. Conduct regular staff awareness sessions to ensure teachers and non-teaching personnel understand their roles in emergency communication.

   c. Maintain updated contact lists of relevant emergency services, including DEOs, ASDEOs, PDMA, DDMUs, Rescue 1122, local police, district health authorities, and PTC representatives.

Regular capacity-building sessions will be mandated to ensure that all designated communication personnel are well-versed in emergency response protocols.

2. **Establishing Multi-Modal Communication Channels:** Schools must leverage multiple communication methods to ensure that emergency alerts reach all students, staff, and parents effectively. This will include:

   a. **SMS and WhatsApp Alerts**: Schools will establish SMS/WhatsApp-based notification systems, ensuring that all key stakeholders receive urgent updates in real time.

   b. **School Public Address (PA) Systems**: In schools with access to loudspeakers or bell systems, emergency announcements will be broadcasted promptly, alerting students and staff to take immediate protective actions.

   c. **Use of Local Mosque Public Address (PA) System**: In rural and remote areas, schools will use the local mosque PA systems to communicate emergency alerts where mobile network coverage is unreliable.

   d. **Community Focal Persons**: Parent-Teacher Councils (PTCs) will identify community focal persons responsible for disseminating climate alerts and school-specific emergency instructions to parents and local residents.

By implementing multi-modal communication, schools will be able to reach diverse audiences rapidly and ensure that no critical information is lost due to network failures or system constraints.

3. **Emergency Communication Training and Simulation Exercises**

To institutionalise emergency preparedness, all schools will be required to conduct regular training and simulation exercises. In order to organise and conduct these drills, the schools with support from ASDEOs and SLs will seek support from local Rescue 1122 and Civil Defence teams. These drills will:

   a. Assess the efficiency of emergency messaging, identifying any delays, miscommunications, or technical failures that may impede response times.

   b. Train students, teachers, and school staff to understand and follow emergency instructions without panic or confusion.

   c. Ensure that students know evacuation routes, understand alert signals, and are familiar with emergency response procedures.

DEOs and DDMUs will collaborate with district emergency authorities, including Rescue 1122, to conduct annual communication drills, reinforcing the importance of structured, school-wide emergency communication preparedness.

4. **Emergency Contact Directories and Real-Time Information Management**

All schools must maintain an up-to-date Emergency Contact Directory, which will include the contact details of local emergency services, school administrators, education officers, and government response agencies. These directories will:

a. Be updated quarterly to reflect any personnel changes in emergency response teams.

b. Be accessible in digital and printed formats, ensuring availability even in power outages or technical disruptions.

c. Be prominently displayed in school offices, staff rooms, and key locations, ensuring that all school personnel have immediate access to emergency contacts when needed.

### 4.4.3 Role of District Authorities and Local Administration

Effective climate emergency management requires strong district-level coordination between education departments, disaster management agencies, health services, and law enforcement. The DCs and DDMUs will provide overarching support in coordinating emergency responses, ensuring that:

a. Regular inter-agency coordination meetings are conducted, involving DEOs, Rescue 1122, Health Department representatives, and local government officials.

b. DDMUs and Rescue 1122 actively support schools in designing and reviewing emergency response procedures and evacuation plans.

c. The Health Department provides advisory support, ensuring that schools are equipped with climate-related health guidance, first aid training, and post-disaster medical support.

By embedding comprehensive early warning systems and structured communication protocols within school governance structures, KP's schools will be better positioned to manage climate-induced emergencies. This framework ensures that timely alerts, clear communication pathways, and structured emergency drills are institutionalised, thereby protecting students and staff while minimising disruptions to learning. Through stronger integration with provincial and district disaster management frameworks, KP's education system can proactively mitigate climate risks and enhance school resilience.

## 4.5 Role of PTCs in Climate Adaptation Planning

PTCs act as a critical link between schools and communities, ensuring locally grounded, practical approaches to climate resilience. As representative bodies comprising parents, teachers, and school administrators, PTCs offer valuable insights into local climate hazards, risk mitigation strategies, and school-level safety priorities. Their active involvement in the design, implementation, and monitoring of School Resilience Plans (SRPs) will ensure that climate adaptation strategies remain community-driven, relevant, and sustainable. To strengthen the role of PTCs in climate adaptation planning, the following key actions will be institutionalised:

1. **Capacity Building for PTC Members:** The E&SED, through the CRC, in collaboration with ASDEOs and School Leaders (SLs), will conduct regular capacity-building workshops for PTC members. These sessions will cover:

    a. Understanding local climate hazards (e.g., floods, heatwaves, extreme cold, torrential rains, earthquakes, GLOFs, etc.) and their impact on school safety and learning continuity.

    b. School-based risk assessments, ensuring that PTCs actively contribute to identifying and documenting local vulnerabilities.

    c. Oversight of climate adaptation initiatives, equipping PTCs with the skills to monitor and support climate-resilient infrastructure improvements, afforestation initiatives, and emergency preparedness activities.

    d. Emergency response coordination, training PTCs to support schools in executing evacuation drills and community-led disaster preparedness exercises.

**2. Active Participation in School Climate Risk Assessments**

PTCs, under the leadership of headteachers and ASDEOs, will play a direct role in identifying and mapping school-specific climate risks. Their involvement in this process will ensure that local environmental knowledge, historical climate trends, and community-based hazard management strategies are integrated into School Resilience Plans (SRPs). PTCs will collaborate with school leadership and district authorities in:

a. Mapping school vulnerabilities, identifying flood-prone areas, structurally weak buildings, and evacuation constraints.

b. Ensuring local perspectives inform adaptation strategies, leveraging community knowledge of past climate hazards to enhance risk preparedness.

c. Facilitating school-community dialogues, enabling open discussions on climate-related concerns and preparedness measures.

## 4.6 Community Participation in Climate Preparedness and School Safety Efforts

Active community participation is critical to ensuring that school climate adaptation initiatives are sustainable, locally embedded, and effectively implemented. PTCs will be used as a forum for engaging communities to strengthen disaster preparedness, enhance resource mobilisation, and promote long-term school safety planning. To achieve this, schools will institutionalise structured community participation mechanisms, including:

**1. Integrating Local Knowledge into Climate Adaptation Strategies**

Schools will actively engage local communities through PTCs in climate resilience planning, ensuring that traditional knowledge and local adaptation practices are incorporated into school preparedness measures. Community insights will inform:

a. Siting and construction of flood-resistant school infrastructure, ensuring that local hydrological patterns are considered in school design.

b. Afforestation and greening initiatives, prioritising the use of indigenous tree species for school-based environmental sustainability efforts.

c. Water conservation strategies, incorporating local practices for efficient rainwater harvesting and greywater reuse.

**2. Community-Based School Resilience Dialogues**

Regular school-community forums, facilitated by PTCs and school leadership, will provide a platform for ongoing dialogue on climate risks and school safety measures. These forums will:

a. Engage local government bodies, ensuring alignment between school adaptation plans and broader district climate policies.

b. Encourage participatory decision-making, enabling communities to contribute to school adaptation strategies.

c. Promote transparency and shared responsibility, strengthening the collaborative nature of school resilience initiatives.

By empowering Parent-Teacher Committees (PTCs) and garnering strong community support, schools in KP can establish climate-resilient learning environments that are locally embedded, sustainable, and responsive to evolving climate risks. Strengthening community-school partnerships will ensure that climate adaptation measures remain effective, inclusive, and widely supported, thereby enhancing both school safety and long-term educational continuity in the face of climate-induced challenges.

# Section 5: Governance, Institutional Coordination & Monitoring for Climate-Ready Schools

A formal governance and coordination mechanism will ensure climate adaptation efforts in the education sector are systematically integrated into policy, planning, and implementation.

## 5.1 Provincial-Level Framework and Linkages

1. **E&SE Department**: The lead implementing authority, which will provide policy guidance, strategic planning, and governance oversight for integrating climate resilience into KP's education sector.

2. **Directorate of ESE**: DESE oversees education service delivery at the district level. It will ensure the implementation of climate-adaptive education policies, manage teacher training and professional development on climate-responsive education, and supervise district-level execution of climate resilience programs. DESE will also coordinate with DEOs to ensure schools comply with climate-resilient infrastructure standards and will provide technical and administrative support for school climate adaptation initiatives.

3. **P&D Department**: The Planning & Development (P&D) Department of Khyber Pakhtunkhwa plays a central role in the province's development planning and resource allocation. It serves as the main policy-making and coordinating body for development initiatives. P&DD formulates short-, medium-, and long-term development plans aligned with provincial and national priorities. It also Ensures the alignment of projects with strategic goals and feasibility standards.

4. **CCFEW Department**: Will provide technical guidance on climate risk assessments, green school infrastructure, and emissions reduction strategies. The department will

also support afforestation and tree-planting initiatives in and around schools, contributing to ecosystem restoration and natural climate mitigation.

5. **RRS Department**: Will lead disaster preparedness and post-disaster school rehabilitation efforts, ensuring rapid response, emergency relief coordination, and funding allocation.

6. **PDMA**: Will guide and provide technical support to DESE for school-level disaster risk reduction strategies and integrate education sector priorities into provincial disaster response plans.

7. **LGERD Department**: Will ensure school sanitation, drainage, waste management, and implement water conservation initiatives to reduce climate vulnerability.

8. **Health Department**: Will support the development of climate-related health protocols for schools, ensuring preparedness against heatwaves, respiratory illnesses, and vector-borne diseases.

9. **Rescue 1122**: Will assist DESE in the provision of emergency response training, facilitate designing school safety drills, and strengthen school integration into district-level disaster response networks.

10. **Finance Department**: Will support long-term climate resilience financing by integrating climate adaptation strategies into provincial education budgets.

This structured governance framework will ensure that education sector adaptation to climate risks is integrated into policy, planning, and district-level implementation, strengthening KP's ability to safeguard schools, students, and teachers against future climate threats.

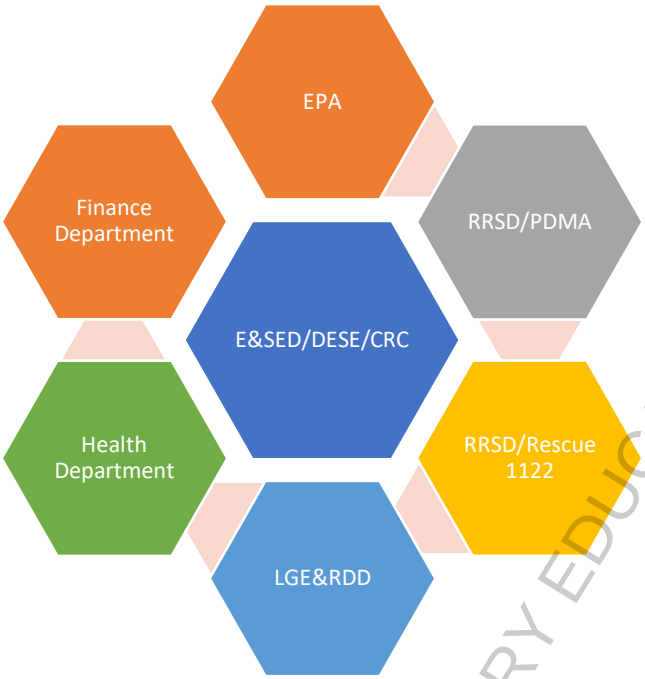



**Figure: Provincial Level Coordination Framework**

## 5.2 District-Level Framework

1. **DC Office**: Provides overarching supervisory and operational guidance for district and school-based climate resilience efforts. The DC will oversee emergency preparedness planning, interdepartmental coordination, and district-level advisories.

2. **DEO**: Leads school-based climate resilience planning, ensuring integration of climate adaptation into district-level education management. The DEO supervises the implementation of District Climate Resilience Plans for Schools and oversees interdepartmental coordination.

3. **DDEO**: Responsible for middle, high, and higher secondary schools. The DDEO, supported by Assistant District Education Officers (ADEOs), ensures that school-based resilience measures align with district strategies.

4. **SDEO**: Manages the administration and supervision of primary schools, ensuring climate resilience planning is implemented at the foundational education level.

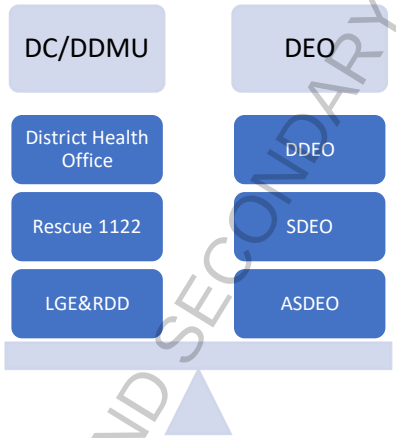
5. **ASDEO**: Directly supervises headteachers of primary schools organised into administrative units called "circles." ASDEOs play a critical role in climate risk assessment, emergency preparedness, and resilience-building initiatives at the school level.

6. **DDMUs**: Provide technical support in school-level disaster preparedness, climate risk assessments, and emergency response coordination.

7. **LGERDD/Municipal Administration**: Ensures sustainability of municipal services impacting school environments, supports sanitation, drainage, and solid waste management, and facilitates afforestation programs.

8. **District Health Authorities**: Supports DEOs through school-based medical screenings, first aid training, and health advisories on climate-related health risks.

9. **Rescue 1122 (Emergency Response Services)**: Ensures schools are prepared for climate-induced emergencies by providing emergency response training and facilitating regular evacuation drills.



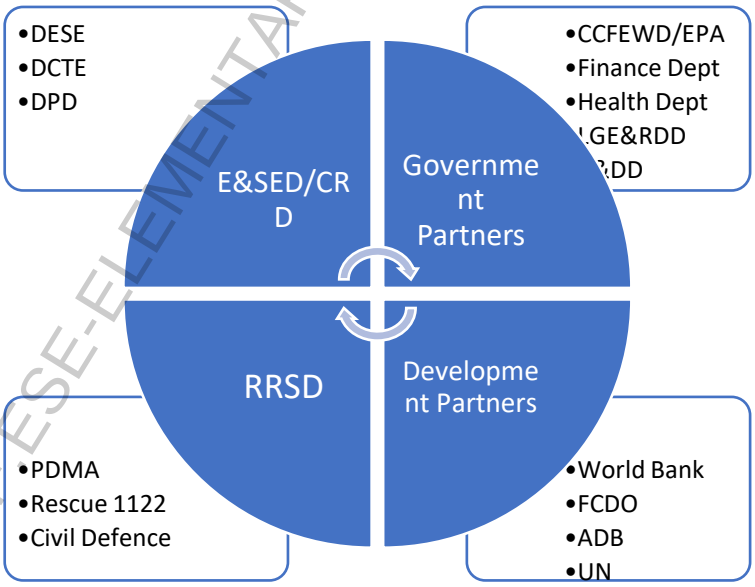
## 5.3 Institutional Coordination Framework

A formalised coordination structure is necessary to align efforts across provincial and district tiers. The government of Khyber Pakhtunkhwa will establish multi-stakeholder committees to oversee the implementation of school-based climate resilience measures.

### 5.3.1 Provincial Climate Resilient Schools Steering Committee (PCRSSC)

This committee will provide policy direction, interdepartmental coordination, and strategic oversight of climate resilience initiatives in the education sector. It will include representation from:

1. Elementary and Secondary Education Department
2. Directorate of Elementary and Secondary Education
3. Climate Change, Forestry, Environment & Wildlife Department
4. Relief, Rehabilitation, and Settlement Department
5. Provincial Disaster Management Authority
6. Planning & Development Department
7. Finance Department
8. Health Department
9. Local Government, Elections & Rural Development Department
10. Development partners & relevant stakeholders



This committee will approve provincial climate resilience strategies, ensure intersectoral collaboration, and oversee implementation frameworks.

### 5.3.2 District Climate Resilient Schools Coordination Committee (DCRCC)

At the district level, a District Climate Resilient Schools Coordination Committee (DCRCC) will be established, led by the Deputy Commissioner with the DEO as Secretary. This committee will be responsible for:

a. Implementation of school-based climate resilience plans

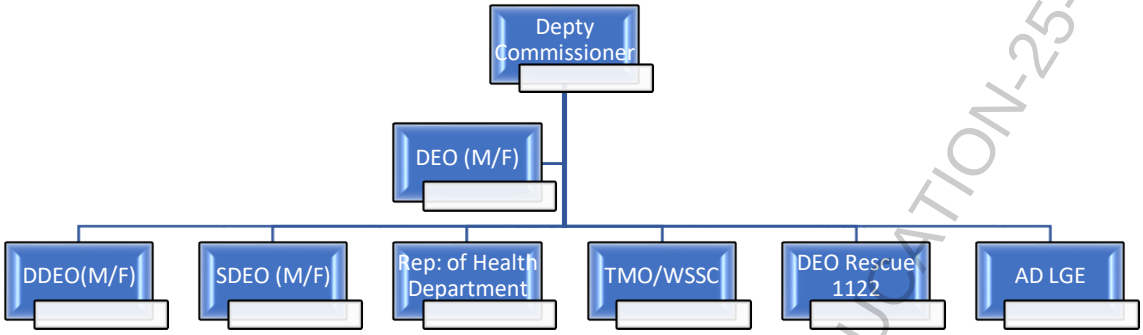
b. Localized risk assessments and emergency response preparedness

c. Ensuring school-level climate adaptation measures align with provincial strategies

**Composition of DCRCC:**

1. Deputy Commissioner (Chair)
2. District Education Officer (Member)
3. Deputy District Education Officer (Member)
4. Sub-Divisional Education Officer (Member)
5. District Disaster Management Unit Representative (Member)
6. Representative from Health Department (Member)
7. Municipal Administration Representative (Member)
8. Rescue 1122 Representative (Member)
9. Local Government Representative (Member)
10. Representatives from Civil Society and Development Partners (Observers)

This structured governance framework ensures that climate adaptation and disaster preparedness are embedded into education sector planning and policy implementation, fostering resilience across KP's school system.




## 5.4 Monitoring, Evaluation, and Oversight Mechanisms

A robust monitoring and evaluation (M&E) framework is crucial for ensuring the effectiveness, sustainability, and continual improvement of climate resilience initiatives within Khyber Pakhtunkhwa's (KP) school education system. Regular assessment of adaptation strategies will enable the Elementary and Secondary Education Department (E&SED), district authorities, and local stakeholders to strengthen preparedness, response mechanisms, and resilience-building efforts across schools.

This section outlines key performance indicators, reporting mechanisms, and oversight measures necessary for embedding climate adaptation in KP's school sector. The approach aligns with E&SED's strategic governance, the KP-ESP, and internationally recognised monitoring standards.

## 5.5 Key Indicators for Monitoring Climate Resilience in Schools

To evaluate the impact of climate resilience interventions, measurable indicators will track infrastructure preparedness, emergency response effectiveness, and school adaptation capacity. These indicators will align with the KP ESP, the ACP, and the Comprehensive School Safety Framework (CSSF).

1. **Infrastructure Resilience Indicators**

    (i) Percentage of schools built or retrofitted to climate-resilient standards, incorporating flood-resistant foundations, heat-adaptive materials, and earthquake-resistant structures.

    (ii) Proportion of schools equipped with climate-smart infrastructure, such as solar energy systems, rainwater harvesting, and sustainable sanitation facilities.

    (iii) Implementation of school-based afforestation and green schoolyard initiatives for natural climate mitigation.

2. **Emergency Preparedness and Response Indicators**

    (i) Number of schools conducting regular emergency preparedness drills (flood, earthquake, heatwave, and smog evacuation).

    (ii) Percentage of schools with operational School Resilience Plans (SRPs), aligned with PDMA and DDMUs.

    (iii) Effectiveness of early warning systems and school emergency communication protocols.

3. **Educational Continuity and Attendance Indicators**

    (i) Tracking of student and teacher attendance trends before, during, and after climate-related disruptions.

    (ii) Implementation of alternative learning strategies (e-learning platforms, temporary learning centres).

    (iii) Impact of climate-induced disruptions on learning outcomes, literacy, and numeracy skills.

4. **Health and Safety Indicators**

    (i) Number of climate-induced health incidents reported in schools (heatstroke, respiratory illnesses, waterborne diseases).

    (ii) Absenteeism rates due to climate-related health issues, enabling targeted interventions.

    (iii) Availability of first-aid and emergency medical support in high-risk schools.

5. **Community Engagement and Participation Indicators**

   (i) Level of PTC involvement in climate adaptation planning, measured through meeting attendance and engagement in school safety measures.

   (ii) Number of community-led resilience initiatives, such as afforestation, climate awareness campaigns, and emergency preparedness exercises.

   (iii) Strength of school-community partnerships in disaster response planning.

By systematically tracking these key performance indicators, E&SED and district authorities will assess progress, identify gaps, and refine strategies to enhance resilience in the education sector.

## 5.6 Data Collection, Reporting, and Transparency

To ensure accurate, consistent, and actionable monitoring, structured data collection and reporting mechanisms will be institutionalised, allowing provincial and district education authorities to track climate adaptation efforts effectively.

**1. Standardised Data Collection Mechanisms**

(i) Schools will document climate preparedness activities, infrastructure improvements, and emergency drills using standardised templates developed by E&SED.

(ii) Headteachers, supported by ASDEOs, will oversee climate risk assessment data collection.

(iii) DEOs will compile school-level reports, ensuring quality control before submission to the Director E&SE.

**2. Periodic Monitoring and Reporting Framework**

(i) Schools will submit quarterly climate resilience reports to DEOs, detailing preparedness measures, infrastructure status, and identified gaps.

(ii) DEOs, in coordination with DDMUs and PDMA, will compile district-level assessments on climate adaptation efforts.

(iii) E&SED will publish an Annual Provincial Climate Resilience Report, consolidating district-level findings and informing policy refinements.

**3. Real-Time Climate Resilience Dashboards**

(i) EMIS will develop a digital Climate Resilience Dashboard to monitor school readiness, infrastructure resilience, and early warning preparedness.

(ii) The dashboard will be accessible to education policymakers and provincial and district education managers for data-driven decision-making.

## 5.7 Oversight Mechanisms

Ensuring effective implementation is critical to sustaining climate adaptation initiatives. The following mechanisms will enhance institutional responsibility and governance.

1. **Provincial Oversight through DESE**
    - DESE will lead the coordination of school climate resilience policies, ensuring cross-sectoral alignment.
    - PDMA and RRSD will provide strategic oversight, linking school-based adaptation plans with provincial disaster risk reduction (DRR) strategies.
    - Annual policy reviews by the PCRSSC will refine climate adaptation targets based on monitoring data.
2. **District-level monitoring through DEOs**
    (i) DEOs track the school's compliance with resilience plans, ensuring regular climate risk assessments and emergency preparedness drills.
    (ii) DEOs will oversee preparedness training and ensure coordination with DDMU and local government agencies.
    (iii) SRPs will be integrated into district education planning.
3. **School-Level Implementation through SLs, Headteachers, and PTCs**
    (i) Headteachers will be the primary focal persons for resilience-building at the school level.
    (ii) PTCs will be actively involved in monitoring school preparedness and supporting community-driven adaptation initiatives.

By embedding structured monitoring mechanisms at provincial, district, and school levels, KP's education sector will ensure climate resilience is systematically integrated into long-term governance and policy frameworks.

A structured M&E framework is essential for tracking climate adaptation efforts in KP's school system. By aligning indicators with education sector priorities, strengthening data collection mechanisms, and fostering multi-level oversight, E&SED and DEOs will be able to assess progress, refine strategies, and institutionalise resilience in school planning. Through this structured approach, KP's schools will be better prepared to withstand climate shocks, ensuring that students continue to learn in safe, adaptive, and resilient environments.

# Section 6: Capacity Building and Awareness

Building a climate-resilient school education system in Khyber Pakhtunkhwa (KP) requires institutionalised capacity-building initiatives that equip education managers, teachers, and school communities with the knowledge and skills to adapt to climate challenges. The Directorate of Professional Development (DPD), in collaboration with the Directorate of Curriculum and Teacher Education (DCTE), will lead the design and implementation of professional development programs and curriculum reforms, ensuring climate adaptation is embedded in teaching and school management practices.

Training efforts will be decentralised through Regional Professional Development Centres (RPDCs) to strengthen district-level implementation. Additionally, structured awareness campaigns, school-based climate clubs, and participatory learning approaches will promote climate literacy and environmental stewardship among students. By institutionalising these initiatives, KP's education system will build resilience, ensuring that schools remain safe, adaptive, and responsive to climate risks while equipping future generations with sustainability competencies.

## 6.1 Training for Education Managers and Teachers

Ensuring climate resilience within KP's school system requires structured capacity-building for both education managers and teachers. A well-developed training framework, led by the DPD in collaboration with RPDCs, will provide school administrators, education officers, and teachers with the necessary skills to integrate climate adaptation, disaster risk reduction (DRR), and environmental sustainability into their governance and pedagogy. The capacity-building framework will be implemented sequentially in three distinct phases to ensure systematic integration of climate education and resilience-building measures.

### 6.1.1 Training for Education Managers

Education managers—including DOs, DDEOs, SDEOs, and ASDEOs—are responsible for overseeing school climate resilience initiatives, ensuring policy compliance, and integrating climate considerations into school planning and operations. DPD and RPDCs will institutionalise training programs that strengthen their capacity to implement and monitor climate adaptation efforts effectively.

**Key Training Areas:**

| Training Component | Learning Objectives |
|---|---|
| **Climate Risk and Resilience Planning** | Equipping education managers with skills to conduct district-wide climate risk assessments, prioritise vulnerable schools, and implement risk-informed planning. |
| **Disaster Preparedness and Emergency Response** | Strengthening interdepartmental coordination with PDMA, RRSD, DDMUs, and Rescue 1122 to ensure school safety and climate disaster preparedness. |
| **Monitoring Climate-Resilient School Infrastructure** | Enabling education officers to oversee school construction and retrofitting efforts in compliance with climate-adaptive building codes. |
| **Climate-Smart Policy Integration** | Embedding climate adaptation into district education planning, governance, and budgeting frameworks. |

Training will be delivered in phases, ensuring that climate-responsive school governance is embedded at all administrative levels.

### 6.1.2 Teachers' Professional Development

Teachers play a critical role in embedding climate resilience within school education. Through Continuous Professional Development (CPD) programs, DPD will provide structured training to equip teachers with knowledge, skills, and pedagogical strategies to integrate climate adaptation and DRR into teaching practices.

***a. Pre-Service Teacher Training on Climate Education***

Embedding climate education into teacher preparation programs will ensure that newly inducted educators possess the knowledge, skills, and pedagogical tools necessary to integrate climate literacy into their teaching.

**Key Interventions:**

(i) Integration of Climate Change Education into Pre-Service Training: Revise B.Ed. and M.Ed. curricula to incorporate climate risk reduction, sustainability, and climate-adaptive pedagogy.

(ii) Capacity Building for Teacher Educators: Equip faculty members at teacher training institutions with expertise in climate-responsive teaching methodologies.

(iii) Hands-on Training Modules: Introduce simulation-based learning, environmental fieldwork, and disaster preparedness exercises into teacher training programs.

***b. In-Service Training and Continuous Professional Development (CPD)***

For current teachers, structured CPD programs will ensure continuous capacity enhancement in climate literacy, resilience-building, and school-based disaster preparedness[2].

**Training Components for Teachers:**

| Training Component | Key Learning Outcomes | Responsible Institution |
|---|---|---|
| Climate Change Literacy | Enhancing teachers' understanding of climate science, local environmental risks, and disaster risk reduction (DRR). | DPD, DCTE |
| Experiential and Climate-Responsive Teaching | Training in field-based activities, nature walks, and student-led sustainability projects. | DPD, RPDCs, |
| Subject-Specific Integration of Climate Change Concepts | Aligning climate education with age-appropriate pedagogical frameworks across different grade levels. | DCTE, KP Textbook Board, DPD |
| Emergency Preparedness and School Safety | Training teachers in evacuation drills, disaster preparedness, and student safety protocols. | PDMA, Rescue 1122, DPD |

***c. Integration of Climate Change into Subject-Specific Pedagogy***

[2] Training approaches and content development methodologies can draw from internationally recognised guidelines and best practices such as UNESCO's "Getting Climate Ready: A Guide for Schools on Climate Action" (2023) and the World Bank's "Roadmap for Safer and Resilient Schools" (2022).

Teachers will be trained to deliver age-appropriate climate education, integrating climate change concepts into subject-specific pedagogy across different grade levels[3].



[3] Pedagogical strategies and teaching methods may incorporate frameworks such as UNESCO's "Greening Education Partnership" (2023) and USAID's "Advancing Climate-Resilient Education Technical Guidance" (2023).

**Age-Appropriate Climate Change Curriculum Integration**

| Grade Level | Key Climate Change Topics |
|---|---|
| **Grades 1-3** | Basics of weather, seasons, and environmental responsibility. |
| **Grades 4-5** | Impact of pollution, deforestation, and conservation practices. |
| **Grades 6-8** | Climate zones, greenhouse gases, and disaster preparedness. |
| **Grades 9-10** | Climate adaptation strategies, renewable energy, and sustainable cities. |
| **Grades 11-12** | Global climate policies, economic impacts, and mitigation strategies. |

***d. Implementation Strategy***

The capacity-building framework will be implemented in a phased approach, ensuring systematic expansion of climate training across the province.

| Phase | Timeline | Key Actions |
|---|---|---|
| Phase 1: Short-Term | 2025-26 | Development of climate change training modules for teachers and education managers. Pilot implementation in select districts. Initial sensitisation of school leadership. |
| Phase 2: Medium-Term | 2026-27 | Expansion of teacher training programs across KP. Integration of climate education into professional development programs. Strengthening of resilience indicators in school governance. |
| Phase 3: Long-Term | 2028 & Beyond | Comprehensive curriculum revision embedding climate themes. The institutionalisation of sustainable training programs for ongoing CPD. Establishment of school and district-level climate resilience mechanisms. |

## 6.2 Climate Change Education in the Curriculum

The integration of climate change education into KP's school curriculum is critical for equipping students with scientific knowledge, adaptive skills, and problem-solving capabilities to respond effectively to climate challenges. Embedding climate literacy into formal education, extracurricular activities, and student-led initiatives will foster a generation of climate-conscious learners capable of mitigating risks and leading sustainability efforts in their communities.

The Directorate of Curriculum and Teacher Education (DCTE), as per the guidance of E&SED, will sequentially incorporate climate change education into school curricula.

a. **Embedding Climate Resilience in School Curricula:** A structured framework for integrating climate education at different grade levels will be developed to ensure a progressive learning model. Climate education will be incorporated into science, geography, social studies, and environmental education subjects.

***Key Climate Change Themes Across Grade Levels***

| Grade Level | Key Climate Topics |
|---|---|
| **Grades 1-3** | Understanding seasons, weather, and basic environmental responsibility. |
| **Grades 4-5** | Pollution, water conservation, and climate change basics. |
| **Grades 6-8** | Punjab and KP's climate challenge, causes of global warming, and adaptation strategies. |
| **Grades 9-10** | Climate policies, sustainable cities, and local climate action. |
| **Grades 11-12** | Disaster risk reduction, energy transition, and environmental governance. |

**b. Implementation Approach:** A phased curriculum revision will be adopted, ensuring immediate, medium-term, and long-term integration of climate education

| Phase/Timeline | Key Actions |
|---|---|
| Phase 1:<br>Immediate (2025-26) | Development of supplementary materials, teacher training, and pilot programs in selected districts. |
| Phase 2:<br>Medium-Term (2027-29) | Gradual integration into textbooks, capacity-building for curriculum designers, and introduction of digital learning tools. |
| Phase 3:<br>Long-Term (2030 & Beyond) | Full-scale curriculum revision embedding climate education as a core subject. |

**i. Awareness Campaigns and Extracurricular Activities**

Beyond textbooks, students need practical exposure to climate adaptation and sustainability. Schools will incorporate co-curricular activities, student-led projects, and public awareness campaigns to ensure active participation in climate resilience.

### a. Key Initiatives for Climate Awareness and Action

| Initiative | Description |
|---|---|
| Student Climate Clubs | Establishment of climate action groups in schools to engage in sustainability projects and environmental awareness activities. |
| Tree Plantation & Green Schoolyards | Schools will integrate afforestation and greening initiatives to promote biodiversity and heat mitigation. |
| Community-Led Climate Awareness Campaigns | Mobilisation of students and parents for awareness drives on climate risks, conservation, and disaster preparedness. |
| Eco-Friendly School Projects | Waste management, solar panel installations, rainwater harvesting, and clean energy transition efforts within schools. |

### b. Climate Clubs in Schools

School-based Climate Clubs will be established as student-led initiatives to encourage peer learning, local sustainability projects, and advocacy efforts.

*Functions of Climate Clubs:*

(i) Conduct climate awareness sessions and campaigns for fellow students.

(ii) Organise tree plantation drives and water conservation efforts.

(iii) Collaborate with municipal bodies, NGOs, and local experts for knowledge-sharing.

(iv) Serve as student representatives in climate policy discussions at school and district levels.

*Supervision & Implementation*: Climate Clubs will be supervised by the headteachers and teachers with guidance and oversight from DEOs, PDMA, and RRSD for school-level disaster risk reduction (DRR) initiatives.

This comprehensive approach integrates climate literacy across all levels of education, cultivating scientific awareness, environmental stewardship, and active community engagement among students.

# Section 7: Financing Climate Ready Schools

Ensuring the long-term sustainability of climate-resilient education infrastructure and adaptation initiatives in Khyber Pakhtunkhwa necessitates a comprehensive, multi-tiered financing strategy. Climate adaptation within the education sector requires dedicated financial commitments, innovative resource mobilisation, and strategic alignment with climate finance mechanisms. The E&SED, in collaboration with the Finance Department, Planning & Development Department (P&DD), and international development partners, will spearhead efforts to integrate climate-responsive investments into education sector financing, ensuring schools are structurally prepared to withstand climate-induced hazards.

A structured and diversified financing framework will facilitate sustainable financial resource flows for school climate adaptation measures, leveraging provincial funding, international climate finance instruments, public-private partnerships (PPPs), and incentive-based financing mechanisms. This approach will ensure that climate adaptation is not treated as a standalone intervention but is embedded into routine education sector planning and budgeting.

## 7.1 Resource Mobilisation and Budgeting

Achieving financial sustainability for climate adaptation in schools requires an integrated approach, combining provincial budgetary allocations, dedicated climate adaptation funds, and donor-backed financing instruments. The Government of KP will ensure that education sector investments incorporate climate resilience measures, enabling schools to withstand climate shocks while ensuring continuity of learning.

### 7.1.1 Provincial Funding for Climate Adaptation in Schools

The Government of Khyber Pakhtunkhwa will institutionalise climate-responsive budgeting, ensuring that climate adaptation priorities are reflected within education sector financing mechanisms. This will be achieved by:

(i) Mainstreaming climate adaptation within the Annual Development Plan (ADP), ensuring sustained budgetary allocations for school resilience initiatives.

(ii) Establishing a Climate Resilience Fund within E&SED, dedicated to infrastructure retrofitting, disaster preparedness, and climate-responsive school designs.

(iii) Linking school resilience financing with the KP Climate Change Action Plan (2022), enabling schools to access provincial climate adaptation funds and other sector-wide resilience investments.

***Key Financing Mechanisms and Implementing Bodies***

| Financing Mechanism | Key Implementing Body |
|---|---|
| Climate Resilient School Fund | E&SED, Finance Department |
| Provincial School Infrastructure Budget | E&SED, P&D Department, DE&SE |
| Disaster Contingency and Emergency Response Fund | PDMA, RRSD |

By ensuring climate adaptation financing is embedded into routine provincial budget allocations, KP can reduce dependency on emergency funding cycles, fostering long-term financial sustainability for climate-resilient schools.

International climate finance instruments provide critical funding opportunities for scaling climate adaptation in the education sector. E&SED, in partnership with the Finance and P&D Departments, will engage development partners, multilateral banks, and climate funds to mobilise additional resources for climate-resilient education initiatives in KP.

***Potential Climate Finance Sources and their Application in Schools***

| Funding Mechanism | Potential Use in Education Sector |
|---|---|
| Green Climate Fund (GCF) | Grants for climate-resilient school infrastructure and disaster risk reduction (DRR) programmes |
| World Bank Climate Resilience Initiatives | Financing large-scale school safety and disaster risk management projects |
| Asian Development Bank (ADB) Climate Action Grants | Technical support for climate-smart school construction and retrofitting |
| UNDP Climate Adaptation Programs | Capacity-building for school-based disaster preparedness and resilience |

To effectively leverage these funding sources, the following implementation strategies will be adopted:

(i) Engagement with development partners to develop climate-smart education project proposals aligned with global climate financing frameworks.

(ii) Establishment of a Climate Finance Coordination Unit within CRC, E&SED, responsible for mobilising international climate finance, coordinating donor-funded initiatives, and ensuring compliance with climate fund requirements.

(iii) Capacity-building for education planners and school administrators, equipping them with skills in climate finance proposal development, project implementation, and donor engagement.

By strategically tapping into international climate finance, KP's education sector can access long-term financial resources to enhance climate adaptation in schools while strengthening institutional capacity for sustainable financing.

### 7.1.2 Public-Private Partnerships and Innovative Financing

In addition to provincial and international funding streams, public-private partnerships (PPPs) and incentive-based financing will be leveraged to enhance investment in climate-resilient schools. This will ensure diversified financing avenues, reducing the burden on public sector budgets while fostering collaborative engagement with private sector actors.

***a. Private Sector Engagement in Climate-Smart School Projects***

The private sector has a critical role in advancing climate-resilient school infrastructure and adaptation initiatives. Corporate Social Responsibility (CSR) investments, partnerships with green technology firms, and collaborations with construction companies can drive sustainable, cost-effective, and innovative solutions for school climate resilience. PPP Node at E&SED will lead this engagement with the private sector.

***Potential Private Sector Contributions***

| Private Sector Partner | Proposed Contribution |
|---|---|
| Renewable Energy Companies | Installation of solar energy systems in schools |
| Sustainable Construction Firms | Use of eco-friendly school building materials |
| Technology Companies | Development of digital learning platforms for climate education |

To facilitate structured private sector engagement, PPP Node, E&SED will establish:

(i) Formalised PPP agreements, ensuring long-term sustainability of private sector contributions.

(ii) A policy framework for private sector involvement in school adaptation, detailing investment models, risk-sharing mechanisms, and performance-based incentives.

(iii) Monitoring and evaluation mechanisms, ensuring private sector-led initiatives align with climate resilience standards and contribute to sustainable education financing.

**Governance and Oversight of Climate Resilience Financing**

| Implementing Body | Key Role |
|---|---|
| E&SED & Finance Department | Oversee incentive structures and financial mechanisms |
| P&D Department | Align climate resilience projects with provincial investment priorities |
| Local Government (LGERDD) | Facilitate community-led climate financing initiatives |

Adopting a multi-pronged financing approach will enable E&SED to mobilise domestic, international, and private sector resources for long-term climate adaptation in the schools. The proposed funding mechanisms, incentives, and strategic partnerships will enhance financial sustainability, ensuring that climate resilience remains a core component of the education system's long-term vision.

# References:


Ahmed, R., Barkat, W., Ahmed, A., Tahir, M., & Nasir, A. M. (2022). *The Impact of Flooding on Education of Children and Adolescents: Evidence from Pakistan.* Water Economics and Policy, 8(3).

Asian Development Bank (ADB). (2022). *Climate Change Education Playbook*.

Global Partnership for Education (GPE). (2022). *Framework Toward Climate-Smart Education Systems*.

Government of Khyber Pakhtunkhwa. (1985). *Khyber Pakhtunkhwa Government Rules of Business 1985*. Law, Parliamentary Affairs & Human Rights Department.

Government of Khyber Pakhtunkhwa. (2006). *Accessibility Code of Pakistan 2006*.

Government of Khyber Pakhtunkhwa. (2022). *Flood Relief Report E&SED 10-10-2022*. Elementary & Secondary Education Department.

Government of Khyber Pakhtunkhwa. (2022). *Khyber Pakhtunkhwa Climate Change Policy 2022*. Environment, Climate Change, and Wildlife Department.

Government of Khyber Pakhtunkhwa. (2022). *Khyber Pakhtunkhwa Climate Change Action Plan 2022-2030*. Environment, Climate Change, and Wildlife Department.

Government of Khyber Pakhtunkhwa. (2022). *Khyber Pakhtunkhwa Climate Change Diagnostic and Investment Plan*. Planning & Development Department.

Government of Khyber Pakhtunkhwa. (2022). *Khyber Pakhtunkhwa Education Sector Analysis (ESA)*. Elementary & Secondary Education Department.

Government of Khyber Pakhtunkhwa. (2022). *Khyber Pakhtunkhwa Education Sector Plan (ESP) 2022-2027*. Elementary & Secondary Education Department.

Government of Pakistan. (2021). *Pakistan National Climate Change Policy (NCCP) 2021*. Ministry of Climate Change.

Government of Pakistan. (2022). *National Adaptation Plan (NAP) – Final Draft*. Ministry of Climate Change.

KIX Global Partnership. (2022). *Observatory 2.0: Scoping Study on Climate-Resilient Education*.

Perry, L., Barón, M., & Dahlin, B. (2023). *Impacts of Climate Change on Education in Pakistan: A Comprehensive Review*. International Journal of Climate and Education Research.

Shahid, A., & Mukhtar, F. (2022). *Impacts of 2022 Floods on Girls' Education: A Case Study of District Nowshera, Khyber Pakhtunkhwa*. International Journal of Disaster Risk Reduction.

The World Bank. (2022). *Roadmap for Safer and Resilient Schools – Guidance Note*.

UNESCO. (2022). *Greening Education Partnership*.

UNICEF. (2021). *Climate Change and Education in South Asia: Challenges and Adaptation Strategies*.

United Nations Educational, Scientific and Cultural Organization (UNESCO). (2016). *Getting Climate Ready: A Guide for Schools on Climate Action*.

United Nations. (2015). *Sendai Framework for Disaster Risk Reduction 2015-2030*. UNDRR.

United Nations. (2015). *Sustainable Development Goals (SDGs) Overview Document*.

United Nations. (2015). *The Paris Agreement*. UNFCCC.

Goal 13 infographic, source: https://unstats.un.org/sdgs/report/2023/

USAID. (2022). *Advancing Climate-Resilient Education: Technical Guidance Document*.

USAID. (2023). *Climate Smart Education Systems Initiative – Bi-Annual Progress Report*.

# Annex A: Climate Resilience Assessment Checklist

**Note:** By using this checklist, school heads can identify areas for improvement and take proactive steps to ensure the school building is resilient to climate-related risks, safeguarding the safety and well-being of students and staff.

## Infrastructural Assessment

**1. Structural Integrity and Building Design**

- Is the school building constructed to withstand local climate risks (e.g., hurricanes, floods, earthquakes, or extreme heat)?
- Are roofs, walls, and foundations reinforced to resist high winds, heavy rainfall, or seismic activity?
- Are windows and doors designed to withstand extreme weather conditions (e.g., storm shutters, impact-resistant glass)?
- Is the building elevated or designed to prevent flooding in flood-prone areas?
- Are there adequate drainage systems to manage heavy rainfall and prevent waterlogging?

**2. Safety and Accessibility**

- Are emergency exits clearly marked, unobstructed, and sufficient for the number of occupants?
- Are ramps and accessible pathways available for students and staff with disabilities during emergencies?
- Are fire extinguishers, first aid kits, and emergency supplies readily available and regularly maintained?
- Are hazardous materials (e.g., chemicals in labs) stored securely to prevent leaks or spills during extreme weather?

**3. Energy and Water Resilience**

- Does the school have a backup power source (e.g., generators, solar panels) to ensure electricity during outages?
- Are energy-efficient systems (e.g., LED lighting, energy-efficient HVAC) in place to reduce strain on resources?
- Is there a reliable water supply system, including rainwater harvesting or water storage tanks, for use during droughts or disruptions?
- Are water-saving fixtures (e.g., low-flow taps, dual-flush toilets) installed to conserve water?

**4. Environmental and Natural Barriers**

- Are there natural barriers (e.g., trees, vegetation) to protect the building from strong winds or flooding?
- Is the schoolyard or surrounding area designed to absorb rainwater (e.g., permeable surfaces, rain gardens)?
- Are there measures to reduce urban heat island effects (e.g., green roofs, shaded areas)?

**5. Emergency Preparedness and Response**

- Is there a comprehensive disaster management plan in place, including evacuation routes and assembly points?
- Are staff and students regularly trained on emergency procedures (e.g., fire drills, earthquake drills)?
- Is there a communication system in place to alert staff, students, and parents during emergencies?
- Are emergency supplies (e.g., food, water, blankets, flashlights) stocked and easily accessible?
- Are partnerships established with local emergency services and community organizations for support during disasters?

**6. Health and Well-being**

- Are there measures to ensure indoor air quality (e.g., ventilation systems, air purifiers) during extreme heat or smoke events?
- Are cooling or heating systems available to maintain a comfortable temperature during extreme weather?
- Are there shaded outdoor areas to protect students from extreme heat or UV exposure?

**7. Infrastructure Maintenance**

- Is the school building regularly inspected for wear and tear, especially after extreme weather events?
- Are repairs and maintenance conducted promptly to address vulnerabilities (e.g., cracks, leaks, damaged roofs)?
- Are gutters, drains, and downspouts cleaned regularly to prevent blockages during heavy rainfall?

**8. Community and Stakeholder Engagement**

- Are parents, staff, and students informed about the school's climate resilience measures and emergency plans?
- Is there a system for gathering feedback from the school community to improve resilience efforts?
- Are local climate risks and resilience strategies incorporated into the school curriculum to raise awareness?

**9. Long-term Planning and Adaptation**

- Has the school conducted a climate risk assessment to identify potential hazards and vulnerabilities?
- Are there plans to upgrade or retrofit the building to meet future climate challenges?
- Are funds allocated for climate resilience projects and emergency preparedness?

---

**Scoring and Action Plan**

- **High Priority (Urgent Action Needed):** Items marked as "No" or "Unsure" in critical areas (e.g., structural integrity, emergency preparedness).

- **Medium Priority (Improvement Needed):** Items that require attention but are not immediately critical.
- **Low Priority (Maintenance Needed):** Items that are generally in good condition but require periodic review.

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**Non-Infrastructural Assessment**

**Curriculum**

- Does the curriculum include **climate change education** as a core component across relevant subjects (e.g., science, geography, social studies)?
- Are topics such as **climate science, adaptation, and mitigation strategies** integrated into the curriculum?
- Does the curriculum emphasize **local climate risks** (e.g., floods, droughts, heatwaves) and their impacts on communities?
- Are **practical activities** (e.g., tree planting, waste management, water conservation) included to promote hands-on learning?
- Is there a focus on **sustainable development goals (SDGs)**, particularly SDG 13 (Climate Action)?
- Are **disaster preparedness and response** topics (e.g., evacuation drills, first aid) part of the curriculum?
- Does the curriculum encourage **critical thinking and problem-solving** skills related to climate challenges?

---

**2. Textual Materials (Books and Resources)**

- Do textbooks include **up-to-date information** on climate change, its causes, and impacts?
- Are there **localized examples** of climate risks and resilience strategies in textual materials?
- Do books provide **practical guidance** on climate-friendly practices (e.g., energy conservation, waste reduction)?
- Are there **visual aids** (e.g., diagrams, infographics) to help students understand complex climate concepts?
- Are **supplementary resources** (e.g., videos, posters, activity guides) available to support climate education?
- Do textual materials promote **gender-sensitive and inclusive approaches** to climate resilience?

---

**3. Teachers' Capacities**

- Have teachers received **training on climate change education** and its integration into the curriculum?
- Are teachers equipped to deliver **interactive and engaging lessons** on climate resilience?

- Do teachers have access to **teaching aids and resources** (e.g., lesson plans, activity kits) for climate education?
- Are teachers trained to address **local climate risks** and their relevance to students' lives?
- Do teachers encourage students to participate in **climate action projects** (e.g., eco-clubs, green initiatives)?
- Are teachers aware of **disaster preparedness protocols** and able to guide students during emergencies?

---

**4. Students' Capacities**

- Are students aware of the **basic concepts of climate change** and its impacts on their environment?
- Do students understand **local climate risks** and how to respond to them (e.g., floods, heatwaves)?
- Are students actively involved in **climate resilience activities** (e.g., tree planting, recycling, energy conservation)?
- Do students demonstrate **problem-solving skills** in addressing climate-related challenges?
- Are students trained in **disaster preparedness** (e.g., evacuation drills, first aid)?
- Do students participate in **awareness campaigns** to promote climate resilience in their communities?

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**5. Parents' Capacities**

- Are parents aware of the **importance of climate resilience** and its relevance to their children's education?
- Do parents support **climate-friendly practices** at home (e.g., water conservation, waste reduction)?
- Are parents involved in **school-led climate initiatives** (e.g., community clean-ups, tree planting)?
- Do parents understand **local climate risks** and how to prepare for them (e.g., floods, heatwaves)?
- Are parents equipped to reinforce **climate education** at home through discussions and activities?
- Do parents participate in **workshops or training sessions** on climate resilience organized by the school?

---

**6. School Climate Resilience Practices**

- Does the school have a **climate resilience action plan** that includes curriculum, teacher training, and student engagement?

- Are there **eco-clubs or green committees** to promote climate awareness and action among students?
- Does the school organize **climate-related events** (e.g., Earth Day, environmental fairs)?
- Are **energy-efficient practices** (e.g., solar panels, LED lighting) implemented in the school?
- Does the school promote **water conservation** (e.g., rainwater harvesting, low-flow taps)?
- Are **waste management systems** (e.g., recycling, composting) in place at the school?
- Does the school have a **disaster preparedness plan** that includes evacuation routes and emergency supplies?

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**Scoring and Action Plan**

- **Fully Compliant:** All items marked as "Yes."
- **Partially Compliant:** Items marked as "No" or "Unsure" require immediate attention.
- **Non-Compliant:** Critical items (e.g., curriculum integration, teacher training, disaster preparedness) marked as "No" must be addressed urgently.

---

**Recommendations**

1. **For Non-Compliant Areas:**
    - Integrate climate change education into the curriculum.
    - Organize teacher training workshops on climate resilience.
    - Develop a school climate resilience action plan.
2. **For Partially Compliant Areas:**
    - Update textual materials to include localized climate risks and solutions.
    - Involve parents in climate resilience initiatives through workshops and events.
    - Strengthen student participation in climate action projects.
3. **For Fully Compliant Areas:**
    - Continue to monitor and improve climate resilience practices.
    - Share best practices with other schools and communities.
    - Celebrate achievements in climate resilience through events and awards.

# Annex B: PC-I Checklist to Ensure Compliance to PBC 2007 and ACP 2006

**1. General Planning and Documentation**

- Has the building design been prepared by a **registered professional engineer** as per PBC 2007, Section 1.4?
- Does the planning document include a **site-specific seismic hazard assessment** for KP's seismic zones (e.g., Zone 3 or 4) as per PBC 2007, Section 2.2.1?
- Is the building design compliant with the **seismic zone map** for KP as per PBC 2007, Section 2.2.2?
- Has the **soil investigation report** been prepared as per PBC 2007, Section 3.2, to determine soil bearing capacity and liquefaction potential, especially in flood-prone areas like Peshawar and Nowshera?
- Are **as-built drawings** and construction records maintained as per PBC 2007, Section 1.6.3?
- Does the design comply with the **Accessibility Codes of Pakistan 2006**, Section 3, for inclusive access?

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**2. Earthquake-Resilient Design and Construction**

- Is the building designed to meet the **seismic design category** for KP (Zone 3 or 4) as per PBC 2007, Section 2.2.3?
- Are **ductile detailing requirements** for reinforced concrete structures followed as per PBC 2007, Section 5.4?
- Are **shear walls** or **moment-resisting frames** provided as per PBC 2007, Section 5.5, to resist lateral seismic forces?
- Is the **base shear** calculated and distributed as per PBC 2007, Section 4.2?
- Are **soft-story irregularities** avoided as per PBC 2007, Section 4.3.2?
- Are **expansion joints** provided in accordance with PBC 2007, Section 5.6, to accommodate seismic movement?
- Are non-structural elements (e.g., partitions, ceilings, and fixtures) anchored and braced as per PBC 2007, Section 6.2?

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**3. Flood-Resilient Design and Construction**

- Is the building located above the **design flood level** as per PBC 2007, Section 7.2.1, especially in flood-prone areas like Charsadda and Dera Ismail Khan?
- Are **flood-resistant materials** (e.g., concrete, treated wood, and corrosion-resistant steel) used as per PBC 2007, Section 7.3.2?

- Is the foundation designed to resist **scour and erosion** as per PBC 2007, Section 7.4.1?
- Are **drainage systems** designed to handle a **1-in-50-year flood event** as per PBC 2007, Section 7.5.2?
- Are **utility systems** (e.g., electrical panels, HVAC units) elevated above the **design flood level** as per PBC 2007, Section 7.6.1?

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**4. Accessibility and Inclusivity (Accessibility Codes of Pakistan 2006)**

- Are **ramps** provided with a **maximum slope of 1:12** and a minimum width of **1.2 meters** as per Accessibility Codes 2006, Section 4.2?
- Are **handrails** installed on both sides of ramps and staircases at a height of **0.85 to 0.95 meters** as per Accessibility Codes 2006, Section 4.3?
- Are **doorways** and **corridors** designed with a minimum clear width of **0.9 meters** to accommodate wheelchairs as per Accessibility Codes 2006, Section 4.4?
- Are **elevators** provided in multi-story buildings with a minimum cabin size of **1.1 meters x 1.4 meters** and controls at a height of **0.9 to 1.2 meters** as per Accessibility Codes 2006, Section 4.5?
- Are **accessible toilets** provided with a minimum clear floor area of **1.5 meters x 1.75 meters** and grab bars as per Accessibility Codes 2006, Section 4.6?
- Are **tactile pathways** and **Braille signage** provided for visually impaired individuals as per Accessibility Codes 2006, Section 4.7?
- Are **parking spaces** designated for persons with disabilities, with a minimum width of **3.6 meters**, as per Accessibility Codes 2006, Section 4.8?

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**5. Site Selection and Land Use**

- Is the site located away from **fault lines** and **liquefaction-prone areas** as per PBC 2007, Section 2.2.1?
- Has the site been assessed for **flood risk** using historical data and hydrological studies as per PBC 2007, Section 7.2.2?
- Are **natural buffers** (e.g., vegetation, wetlands) preserved to reduce flood and erosion risks as per PBC 2007, Section 7.3.3?
- Is the site accessible for persons with disabilities, with **barrier-free pathways** and **drop-off zones** as per Accessibility Codes 2006, Section 4.1?

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**6. Structural Design and Materials**

- Are construction materials (e.g., cement, steel, bricks) tested and certified as per PBC 2007, Section 3.3?

- Is the **concrete mix design** compliant with PBC 2007, Section 5.2, for seismic zones?
- Are **reinforcement details** (e.g., lap length, stirrup spacing) in accordance with PBC 2007, Section 5.4?
- Are **fire-resistant materials** used as per PBC 2007, Section 8.2, for structural and non-structural elements?

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**7. Emergency Preparedness and Evacuation**

- Are **emergency exits** designed and located as per PBC 2007, Section 9.2.1, to ensure safe evacuation during disasters?
- Are **evacuation routes** free from obstructions and clearly marked as per PBC 2007, Section 9.2.2?
- Are **assembly areas** designated in safe zones away from the building as per PBC 2007, Section 9.3?
- Are **accessible evacuation routes** provided for persons with disabilities as per Accessibility Codes 2006, Section 4.9?

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**8. Maintenance and Inspections**

- Is the building inspected for **structural integrity** (e.g., cracks, corrosion, or settlement) as per PBC 2007, Section 1.6.4?
- Are **drainage systems** and **flood barriers** maintained to ensure functionality as per PBC 2007, Section 7.5.3?
- Are **repairs and retrofitting** conducted promptly to address vulnerabilities as per PBC 2007, Section 1.6.5?
- Are **accessibility features** (e.g., ramps, elevators, tactile pathways) regularly inspected and maintained as per Accessibility Codes 2006, Section 5?

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**9. Training and Awareness**

- Are school staff and students trained on **earthquake and flood safety procedures** as per NDMA guidelines?
- Are **disaster drills** (e.g., earthquake and flood evacuation drills) conducted regularly as per PBC 2007, Section 9.4?
- Is there a **disaster management plan** in place, including roles and responsibilities for staff as per NDMA guidelines?
- Are staff trained on **assisting persons with disabilities** during emergencies as per Accessibility Codes 2006, Section 5?

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**10. Compliance and Certification**

- Has the building received a **certificate of compliance** from the relevant authorities as per PBC 2007, Section 1.6.6?
- Are all permits and approvals (e.g., environmental, structural) documented and up to date as per PBC 2007, Section 1.6.2?
- Is there evidence of **third-party audits** or inspections to verify compliance with PBC 2007 and Accessibility Codes 2006?

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**KP-Specific Recommendations**

1. **For Flood-Prone Areas (e.g., Peshawar, Nowshera, Charsadda):**
    - Ensure buildings are elevated above the **design flood level**.
    - Use **flood-resistant materials** and design **robust drainage systems**.
    - Conduct regular **flood risk assessments** and update disaster management plans.
2. **For Seismic Zones (e.g., Zone 3 and 4):**
    - Ensure **ductile detailing** and **shear walls** are incorporated into the design.
    - Avoid **soft-story configurations** and ensure **expansion joints** are provided.
3. **For Accessibility:**
    - Ensure all schools in urban and rural areas of KP comply with the **Accessibility Codes of Pakistan 2006**.
    - Provide **tactile pathways** and **Braille signage** in schools for visually impaired students.

# Annex C: Model School Resilience Plan

**محکمہ ایلیمنٹری و اسکینڈی تعلیم**
**حکومت خیبر پختونخواہ**
**موسمیاتی تبدیلیوں سے تحفظ کے لئے سکول پلان**

**سکول کی بارے میں بنیادی معلومات:**

| | |
|---|---|
| **سکول کا نام** | |
| EMIS کوڈ | |
| **ضلع** | |
| **تحصیل** | |
| **محلہ کونسل/ویلج کونسل** | |
| **سرکل/مرکز** | |
| **داخل شدہ طلباء کی تعداد** | |
| **داخل شدہ طلباء جو کسی بھی قسم کی معذوری کا شکار ہیں** (*Children with Disabilities*) | |
| **سکول کی عمارت میں کُل کمروں کی تعداد** | |
| **غیر فعال/مخدوش کمرہ جات/عمارتی حصہ** | |
| **ٹائلٹ تعداد/فعال/غیر فعال** | |
| **سکول میں کھیل کا میدان** | |
| **سکول میں سبزہ زار/لان -تعداد** | |
| **سکول میں درختوں اورپودوں کی تعداد** | |

## حصہ اول: موسمیاتی تبدیلیوں سے سکول کو لاحق خطرات کی جانچ

### 1. عمارتی ڈھانچہ اور دیگر سہولیات

**a. عمارت کی صورتحال**

i. سکول عمارت اندازاً کب تعمیر کی گئی اور اسکی موجودہ صورتحال کیسی ہے؟

ii. کیا عمارت ایسے مواد سے بنائی گئی ہے جو مقامی موسمی حالات سے مطابقت رکھتا ہے(اینٹوں یا پتھر کی چنائی/سیمنٹ /کنکریٹ /مٹی کا استعمال) اور انتہائی موسمی حالات کا مقابلہ کرنے کی اہلیت کا حامل ہے؟

iii. کیا اسکول کے بنیادی ڈھانچے میں کوئی موجودہ ساختی کمزوریاں ہیں جن کو دور کرنے کی ضرورت ہے؟ (مثال کے طور پر عمارت /دیواروں میں دراڑیں، مخدوش صورتحال وغیرہ)؟

**b. جغرافیائی خدو خال:**

i. کیا اسکول کسی قدرتی آبی گزرگاہ کے اندر یا اس کے قریب آتا ہے؟( دریا، رود کوہی، برساتی نالہ جات- فاصلہ؟)

ii. کیا اسکول سیلاب، زلزلہ، لینڈ سلائیڈنگ، یا دیگر قدرتی آفات کا شکار علاقے میں واقع ہے؟

iii. سکول کے گرد و نواح میں کیا واقع ہے- زرعی رقبہ، رہائشی یا کمرشل عمارات-؟

iv. کیا سکول کے اطراف میں فضلہ وغیرہ جیسے مسائل تو نہیں؟

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**c. توانائی اور روشنی کا موزوں استعمال**

i. اسکول کے لیے توانائی کا ذریعہ کیا ہے؟ کیا اسکول بار بار بجلی کی بندش سے متاثر ہوتا ہے؟

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ii. کیا اسکول بجلی گرڈ سے منسلک ہے، اور کیا وہاں بجلی نہ ہونے کی صورت میں بجلی فراہمی کے دیگر ذرائع ہیں؟

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iii. کیا اسکول میں ماحول دوست یا قابلِ تجدید توانائی کی سہولت موجود ہے؟ جیسے سولر پینل -(جی ہاں/جی نہیں)

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**d. پانی کا انتظام**

i. احاطہء اسکول میں پانی کی فراہمی کے ذرائع کیا ہیں؟ کیا پینے اور استعمال کے لئے صاف اور محفوظ پانی دستیاب ہے؟

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ii. طلباء، اساتذہ و اسٹاف کے پینے کے لئے محفوظ پانی کا بندوبست ہے؟

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iii. کیا سکول میں پانی ذخیرہ کرنے لے لئے انتظام ہے؟ (پانی کی ٹینکی وغیرہ) اور کیا اسکی باقاعدہ صفائی کروائی جاتی ہے؟

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iv. نکاسی آب کا کیا بندوبست ہے؟ کیا فعال گٹر، و گندے پانی کے اخراج کا بندوبست ؟
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v. کیا شدید بارشوں ، سیلابی ریلوں کی صورت میں حفاظتی بند یا رکاوٹیں موجود ہیں؟
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vi. کیا اسکول میں بارش کے پانی کو ذخیرہ کرنے کا نظام موجود ہے؟ (ہاں/نہیں)
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**e. عمارت میں ہوا کی آمدورفت اور درجہ حرارت کو معتدل رکھنے کا انتظام**

i. کیا سکول کی عمارت کا نقشہ اس کو قدرتی طور پر ہوادار بناتا ہے؟
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ii. کیا سکول میں موزوں تعداد میں کھڑکیاں، روشندان اور سایہ کی سہولیات موجود ہیں؟
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**f. کوڑا، ردی، فضلہ کا بندوبست**

i. کیا سکول میں استعمال شدہ پرانے کاغذ، شیشہ، پلاسٹک وغیرہ کو جمع کرنے اور قابل استعمال بنانے کا انتظام ہے؟
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ii. کیا کوڑا، ردی، فضلہ، اکٹھا کیا جاتا ہے اور اسکو ٹھکانے لگانے کا موئثر انتظام کیا جاتا ہے؟
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**2. <u>ایمرجنسی، ہنگامی صورتحال کے لئے تیاری اور منصوبہ بندی</u>**

**a. موسمیاتی تبدیلی اور اس کے نتیجہ میں قدرتی آفات سے لاحق خطرات کا جائزہ**

i. کیا سکول نے موسمیاتی تبدیلیوں اور قدرتی آفات سے نبٹنے ,اور متوقع حادثات کی نشاندہی کے لیے کبھی جانچ کی ؟
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ii. کیا سکول کے علاقہ میں عموماً ہونے وقوع ہونے والی موسمیاتی تبدیلیوں یا قدرتی آفات شناخت کیے گئے ہیں(مثلاً شدید گرمی کی لہر، غیر متوقع بارشیں، سیلابی ریلے، نالوں میں طغیانی، وغیرہ)؟

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iii. حالیہ سالوں میں سیلاب کے اثرات: اسکول کی عمارت کو پہنچنے والے نقصان اور بحالی میں ضائع ہونے والے دنوں کی تفصیل فراہم کریں۔

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v. حالیہ ماضی میں حالیہ سالوں میں آندھی ، طوفان، گردباد، ژالہ باری، کے نتیجہ میں کیا کبھی اسکول کی عمارت کو نقصان پہنچا ؟ اوربحالی میں ضائع ہونے والے دنوں کی تفصیل فراہم کریں۔

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iv. ان آفات کے نتیجہ میں تعلیمی عمل(بچوں کی پڑھائی) میں تعطل کتنی بار دیکھا گیا؟

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v. کیا سکول کے پانی کی سپلائی کے نظام کو کوئی نقصان پہنچا ہے یا کوئی اور نقصان جو پہنچا ہو جس کا ذکر کرنا آپ ضروری سمجھیں

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**b. موسمیاتی تبدیلی اور اس کے نتیجہ میں قدرتی آفات سے لاحق خطرات کے لئے منصوبہ بندی**

i. کیا سکول کو ماضی میں سیلاب سے متاثرہ لوگوں کو پناہ دینے کے لیے استعمال کیا گیا ہے، اور کیا سکول انتظامیہ سے اس ضمن میں مشاورت کی گئی؟

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ii. کیا سکول کے پاس موسمیاتی واقعات (جیسے شدید گرمی /سردی کی لہر، دھند، سموگ،شدید بارش،سیلاب،وغیرہ)کی صورتحال سے نبٹنے کا منصوبہ/پلان موجود ہے؟

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iii. کیا طلباء اور اساتذہ کے لیے ایمرجنسی کی صورت میں اپنائے جانے والے طریقہ کار پر آگاہی ، مشقیں اور تربیتی سیشنز ہوتے ہیں؟

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iv. کیا سکول کی متعلقہ ویلج کونسل/محلہ کونسل میں فعال DRMکمیٹی ہے؟ اگر ہے، تو آیا وہ تربیت یافتہ ہے یا نہیں؟

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v. کیا ویلج کونسل/محلہ کونسل کی سطح پر قدرتی آفات سے نبٹنے کے لئے بندوبست یا سامان موجود ہے؟

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vi. کیا سکول کے پاس کوئی رضاکاروں کا گروپ ہے؟ اگر ہے، تو آیا وہ ایمرجنسی مینجمنٹ پر تربیت یافتہ ہیں یا نہیں؟

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vii. کیا سکول میں ہنگامی صورتحال سے دوچار ہونے کی صورت میں مقامی، محکمہ تعلیم، ضلعی انتظامیہ، ریسکیو، وغیرہ کے اہم موبائل نمبروں کی فہرست موجود ہے؟ اگر ہے تو کیا اساتذہ اور بچوں کے لئے وہ نمایاں مقام پر آویزاں کی گئی ہے؟

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**c. ہنگامی صورتحال میں مواصلات اور رابطہ :**

i. سکول انتظامیہ ایمرجنسی کی صورت میں معلومات طلباء، اساتذہ، اور والدین تک کیسے پہنچاتا ہے؟

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ii. کیا سکول میں ہنگامی صورتحال کے لئے ادویات، مرہم پٹی کا سامان، کھانا ، روشنی ، وغیرہ کا بندوبست ہے؟

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iii. کیا ایمرجنسی سپلائیز (جیسے فرسٹ ایڈ کٹس، پانی، کھانا) دستیاب ہیں؟

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**3. علاقہ کےلوگوں /کمیونٹی کی شمولیت اور آگاہی**

**متعلقین کی شمولیت:**

i. کیا مقامی حکومت،غیر سرکاری تنظیموں،مقامی افراد، عوامی نمائندوں کے ساتھ موسمیاتی حادثات سے نبرد آزما ہونے کے لئے سکول سے تعاون کیا جاتا ہے؟

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ii. کیا سکول میں PTCفعال ہے؟ (صرف ہاں یا ناں میں جواب دیں)

_____

iii. کیا والدین اور کمیونٹی کے افراد موسمیاتی حادثات سے نبٹنے کے لئے منصوبہ بندی کے عمل میں شامل ہوتے ہیں ؟ (ہاں/ناں)

_____

iv. کیامحکمہ صحت کے ادارے کا عملہ اسکول میں طلباء کی عمومی صحت کی جانچ کے لئے سکول میں آتا ہے؟ اگر جواب ہاں میں ہے تو آخری سیشن کی تفصیلات فراہم کریں۔

_____

**b. آگاہی اور تربیتی پروگرام:**

i. کیا اسکول موسمیاتی تبدیلی اور اس نبٹنے پر باقاعدہ ورکشاپس یا سیمینارز کا انعقاد کرتا ہے؟

_____

ii. کیا طلباء اور اساتذہ موسمیاتی خطرات اور مدافعاتی اقدامات سے آگاہی رکھتے ہیں؟

_____

iii. کیا اسکول موسمیاتی تبدیلی اور اس سے نبٹنے میں مقامی افراد/محلہ /گاؤں، وغیرہ میں کچھ کردار ادا کر رہا ہے؟(موسمی شجرکاری، موسمیاتی تبدیلیوں سے آگاہی، موسمیاتی تبدیلیوں کا مقامی زراعت وغیرہ پر اثرات)۔

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**4. تعلیمی و تدریسی عمل**

**a. تعلیمی کتب میں موجود مواد:**

i. کیا موسمیاتی تبدیلی سے متعلق موضوعات کتب میں شامل ہیں؟

_____

ii. کیا ایسی مخصوص موضوعات، سپیشل پیریڈز کا انعقاد کیا جاتا ہے جو موسمیاتی تبدیلی کے مسئلہ سے آگاہی دیتے ہوں؟

_____

**b. ہم نصابی و غیر نصابی سرگرمیاں:**

i. کیا سکول میں ماحولیاتی مسائل اور موسمیاتی تبدیلی کا سامنا کرنے کے لئے بچوں کے کلب یا گروپ تشکیل دئیے گئے ہیں؟

_____

ii. کیا سکول کسی مقامی یا صوبائی یا قومی ماحولیاتی پروگرامز یا مقابلوں میں شرکت کرتا ہے؟

_____

iii. کیا سکول میں ماحولیات، موسمیاتی تبدیلی ، قدرتی آفات وغیرہ سے منسوب دن منائے جانے کا اہتمام کیا جاتا ہے؟

_____

**c. پالیسی:**

i. کیا موجودہ PTC پالیسی موسمیاتی تبدیلی کے مسئلہ کا احاطہ کرتی ہے؟

_____

ii. موسمیاتی تبدیلی اور اس کے نتیجہ میں رونما ہونے والے حادثات سے لڑنے کے منصوبوں کے لیے سکول کی سطح پر کون سے مالی وسائل دستیاب ہیں ؟

_____

iii. کیا سکول مقامی سطح پر وسائل مقامی افراد، تجارتی اداروں سے وسائل اکٹھے کرنے کی استعداد رکھتا ہے؟

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## موسمیاتی تبدیلیوں سے تحفظ کے لئے سکول پلان

### حصہ دوم:عملی اقدامات

سکول کا نام:_____

**تعارف:**

سکول میں موسمیاتی تبدیلی سے تحفظ کے لیے بنائے جانے والے درج ذیل منصوبہ کا مقصد طلباء، اساتذہ، اور علاقہ کے لوگوں کو موسمیاتی تبدیلیوں کے اثرات سے بچانا، آگاہی بڑھانا، اور مستقبل میں درپیش مسائل و مواقع سے آگاہ اور تیاد کرنا ہے۔

**طلباء کے لیے اہمیت:**

الف: :یہ منصوبہ اور اس میں شامل سرگرمیاں طلباء کو موسمیاتی تبدیلیوں اور ان کے اثرات کے بارے میں شعور دیں گی ، تاکہ وہ ماحول کا خیال رکھنے کی اہمیت کوسمجھ سکیں۔

ب :سکول میں ہونے والی ان سرگرمیوں کے نتیجہ میں طلباء عملی طور پر سیکھتے ہیں کہ کس طرح روزمرہ کے معمولات میں چھوٹی چھوٹی تبدیلیاں لا کر ماحول کی حفاظت کی جا سکتی ہے۔

ج: اس منصوبہ سے بچوں میں ماحول کی حفاظت کے حوالے سے ذمہ داری کا احساس پیدا ہوگا، جو انہیں ذمہ دار شہری بننے میں معاون ہوگا۔

**اساتذہ کے لیے اہمیت:**

الف :اساتذہ بچوں کی رہنمائی کرتے ہوئے انہیں موسمیاتی تبدیلیوں سے نبٹنے کے لئے اقدامات سکھائیں گے اور ان کی تربیت کریں گے۔
ب :اساتذہ خود بھی موسمیاتی مسائل اور ان کے حل کے بارے میں مزید معلومات حاصل کریں گے، جو کہ ان کی پیشہ ورانہ ترقی کے لیے بے حداہم ہے۔
ج :اساتذہ اپنے عمل کے ذریعے سکول اور علاقہ میں ماحول کے تحفظ کے لیے عملی اقدامات، آگاہی اور مثبت مثال قائم کر سکتے ہیں۔

**علاقہ کے لیے اہمیت:**

الف :سکول کی سطح کی منصوبہ بندی علاقہ کے افراد میں اجتماعی سطح پر موسمیاتی تبدیلیوں کے بارے میں آگاہی پیدا کرتی ہے، جو کہ اجتماعی اقدامات کی حوصلہ افزائی میں معاون ہو گی۔
ب: علاقے میں ماحول کی بہتری کے اقدامات کو فروغ ملے گا، جس سے علاقہ کے ماحول میں بہتری آتی ہے۔
مستقبل کے چیلنجز کا مقابلہ :یہ منصوبہ بندی علاقے کو موسمیاتی تبدیلیوں کے ممکنہ چیلنجوں کا مقابلہ کرنے کے لیے تیار کرتی ہے، جس سے علاقہ مستقبل میں زیادہ محفوظ اور مضبوط ہوتا ہے۔

**موسمیاتی تبدیلیوں سے تحفظ کے لئے سکول پلان کےمقاصد:**

- طلباء اوراساتذہ کو موسمیاتی تبدیلیوں سے لاحق خطرات سے محفوظ بنانا۔
- تدریسی تسلسل کو برقرار رکھنا۔
- سکول اور ملحقہ علاقہ میں موسمیاتی تبدیلی اور اس سے متعلق مسائل کے بارے میں آگاہی

## 1. عمارتی ڈھانچہ اور دیگر سہولیات

| نوعیت | اقدامات | کیفیت | ذمہ داری | دورانیہ- کب عمل میں لانا ہے: ماہانہ، سہ ماہی، ششماہی، سالانہ |
|---|---|---|---|---|
| **عمارت- مُرمت/تزئین و اضافہ** | دیواریں/چاردیواری وغیرہ | | | |
| | کھڑکیاں /روشندان | | | |
| | کمرہ جماعت | | | |
| | روشنی | | | |
| | فرنیچر و دیگر لوازمات | | | |
| **صاف اور محفوظ پانی کی فراہمی** | محفوظ پینے کا پانی/فلٹر | | | |
| | پانی کا صاف ماخذ/ پانی کو ذخیرہ کرنے کا بندوبست | | | |
| | بارش کے پانی کو ذخیرہ کرنے کا بندوبست | | | |
| | نکاسیء آب کا نظام | | | |
| **کوڑا، ردی، فضلہ کا بندوبست** | ردی، کوڑا، کچرا کا سمیٹنا اور تلف کرنا | | | |
| | نکاسی آب | | | |

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| | لیٹرین- انفرادی/اجتماعی | | | |
| **ذرائع ِتوانائی** | بجلی | | | |
| | سولر | | | |
| | قدرتی روشنی | | | |
| **ماحول دوست سکول** | شجرکاری | | | |
| | باغیچہ/لان | | | |
| | میواکی جنگل(شہری) | | | |
| | پانی کی دستیابی | | | |
| **دیگر۔** | ہنگامی صورتحال سے نبٹنے اور ابتدائی طبی امداد کی کٹ | | | |

## 2. ایمرجنسی، ہنگامی صورتحال کے لئے تیاری اور منصوبہ بندی

| اقدامات | موجودہ -کیفیت | ذمہ داری | دورانیہ- کب عمل میں لانا ہے: ماہانہ، سہ ماہی، ششماہی، سالانہ |
|---|---|---|---|
| **موسمیاتی تبدیلی قدرتی آفات سے لاحق خطرات کا باقاعدگی سے جائزہ** | | | |
| موسمیاتی تبدیلیوں سے تحفظ کے لئے سکول پلان کی موجودگی | | | |
| ہنگامی صورتحال سے نبٹنے کے لئے اقدامات کی فہرست کی تیاری | | | |
| **PTC** کا نوٹیفیکیشن | | | |
| سکول میں موسمیاتی اور ماحولیاتی آگاہی کے لئے طلباء کلب کا قیام | | | |
| موسمیاتی تبدیلی کے چیلنج کا سامنا کرنے کے لئے علاقہ میں رضاکاروں کی نشاندہی اور تربیت | | | |
| **ہنگامی صورتحال میں مواصلات اور رابطہ کاری** | | | |
| ہنگامی نمبروں کی فہرست نمایاں مقام پر آویزاں کرنا | | | |
| موسمیاتی تبدیلی، قدرتی آفات و ہنگامی صورتحال سے نبٹنے کے لئے آگاہی سیشن اور تربیتی پروگرام کا انتظام- معاونت: 1122، محکمہ صحت، **PDMA,** **DDMA,** ، ضلعی | | | |

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| انتظامیہ، فائر بریگیڈ، بوائز سکاؤٹ، دیگر | | | |

## 3. موسمیاتی تبدیلیوں سے تحفظ کے لئے استعداد کاری

| اقدامات | موجودہ -کیفیت | ذمہ داری | دورانیہ- کب عمل میں لانا ہے: ماہانہ، سہ ماہی، ششماہی، سالانہ |
|---|---|---|---|
| سکول میں موسمیاتی تبدیلی و قدرتی آفات کے لئے ایک استاد کی بطور فوکل پرسن نامزدگی۔ | | | |
| سکول اساتذہ میں ایک ایسے گروپ نامزدگی تربیت جو موسمیاتی معلومات، بشمول حفاظتی طریقہ کار اور عملی اقدامات، کو اسکول کے تمام طلباء تک مؤثر طریقے سے پہنچا سکیں۔ | | | |
| اساتذہ کو موسمیاتی تبدیلی کے چیلنج ، حفاظتی اقدامات، اور ہنگامی صورتحال کے دوران بلا تعطل تعلیم کو یقینی بنانے کی تربیت ۔ | | | |
| اساتذہ کو ہنگامی صورتحال اور آفات سے متاثرہ بچوں کے لیے نفسیاتی اور سماجی معاونت کی تربیت | | | |
| PTC ممبران کی موسمیاتی حادثات سے نمٹنے اور موسمیاتی متعلقہ آفات پر تربیت | | | |
| طلباء کے لیے آگاہی پروگرامز/سیشنز کا انعقاد ، جیسے واکس، تقریری مقابلے، ڈرائنگ اور آرٹس مقابلے کا اہتمام، تاکہ انہیں موسمیاتی چیلنجز، مقامی سطح پر درپیش خطرات، اور ان سے باخوبی نمٹنے | | | |

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| کے بارے میں آگاہی دی جا سکے | | | |

## 4. کمیونٹی اور مقامی افراد کی شمولیت اور آگاہی

| اقدامات | موجودہ -کیفیت | ذمہ داری | دورانیہ- کب عمل میں لانا ہے: ماہانہ، سہ ماہی، ششماہی، سالانہ |
|---|---|---|---|
| والدین اور کمیونٹی کے افراد موسمیاتی حادثات سے نبٹنےکی سرگرمیوں میں شمولیت، جیسے شجرکاری ، آگاہی واک، تقریری مقابلہ جات وغیرہ | | | |
| ماحولیات اور موسمیاتی تبدیلی سے آگاہی کے دن کی تقریبات کا انعقاد | | | |
| ماحولیاتی مسائل اور موسمیاتی حادثات سے نبٹنےکی کے لیے والدین، علاقہ کے اہم افراد، عوامی نمائندگان پر مشتمل گروپ کی تشکیل- واٹس گروپ، اور سوشل میڈیا کا استعمال | | | |

## 5. تعلیمی و تدریسی عمل

| اقدامات | موجودہ - کیفیت | ذمہ داری | _دورانیہ- کب عمل میں لانا ہے: ماہانہ، سہ ماہی، ششماہی، سالانہ |
|---|---|---|---|
| موسمیاتی تبدیلی کے موضوع کو اساتذہ کے ساتھ ہفتہ وار/ماہانہ میٹنگز میں شامل کرنا | | | |
| فزیکل ایجوکیشن ٹیچرز اور اساتذہ فوکل پوائنٹ کی معاونت سے موسمیاتی تبدیلی، شجرکاری، اور صفائی کے بارے میں باقاعدگی سے سرگرمیوں کا انعقاد۔ | | | |

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| تعلیمی کیلنڈر میں نشان زد کریں اور ماحولیات، آفات سے بچاؤ کی تیاری، شجرکاری کے دنوں کے لیے باقاعدگی سے سرگرمیاں منظم کریں | | | |
| ہرتعلیمی سال کے آغاز سے قبل موسمیاتی تبدیلیوں سے تحفظ کے لئے سکول پلان کا جائزہ اور تجدید | | | |
| موسمیاتی تبدیلیوں سے تحفظ کے لئے سکول پلان کو سکول ترقیاتی منصوبہ کا حصہ بنانا | | | |

**دستخط:**_____

**نام و عہدہ:**_____

**منظور کردہ:**

**دستخط:**_____

**نام و عہدہ:**_____