RESILIENCE, EARLY ACTION, AND DISASTER READINESS FOR KHYBER PAKHTUNKHWA (READY-KP)

Environmental and Social Management Framework (ESMF)

January 2026

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ABBREVIATIONS

CBDRM	Community-based disaster risk management
CBD	Convention on Biological Diversity
DSS	Decision Support Systems
DRM	disaster risk management
DDMAs	District Disaster Management Authorities
EWS	Early Warning System
E&S	Environmental and Social
ESCP	Environmental and Social Commitment Plan
ESF	Environmental and Social Framework
ESMF	Environmental and Social Management Framework
ESSs	Environmental and Social Standards
EA	Environmental Assessment
FFWS	Flood Forecast and Warning System
GEA	General Environmental Approval
GLOFs	Glacial Lake Outburst Floods
GoKP	Government of Khyber Pakhtunkhwa
IPPF	Indigenous Peoples Planning Framework
IVR	Interactive Voice Response
IDPs	internally displaced persons
LMP	Labor Management Plan
MHVRAs	Multi Hazard Vulnerability and Risk Assessments
NCS	National Conservation Strategy
NEQS	National Environmental Quality Standards
OHS	occupational health and safety
PGA	Peak Ground Acceleration
PPE	Personal Protective Equipment
PSHA	Probabilistic Seismic Hazard Assessment
PIU	Project Implementation Unit
PDMA	Provincial Disaster Management Authority
PDMC	Provincial Disaster Management Commission
RRSD	Relief, Rehabilitation and Settlement Department
RAPs	Resettlement Action Plans
READY-KP	Resilience, Early Action, and Disaster Readiness for Khyber Pakhtunkhwa
RPF	Resettlement Policy Framework
SEP	Stakeholder Engagement Plan
TA	Technical Assistance
UBC	Uniform Building Code
UNFCCC	United Nations Framework Convention on Climate Change
VAC	Violence Against Children
WMP	Waste Management Plan

EXECUTIVE SUMMARY

The provincial Government of Khyber Pakhtunkhwa (GoKP), through Province of Khyber Pakhtunkhwa, Irrigation Department, Province of Khyber Pakhtunkhwa, Relief, Rehabilitation and Settlement Department (Implementing Agencies), is planning to undertake the Resilience, Early Action, and Disaster Readiness for Khyber Pakhtunkhwa (READY-KP) Project[1]. The project interventions are planned in Khyber Pakhtunkhwa (KP) province of Pakistan, covering both rural and peri-urban areas. This Environmental and Social Management Framework (ESMF)[2] is developed to support the environmental and social due diligence provisions for activities financed by the World Bank in the proposed project. This ESMF follows the World Bank Environmental and Social Framework (ESF) as well as prevailing provincial and national legislation. This ESMF will serve as a guideline document to prepare site specific Environmental and Social (E&S) instruments during project implementation stage. This ESMF should be read together with other plans prepared for the project, including the Stakeholder Engagement Plan (SEP), and the Environmental and Social Commitment Plan (ESCP).

Project Background: Pakistan's high vulnerability to climate change is a major risk multiplier, placing it among the top 10 most affected countries globally and among the top 4 exposed to recurring extreme events over the past 30 years. Khyber Pakhtunkhwa (KP) is particularly vulnerable to riverine floods, flash floods, and GLOFs due to climate change, deforestation, land degradation, and dense settlements in hazard-prone areas. Major flood events in 2010, 2016, 2022, and 2025 caused extensive loss of life and damage to infrastructure and livelihoods, with damages exceeding US$1.5 billion in 2022 and 484 fatalities reported during the 2025 monsoon floods. KP's mountainous geography and concentration of communities along the Kabul, Swat, and Indus river systems increase exposure to floods, landslides, and GLOFs. Over 3,000 glacial lakes have formed due to rapid glacial melt, and 25 of the province's 35 districts face high or medium flood risk. Despite strong policy commitments, disaster risk management capacities remain limited due to institutional resource and coordination constraints, disproportionately affecting vulnerable groups. The project aims to strengthen flood and disaster resilience through targeted infrastructure investments, early warning systems, and institutional capacity building, reducing flood risks, improving catchment management, and enhancing preparedness and response.

Project Development Objective: To improve flood resilience in selected areas of Khyber Pakhtunkhwa

Project Components: The proposed Project has five components[3]; the brief description of each component is given below:

Component 1 - Improving Infrastructure and Planning for Resilience (estimated US$193 million): This component will support the design and construction of priority infrastructure investments aimed at reducing the province's exposure to climate change-exacerbated floods including riverine floods; increased flash flooding due to changing monsoon patterns; and GLOFs from accelerated glacial melt. The component includes both grey and green solutions for flood

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[1] *Proposed Project*

2 *Since, the exact districts and location of interventions are not finalized at appraisal stage, therefore, a framework approach has been adopted through this ESMF.*

[3] *Project Appraisal Document*

protection and will be implemented by the KP Irrigation Department, with technical support provided through a dedicated TA subcomponent. Technical assistance will also pave the way for future engagements and investments.

Component 2 – Establish Flood Early Warning System (estimated US$ 8 million):
This component will support the establishment and operationalization of an integrated Flood Early Warning System (FEWS) for KP, managed through collaboration between KP PDMA and the KP Irrigation Department. The FEWS will link hydromet observations, forecasting and modeling, decision support systems, and standardized alert dissemination to enable timely and coordinated preparedness and response to climate-exacerbated flood events.

Component 3 – Strengthening Institutional and Community Preparedness (estimated US$ 39 million): This component will enhance the capacity of provincial institutions and local communities in KP to prepare for and respond to climate-induced multi-hazard disasters, with a particular focus on floods. It will strengthen the operational outreach and institutional capabilities of the Provincial Disaster Management Authority (PDMA) and Rescue 1122, improving the application of risk information in development planning and building community-level resilience. The component complements the infrastructure-focused and FEWS investments under Components 1 and 2 and is designed to ensure that both institutional systems and social preparedness mechanisms are adequately equipped to manage and mitigate disaster risks.

Component 4 – Project Management (US$ 10 million): This component will support the Project Implementing Units and operations of the KP ID and KP RRSD. It will cover project management, procurement, contract management, financial management, M&E (including project reporting, baseline studies, and financial, technical, environmental, and social audits), as well as oversight of social, environmental, and inclusion standards.

Component 5 – Contingent Emergency Response (US$ 0 million): This component will provide immediate response to an Eligible Crisis or Emergency, as needed. Following an adverse natural event that causes a major disaster or emergency, the government may request the Bank to re-allocate project funds to support response and reconstruction. Resources will be allocated to this component as needed during implementation.

Project Beneficiaries: The direct beneficiaries of flood protection infrastructure investments are estimated to be approximately 2.5 million people in selected districts vulnerable to riverine, flash, and glacial outburst flooding. The project components on telemetry and flood forecasting and emergency preparedness and response will indirectly benefit the province through the improved disaster risk management capacities of the GoKP. Communities will also benefit from better last-mile delivery of early warnings and improved rescue services.

Environmental and Social Policies, Regulations and Laws: This ESMF has been prepared to address the requirements detailed in the WB ESF addressing environmental and social aspects and considerations. The Environmental and Social Standards (ESSs) relevant to the proposed Project are ***ESS-1: Assessment and Management of Environmental and Social Risks and Impacts, ESS-2: Labor and Working Conditions, ESS-3: Resource Efficiency and Pollution Prevention, ESS-4: Community Health and Safety, ESS5 Land Acquisition, Restrictions on Land Use and Involuntary Resettlement, ESS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources, ESS7 - Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities, ESS8: Cultural Heritage and ESS-***

10: Stakeholder Engagement and Information Disclosure. In addition, the ESMF addresses the requirements defined WB Group General Environmental, Health and Safety Guidelines and in the national and provincial regulations, most importantly, The ***Khyber Pakhtunkhwa Environmental Protection Act, 2014.*** In the same context a number of other relevant laws, guidelines and policies have been discussed in Chapter 3.

Stakeholder Engagement, Disclosure and Consultations:

A detailed Stakeholder Engagement Plan (SEP) has been prepared for the READY-KP, in accordance with World Bank ESS10 (Stakeholder Engagement and Information Disclosure), to provide guidance on stakeholder engagement by defining approaches for public consultation and information disclosure throughout the project lifecycle. It outlines the ways in which the project team will communicate with stakeholders and includes a mechanism by which stakeholders can raise concerns, provide feedback, and make grievances related to project activities.

The SEP, being a live document, will be updated throughout the life of the project to ensure effective, robust, and transparent stakeholder engagement. During project preparation, the team conducted institutional consultations in three districts of Kabul River Basin, namely Peshawar, Nowshera, and Charsadda with representatives from the Irrigation Department, PDMA, Rescue 1122, Social Welfare Department, Agriculture Extension, local government officials, district administration and civil society organizations. In addition, community consultations were held with residents of flood-prone areas, including vulnerable groups such as women, elderly, and persons with disabilities, to understand local challenges, evacuation practices, and early warning needs.

Key findings from these consultations such as the need for improved early warning systems, stronger institutional coordination, gender-sensitive approaches, and community-based disaster risk management are being incorporated into the project design and reflected in the Environmental and Social Management Framework (ESMF). A separate SEP has been developed for implementation to ensure continuous engagement with communities and vulnerable groups during project execution. SEP will be implemented using conventional as well as digital tools (including EWS using locally looped technologies, digital applications for smartphones, online/digital forums for stakeholder engagement and feedback, etc.). The proposed budget for implementation of the SEP is 495,000 USD.

Grievance Redress Mechanism:

A Grievance Redress Mechanism (GRM) is a system that allows not only grievances, but also queries, suggestions, positive feedback, and concerns of project-affected parties related to the environmental and social performance of a project to be submitted and responded to in a timely manner. READY-KP will establish a detailed GRM at effectiveness to receive, address, and monitor complaints and community feedback. The GRM will operate at Tehsil, District, and Provincial levels, with all complaints routed to the Social Specialists of the Project

Implementation Unit (PIU) under the Irrigation Department and Relief, Rehabilitation and Settlement Department. GRM will be accessible and propagated to all project sites using conventional and digital tools.

To address any complaints related to GBV/SEA/SH, the project will ensure that GBV-related grievances received by the GRM are referred to relevant GBV service providers. Dedicated trained female staff will be appointed to receive and process GBV-related complaints. Special considerations will be taken to ensure that the complainant's identity is treated as privileged information, and the option to lodge the complaint anonymously will also be provided. Additionally, all GRM response teams will be trained on GBV, SEA, and SH. Detailed protocols for receiving, managing, and addressing complaints related to GBV/SEA/SH will be developed in the GBV/SEA/SH Action Plan and integrated into the GRM.

Potential Environmental and Social Impacts and Mitigations: Based on Environmental Assessment (EA) as per the WB ESF and relevant standards, the environmental and social risk of the project is classified as "Substantial". The potential environmental and social risks for project include but not limited to: technical design and layout planning, soil erosion and contamination, flooding, seismicity, waste generation, deterioration of air quality, noise pollution, water contamination, traffic issues, flora and fauna, aquatic life, occupational health and safety, community health and safety, water sharing issues, site security, labor influx, gender based violence/sexual exploitation and abuse/sexual harassment, forced labor and child labor, elite capture, exploitation and exclusion disadvantaged or vulnerable groups, chance findings of important physical and cultural, limited land acquisition, encroachment, enhanced use of pesticides, water borne disease, improper distribution of water. Most of the above-stated risks and impacts are temporary & site-specific, largely reversible in nature and manageable by adopting mitigation measures provided in this ESMF, in accordance with the mitigation hierarchy under the relevant ESSs. In line with the World Bank ESF, the Technical Assistance (TA) outputs will also incorporate environmental and social risk assessments and corresponding mitigation measures.

Environmental and Social Risks and Impacts Management: Component 1 will be implemented by the Khyber Pakhtunkhwa Irrigation Department (KP-ID), Component 2 will be jointly implemented by will be implemented by KP-ID and the Relief, Rehabilitation and Settlement Department (RRSD), the parent department of PDMA and Rescue 1122, and Component 3 will be implemented by the RRSD. Separate PIUs will be established at KP-ID and RRSD, each staffed with dedicated Environmental and Social (E&S) staff responsible for ESF and gender requirements. PIU E&S Specialists will be supported by designated E&S Specialists of the Supervision Consultant and Contractors for effective ESMF implementation.

The E&S Specialists of the project, upon completion of the sub-projects, will monitor activities with regard to site restoration and landscaping in the affected areas to ensure that the activities are done to an appropriate and acceptable standard before closing the contracts, in accordance with measures identified in the ESMPs and other plans. Throughout the Project implementation stage, training and awareness raising will be provided to relevant stakeholders, such as project staff, selected contractors, and communities, to support the implementation of the environmental

and social risk management mitigation measures. Third Party will be recruited to monitor compliance including compliance of E&S instruments of the project on annual basis throughout the project duration. Contractors will be required to comply with the Project's E&S risk management documents and procedures including the ESMP, LMP, and local legislation. This provision will be specified in the Contractor's agreements.

Reports covering E&S implementation status from the field levels will be submitted to the WB on a quarterly basis. If the PIUs become aware of a serious incident in connection with the project, which may have significant adverse effects on the environment, the affected communities, the public, or workers, it should notify the World Bank within 48 hours of becoming aware of such incident.

The E&S instruments will be disclosed on the official website of the implementing agencies after necessary approvals. Once finalized, Urdu translation of Executive Summary, will also be disclosed. Hard copies of these documents will also be maintained at all field offices. In addition, these documents will be disclosed on WB project documents. All the E&S instruments must be completed and cleared by World Bank before the submission of bidding documents for approval.

ESMF Implementation Budget: The tentative cost estimates to implement ESMF is estimated as **432 Million PKR**. This tentative cost will be included in the overall project cost. This cost will be reviewed and firmed up periodically when the sub-project are identified, and sub-project ESMPs are developed. Additional costs could be included in the subproject specific ESMPs. The Contractor(s) however shall be paid against the actual execution with evidential proof of relevant E&S instruments activity.

1 INTRODUCTION

The provincial Government of Khyber Pakhtunkhwa (GoKP), through Province of Khyber Pakhtunkhwa, Irrigation Department, Province of Khyber Pakhtunkhwa, Relief, Rehabilitation and Settlement Department (Implementing Agencies), is planning to undertake the Resilience, Early Action, and Disaster Preparedness (READY-KP) Project[4]. The project interventions are planned in Khyber Pakhtunkhwa (KP) province of Pakistan, covering both rural and peri-urban areas, however the exact districts and location of interventions will be finalized following Project appraisal. This Environmental and Social Management Framework (ESMF) is developed to support the environmental and social due diligence provisions for activities financed by the World Bank in READY-KP. The project will support to improve flood resilience in selected areas of KP through risk-informed infrastructure investments and improved institutional capacity for disaster risk management.

This ESMF follows the World Bank Environmental and Social Framework (ESF) as well as prevailing national and provincial legislation. The objective of the ESMF is to assess and mitigate potential negative environmental and social risks and impacts of the Project consistent with the Environmental and Social Standards (ESSs) of the World Bank ESF and national requirements. More specifically, the ESMF aims to (a) assess the potential environmental and social risks and impacts of the proposed Project and propose mitigation measures; (b) establish procedures for the environmental and social screening, review, approval, and implementation of activities; (c) specify appropriate roles and responsibilities, and outline the necessary reporting procedures, for managing and monitoring environmental and social issues related to the activities; (d) identify the staffing requirements, as well as the training and capacity building needed to successfully implement the provisions of the ESMF; (e) address mechanisms for public consultation and disclosure of project documents as well as redress of possible grievances; and (f) establish the budget requirements for implementation of the ESMF.

This ESMF should be read together with other E&S instruments prepared for the project, including the Stakeholder Engagement Plan (SEP), and the Environmental and Social Commitment Plan (ESCP).

1.1 Background

Pakistan's high vulnerability to climate change is a risk multiplier, compounding its human and economic development challenges. The country is among the top 10 worldwide most affected by climate change and in the top 4 countries exposed to recurring extreme events over the past 30 years. Khyber Pakhtunkhwa (KP) is highly vulnerable to recurring riverine floods, flash floods, and Glacial Lake Outburst Floods (GLOFs), driven by climate change, deforestation, land degradation, and dense settlement in hazard-prone areas. Major events in 2010, 2016, 2022, and 2025 caused extensive loss of life and severe damage to infrastructure and livelihoods. The 2022 floods resulted in damages and losses exceeding US$1.5 billion, while

[4] *Proposed Project*

the 2025 monsoon floods caused 484 fatalities, highlighting the province's growing climate-related risks.

KP's mountainous geography and concentration of communities along the Kabul, Swat, and Indus River systems increase exposure to multi-hazard risks, including floods, landslides, and GLOFs. More than 3,000 glacial lakes have formed due to rapid glacial melt, and 25 of the province's 35 districts are classified as high or medium flood risk. Despite strong national and provincial policy commitments on disaster risk management (DRM) and climate resilience, operational capacities to plan, prepare for, and respond to disasters remain limited. Key DRM institutions including the Irrigation Department, Provincial Disaster Management Authority (PDMA), District Disaster Management Authorities (DDMAs), and Rescue 1122, face resource, capacity, and coordination constraints, affecting flood forecasting, early warning, and emergency response. Vulnerable groups are disproportionately affected, and community engagement remains limited despite proven value.

The project aims to strengthen flood and disaster resilience in KP through targeted infrastructure investments, early warning systems, and institutional capacity building. It will support structural measures and system-level enhancements in forecasting, preparedness, and response, reduce flood risks in vulnerable areas, improve upstream catchment management, and integrate risk information into development planning[5].

1.2 ESMF Preparation Methodology

- Review of Project details and description to understand project activities likely to impact socio-economic environment.
- Review of relevant legislations, policies, standards and guidelines to determine the policy, legal and institutional environment for the Project based on World Bank ESF, national and provisional level.
- Review of secondary literature to understand project area, sample E &SS documents to guide this assessment; and different published development reports for taking stock of environmental and socioeconomic baseline conditions.
- Conducting consultation with key stakeholders and potential beneficiary communities.
- Scoping, screening and impact assessment while developing interaction between project activities and key environmental aspects to screen out the significance of adverse environmental and social impact and proposing generic mitigation measures.
- Procedures for environmental and social management, to manage and monitor the environmental and social aspects of the project.

[5] *Project Appraisal Document, October, 2025.*

2 PROJECT DESCRIPTION

This chapter describes the salient features of the Project including development objectives, components and implementation arrangements.

2.1 Project Development Objective

The project will improve flood resilience in selected areas of Khyber Pakhtunkhwa.

The proposed Project has five components[6]; the brief description of each component is given below:

Component 1 - Improving Infrastructure and Systems for Resilience (estimated US$193 million): This component will support the design and construction of priority infrastructure investments aimed at reducing the province's exposure to climate change-exacerbated floods including riverine floods; increased flash flooding due to changing monsoon patterns; and GLOFs from accelerated glacial melt. The component includes both grey and green solutions for flood protection and will be implemented by the KP Irrigation Department, with technical support provided through a dedicated TA subcomponent. Technical assistance will also pave the way for future engagements and investments.

Subcomponent 1.1 – Flood Protection Infrastructure (US$ 188 million): This subcomponent will finance the construction and rehabilitation of critical infrastructure to mitigate riverine floods, flash floods, and GLOFs in high-risk areas of KP. Investments under this subcomponent will include a combination of flood protection infrastructure—such as embankments, flood carrier channels, spurs, retaining walls, revetments, gabion works, and check dams —to attenuate peak flows and reduce downstream impacts. Activities will also include targeted desilting, channelization, dredging, and sediment management in critical river reaches and confluences. Infrastructure, such as embankments, will be designed to up to 1 in 100-year flood with due consideration to climate change. A comprehensive list of candidate schemes was identified upfront in coordination with the KP Irrigation Department and an initial prioritization is completed based on criticality and technical readiness.

Nature-based solutions will be considered on a site-specific basis to replace or complement grey infrastructural interventions where possible. NbS under this project will potentially include terracing, slope stabilization using vegetation, and riverbank restoration. NbS will contribute to climate change adaptation, as it will reduce flash flood intensity and soil erosion exacerbated by climate change driven intense precipitation. Types and areas of interventions will be selected in coordination with the Khyber Pakhtunkhwa Climate Change, Forestry, Environment and Wildlife Department, which will provide intellectual leadership and training to Irrigation Department personnel and project contractors.

Subcomponent 1.2 – Technical Assistance for Development of Long-Term Infrastructure Investment Plan (US$5 million): This subcomponent will finance the development of a province-wide flood risk assessment and planning to guide long-term flood resilience building. It will include the development of a hydrological and risk modeling framework, production of hazard and risk maps for multiple flood sources under climate change scenarios, and identification of priority hotspots for intervention, enabling KP to understand and plan for future climate impacts. Using multi-criteria and cost-benefit analyses, the study will propose a balanced program of structural and non-structural measures -

[6] *Project Appraisal Document, January 2026*

integrating grey infrastructure with NbS and structure them into short-, medium-, and long-term actions. The plan will serve as a strategic roadmap for phased investments, providing a clear framework for sequencing priority interventions and informing future feasibility studies and design work.

Component 2 – Establish Flood Early Warning Systems (US$8 million): This component will support the establishment and operationalization of an integrated Flood Early Warning System (FEWS) for KP, managed through collaboration between KP PDMA and the KP Irrigation Department. The FEWS will link hydromet observations, forecasting and modeling, decision support systems, and standardized alert dissemination to enable timely and coordinated preparedness and response to climate-exacerbated flood events.

Subcomponent 2.1 – Flood Telemetry, Data Integration, and Forecasting (US$5 million): This subcomponent will strengthen the upstream technical foundation of the FEWS. It will support: (i) the expansion and harmonization of the hydromet observation network, including automatic hydrological and meteorological stations operated by KP ID and KP PDMA (ii) the establishment and operationalization of hydrological and hydraulic models including associated human resources and technical capacities in KP ID ; (iii) the development and operationalization of an integrated data management platform for the hydromet observation network in KP, along with data sharing protocols coordinated through KP PDMA with relevant stakeholders at the provincial and federal level.

Subcomponent 2.2 – Decision Support Systems (DSSs) and Last Mile Connectivity (US$3 million): This subcomponent will establish the operational decision-making and dissemination functions of the FEWS. It will support: (i) development and operationalization of a flood risk management decision support system (FRM-DSS) for KP ID, as a core component of the FEWS, that integrates real-time hydromet data and model outputs to produce timely, location-specific riverine flood forecasts and flood extent information, supporting reservoir and river operations and informed decision-making before and during flood events; (ii) development and operationalization of an emergency preparedness & response decision support system (EP&R-DSS) for KP PDMA, as the operational decision-making layer of the FEWS, to integrate flood forecasts, impact and risk information, and predefined operational thresholds and workflows to support timely, evidence-based EP&R; and (iii) development of a Common Alerting Protocol (CAP) under the leadership of KP PDMA, enabling validated flood alerts to be translated into standardized messages for consistent dissemination through multiple last-mile communication channels, to be piloted in high risk districts through Subcomponent 3.1.

The long-term operation and maintenance (O&M) of the observation network, the integrated data management platform, and the DSSs financed under the project will be ensured through inter-departmental collaboration formalized through memoranda of understanding (MOUs), as well as potential engagement with the private sector through service-level agreements (SLAs) that clearly define roles and responsibilities.

Component 3 - Strengthening Institutional and Community Preparedness (US$39 million): This component will enhance the capacity of provincial institutions and local communities in KP to prepare for and respond to climate-induced multi-hazard disasters, with a particular focus on floods. It will strengthen the operational outreach and institutional capabilities of the Provincial Disaster Management Authority (PDMA) and Rescue 1122, improving the application of risk information in development planning and building community-level resilience. The component complements the infrastructure-focused and FEWS investments under Components 1 and 2 and is designed to ensure that both institutional

systems and social preparedness mechanisms are adequately equipped to manage and mitigate disaster risks.

Subcomponent 3.1 – Strengthening Disaster Preparedness and Community Resilience (US$14 million): Building on the FEWS established under the project under Component 2, this subcomponent will strengthen the operational capacity of KP PDMA to lead multi-hazard disaster preparedness and planning, coordinate disaster response, and support relief and recovery planning on the ground. Specifically, the project will support PDMA in (i) conducting multi-hazard vulnerability and risk assessments (MHVRAs) in high-risk districts to assess hazard exposure, vulnerability of populations and assets, and potential impacts in future climate scenarios to inform risk-informed development planning and EP&R; (ii) establishing a centralized Provincial Disaster Risk Information System (PDRIS) to consolidate hazard maps, exposure and vulnerability data, and provide insights about risk levels in selected areas; (iii) implementing digital applications for disaster reporting, information dissemination, disaster impact assessment, and beneficiary registration; (iv) modernization of provincial and district emergency operations center systems, refurbishment of warehouses, coordination facilities, decision support tools, contingency planning protocols, and staff training; and (v) implement community-based disaster risk management (CBDRM) in high risk districts, including community mobilization, trainings and awareness campaigns, development of localized disaster response plans defining evacuation routes and protocols, and implementation of community-based early warning systems. The community volunteer network under the Relief, Rehabilitation and Settlement Department, will be strengthened through the provision of rescue equipment and specialized disaster response training. Last-mile dissemination of flood early warnings will be piloted in selected districts through a multi-channel communication system, including SMS, radio, mosque loudspeakers, sirens, and call or message trees.

Subcomponent 3.2 – Enhancing Emergency Response Systems (US$ 25 million): This subcomponent will support Rescue 1122 in expanding and strengthening its disaster response capabilities, with a focus on flood and climate-related emergencies. Support will be directed toward scaling the service's geographical coverage through the establishment of rescue stations at flood prone sites, development of highway rescue stations, improving operational logistics, and strengthening command-and-control systems. Investments will include provision of specialized rescue equipment, heavy machinery, personal protective gear, boats and vehicles for evacuation, and upgrading of communication and dispatch systems. Rescue 1122 staff will receive specialized training in disaster-related emergency medical response, swift water rescue, gender-sensitive rescue, and community coordination. The subcomponent will also finance the establishment of a psychosocial support center for rescuers.

Component 4 – Project Management (US$10 million):. This component will support the Project Implementing Units and operations of the KP ID and KP RRSD. It will cover project management, procurement, contract management, financial management, M&E (including project reporting, baseline studies, and financial, technical, environmental, and social audits), as well as oversight of social, environmental, and inclusion standards.

Component 5 – Contingent Emergency Response Component (CERC) (US$ 0 million): This component will provide immediate response to an Eligible Crisis or Emergency, as needed. Following an adverse natural event that causes a major disaster or emergency, the government may request the Bank to re-allocate project funds to support response and reconstruction. Resources will be allocated to this component as needed during implementation.

2.2 Project Beneficiaries

The direct beneficiaries of flood protection infrastructure investments are estimated to be approximately 2.5 million people in selected districts vulnerable to riverine, flash, and glacial outburst flooding. The project components on telemetry and flood forecasting and emergency preparedness and response will indirectly benefit the province through the improved disaster risk management capacities of the GoKP. Communities will also benefit from better last-mile delivery of early warnings and improved rescue services.

2.3 Project Implementation Arrangements

KP-ID will implement Component 1 of READY-KP. The component will support the planning, design, and implementation of flood protection infrastructure across vulnerable areas of the province. The Department holds the statutory mandate for flood management and irrigation service delivery and operates through a decentralized structure with zonal and district-level engineering directorates. It is currently implementing World Bank-financed activities under the KP Rural Investment and Institutional Support Project (KP-RIISP) and is also executing a flood reconstruction project with support from the Asian Development Bank (ADB) focused on recovery from the 2022 floods—both of which reflect its active role in the province's infrastructure and resilience agenda.

Component 2 will be jointly implemented by KP-ID and RRSD. Due to the integrated and cross-sectoral nature of the FEWS and coordination required between the KP Irrigation Department and PDMA, which is under RRSD, both departments will collaborate to ensure effective implementation and long-term sustainability of assets and systems established under this component. Private sector engagement will potentially be taken up to enhance O&M.

RRSD will implement Component 3. The department oversees PDMA and Rescue 1122 in KP and the two agencies will serve as executing partners, with PDMA working on improving multi-hazard disaster preparedness and Rescue 1122 supporting the improvement of disaster response. This institutional arrangement will promote coordination, efficiency, and accountability across concerned departments, while ensuring consistency with the project's objectives and fiduciary standards.

Two Project Implementation Units (PIUs) will be established with dedicated resources and enhanced systems to meet the operational, fiduciary, and safeguards standards of the World Bank. The first PIU will be established under the Irrigation Department and the second PIU under the Relief, Rehabilitation and Settlement Departments. The PIUs will include dedicated technical, fiduciary, and safeguards personnel. Targeted technical assistance and capacity-building support will be provided by the World Bank during preparation and early implementation to ensure readiness and effective delivery, while promoting coordination with ongoing resilience and flood management programs in the province. A Project Steering Committee, chaired by the Chairman of the Khyber Pakhtunkhwa Planning and Development Department, will be responsible for overall project-level oversight of implementation and cross-sectoral coordination.

2.4 Associated Facilities

The specific information regarding the exact location and scale of project activities is not available at this stage. This will be addressed during the preparation of site-specific E&S instruments to ensure compliance with the World Bank ESF Policy.

3 ENVIRONMENTAL AND SOCIAL POLICIES, REGULATIONS AND LAWS

This section deals with the current legal and administrative framework required to prepare the ESMF of the proposed Project. Applicable WB Environmental and Social Standards (ESSs) and guidelines and Environmental and Social (E&S) Policies, laws, regulations laid out by the GoP, GoKP have been duly discussed and the Project proponent will be required to adhere to these regulations throughout the course of the proposed Project. The project related guidelines, policies laws and regulations are mentioned in Table 3.1.

Table 3.-1: National & Provincial Legal Framework

Sr. No.	Policy/Act	Brief Coverage	Relevance to Project
1.	National Conservation Strategy, 1992	The National Conservation Strategy (NCS) outlines the Country's primary approach towards encouraging sustainable development, conserving natural resources and improving efficiency in the use and management of resources.	The core areas that are relevant in the context of the proposed subprojects are pollution prevention during construction/ civil works activities and conserving biodiversity and supporting forestry and plantation.
2.	National Environmental Policy, 2005	This provides a framework for addressing the environmental issues. Section 5 of the policy commits for integration of environment into development planning as instrument for achieving the objectives of National Environmental Policy.	Clause (b) of sub-section 5.1 states that Environmental Protection Act, 1997, will be diligently enforced for all developmental Projects.
3.	National Water Policy, 2018	The National Water Policy promotes efficient management and conservation of water resources and timely completion of water projects. It also aims to improve urban water management, reduce losses, and address drinking water and sewage needs.	The project will adhere to the provisions of this policy during design and implementation to ensure efficient management and conservation of water resources.
4.	National Forest Policy, 2015	The goal of this Policy is to expansion, protection and sustainable use of national forests, protected areas, natural habitats and watersheds for restoring ecological functions, improving livelihoods and human health in line with the national priorities and international agreements.	The interventions under the proposed project will not be carried out in any Reserve / protected Forest or other notified areas. The proposed project may involve the tree cutting during the construction/ civil works activities subject to prior approval/NOC (where applicable), so the relevant clauses of preservation of the policy will be applicable.
5.	Khyber Pakhtunkhwa Labour Policy, 2018	Major Areas of KP Labour Policy are: Ensuring provision of basic labour rights, Capacity Buliding & Institutional Development, Social Protection and Welfare and Employment promotion & Facilitation.	The provision of this policy will apply to all the labor employed[7] and shall ensure the compliance during project implementation.
6.	KP Climate Change Policy 2022	The Policy identifies sectors needing mitigation measures—such as energy, transport, waste, industry, and urban planning—and emphasizes integrating climate change into development projects to support sustainable development and strengthen resilience to natural disasters.	The proposed project will take climatic factors into account in the design of structures to make them climate-resilient.

[7] Direct workers, contracted workers, primary supply workers and community workers.

Sr. No.	Policy/Act	Brief Coverage	Relevance to Project
7.	Culture Policy, Khyber Pakhtunkhwa, 2018	The provincial culture policy aims to create an enabling environment for the culture sector, protect cultural rights, promote diverse heritage, and integrate culture into economic and social development. It also calls for preserving minority cultures and guides how the project should be implemented in indigenous areas.	The project does not involve direct interventions at cultural heritage sites, but the ESMF includes Chance Find Procedures if such resources are discovered. Activities may take place in Chitral, where the Kalash community meets the Bank's Indigenous Peoples criteria; therefore, an IPPF will be prepared to guide screening and consultation in line with ESS7 and to develop plans if needed. The project will also respect local culture and norms during implementation.
8.	Khyber Pakhtunkhwa Environmental Protection Act 2014	The GoKP amended PEPA 1997 as the KP Environmental Protection Act 2014, making KP EPA responsible for implementing the Act, ensuring NEQS compliance, and establishing monitoring systems. Projects falling under Schedule I or II require an IEE or EIA to be submitted to KP EPA for NOC before starting physical work.	The provision of the act is applicable to proposed project for conducting environmental assessment according to section 13 and to obtain environmental approval/NOC from the Khyber Pakhtunkhwa EPA. The proposed Project will also ensure the compliance with all other relevant sections of this Act.
9.	Khyber Pakhtunkhwa Environmental Assessment Rules, 2021	These regulations provides schedules of proposals that the project requires IEE, EIA or General Environmental Approval (GEA) and the procedure for the environmental approval for filing the case with the EPA for the granting of the NOC.	The provisions of these regulations are applicable for environmental screening of the project, which implies that an EIA/IEE/GEA is required for the proposed Project. The EIA/IEE/GEA[8] study / studies[9] will be required to fulfill the local / provincial requirements. After submission of EIA/IEE/GEA to KPEPA, the process for environmental approval/NOC will initiate.
10.	National Environmental Quality Standards	The National Environmental Quality Standards (NEQS), promulgated under the Pakistan Environmental Protection Act, 1997, specify the following standards related to Industrial Gaseous Emission, Municipal and Liquid Industrial effluents,	Due to the construction / civil works activities under the proposed project, it is expected that ambient air, noise levels and water quality may be affected. The proposed Project will ensure the compliance with these standards.

[8] *The type of study (EIA/IEE/GEA) required be will finalized upon submission of screening form by the implementing agencies provided in Khyber Pakhtunkhwa Environmental Assessment Rules, 2021.*

[9] *It will be decided by the KPEPA.*

Sr. No.	Policy/Act	Brief Coverage	Relevance to Project
		Motor Vehicle Exhaust and Noise, Ambient Air, Drinking Water Quality and Noise.	
11.	Guidelines for Environmental Assessment	The guidelines that are relevant to the proposed project are listed below: • Guidelines for the Preparation and Review of Environmental Reports, 1997; • Guidelines for Sensitive and Sensitive Areas, 1997; • Guidelines for Public Consultation, 1997; and • Sectoral Guidelines for Environmental Reports,1997.	These guidelines will be applicable for the preparation of the environmental assessment reports prior to start of civil works to fulfill the provincial (KPEPA) requirements.
12.	KP Wildlife and Biodiversity (Protection, Preservation, Conservation and Management) Act, 2015	It is expedient to provide for the protection, preservation, conservation and management of wildlife in KP.	It is anticipated that there will be no direct impacts on the biodiversity and natural resources as construction and rehabilitation activities will be carried out in already transformed areas. However, few tree cutting and clearing of vegetation, at some locations, may be involved, if required. This ESMF ensures that, the interventions shall not be carried out in or near the vicinity of any natural habitats and critical habitats (including protected areas or other sensitive habitats).
13.	KP Forest (Amendment) Act, 2022	This Act prohibits construction, infrastructure development, tree cutting, and quarrying within reserved forests and bans the removal of species listed in Schedule I.	The construction / civil works activities will be carried out in already transformed areas. No intervention shall be carried out in natural and critical habitat including reserved forests. However, few tree cutting and clearing of vegetation, at some locations, may be involved, if required.
14.	Forest Act, 1927	The Act authorizes Provincial Forest Departments to establish forest reserves and protected forests. The Act prohibits any person to set fire in the forest, quarry stone, remove any forest-produce or cause any damage to the forest by cutting trees or clearing up area for cultivation or any other purpose.	The project activities will have to be carried out in accordance with this Act. No activities will be carried out in any protected and reserved forests, and no unauthorized tree cutting will be carried out.

Sr. No.	Policy/Act	Brief Coverage	Relevance to Project
15.	Khyber Pakhtunkhwa Antiquities (Amendment) Act, 2020	This act pertains to protect, preserve, develop and maintain antiquities in the Province the KP. New Construction and use of Movable Antiquities is applicable and require NOC from Directorate in case of vicinity of any protected immovable antiquity.	The construction and earthworks may lead to chance finds of archaeological or cultural resources, particularly in historically rich areas of KP. The project is not plannned to have any interventions directly related to cultural heritage sites. This ESMF has developed Chance Find Procedures to be followed during project implementation in case of any chance find of physical culture resource.
16.	Khyber Pakhtunkhwa Protection against Harassment of Women at the Workplace Act (Amendment), 2020	The objective of this Act is to create a safe working environment for women, which is free of harassment, abuse and intimidation with a view toward fulfillment of their right to work with dignity. It will also enable higher productivity and a better quality of life at work.	The Act is relevant as women may be engaged as project workers during project implementation. The project will ensure compliance by establishing a safe work environment, grievance mechanisms, and awareness measures to prevent harassment during implementation.
17.	Land Acquisition Act, 1894 with later Amendments	This Act governs the acquisition of land for public purposes and sets procedures for determining compensation to affected persons. It is applicable in cases of community resettlement and ensures provision of adequate compensation to affectees.	Most project activities are expected to occur on government-owned land. The project will screen all subprojects to avoid or minimize land acquisition and associated displacement. If any land acquisition becomes necessary, the project will comply with the provisions of this Act along with the requirements of ESS5 to ensure fair compensation and resettlement support.
18.	Labour Laws as part of Constitution of Pakistan 1973	The Constitution of Pakistan contains a range of provisions with regards to labour rights. Labour law is controlled at both provincial and national levels with compulsory employment agreements containing the terms set out by the labour laws.	The following major labor laws apply to the project, and the project will comply with all relevant provisions during implementation: • Khyber Pakhtunkhwa Occupational Health and Safety Act, 2022.

Sr. No.	Policy/Act	Brief Coverage	Relevance to Project
		The labour laws are a comprehensive set of laws in Pakistan dealing with the rights of labour.	• Khyber Pakhtunkhwa Protection against Harassment of Women at the Workplace Act (Amendment), 2020 and KP Commission on the Status of Women. • Khyber Pakhtunkhwa Labour Policy, 2018. • The Khyber Pakhtunkhwa Prohibition of Employment of Child Act, 2015. • Khyber Pakhtunkhwa Bonded Labour System (Abolition) Act, 2015. • Khyber Pakhtunkhwa Factories Act, 2013. • Khyber Pakhtunkhwa Worker's Compensation Act, 2013. • Khyber Pakhtunkhwa Payment of Wages Act, 2013. • Khyber Pakhtunkhwa Industrial Relation Act, 2010.
19.	The Khyber Pakhtunkhwa Prohibition of Employment of Child Act, 2015	The Act prohibits employment of children below 12 years and allows those above 12 only for light, skill-oriented work with family members for no more than two hours a day. It also bans the employment of adolescents in hazardous environments to protect their health and safety.	The project will ensure full compliance by strictly prohibiting child labor and preventing the engagement of adolescents in any hazardous activities during implementation.
20.	The Khyber Pakhtunkhwa Right to Information Act, 2013	The Act provides for ensuring transparency and access to information in KP.	As a public sector initiative, the project must disclose relevant information and maintain transparency in accordance with the Act.
21.	Pakistan Climate Change Act, 2017	This Act aims to meet obligations under international conventions relating to climate change and to provide for adoption of comprehensive adaptation and mitigation policies, plans, programmes, projects and other measures required to address the effects of climate change and for matters connected herewith and ancillary thereto.	The Act is relevant as construction / civil works activities may generate emissions and require climate-responsive planning. The project's investments particularly flood protection infrastructure, nature-based solutions, and improved forecasting systems directly contribute to climate resilience and align with the Act's adaptation objectives. The interventions under the proposed subprojects are expected to increase resilience to climate change.

Sr. No.	Policy/Act	Brief Coverage	Relevance to Project
22.	Khyber Pakhtunkhwa Occupational Health and Safety Act, 2022	This Act entails provision of occupational safety and health of the workers at workplace and to protect them against risks arising out of the occupational hazards; to promote safe and healthy working environment catering to the physiological and psychological needs of the employees at workplace.	The Act is applicable as the project will engage direct, contracted, primary supply, and community workers. Compliance is required to ensure safe working conditions and robust OHS measures for all worker categories throughout construction, rehabilitation, and implementation activities.
23.	Khyber Pakhtunkhwa Agricultural Pesticides Act, 2013	The main objective of this act is to regulate the manufacturing, formulation, repacking, sale, distribution, disposal, advertisement and use of pesticides and ensure the measures necessary to protect the human health, animal health and the environment from adverse effects resulting from the use of pesticides.	While the project itself does not involve pesticide use, improved irrigation infrastructure under project may indirectly increase pesticide application by farmers. Farmers and suppliers must adhere to the Act's provisions to minimize environmental and health risks associated with pesticide exposure.
24.	The Khyber Pakhtunkhwa Local Government Act, 2019	This Act establishes local governments within the provincial framework and assigns them responsibilities related to land use, flood control, pollution management, solid and wastewater disposal, and public health. It also provides a role for district governments in environmental management.	The project will comply with the requirements of this Act where applicable during implementation and will coordinate with local governments to ensure smooth and compliant execution of project activities.
25.	The Khyber Pakhtunkhwa Protection of Trees and Brushwood Act, 1949	This act was enforced in 1949 to protect the trees and brushwood belonging to the Government and Local bodies.	The Act applies to project where tree cutting may be required. Any removal of trees will follow the prescribed procedures and approvals under this Act.
26.	National Disaster Management (Khyber Pakhtunkhwa) (Amendment) Act, 2019.	This Act establishes the institutional framework for disaster management in Khyber Pakhtunkhwa, including the Provincial Disaster Management Commission (PDMC), Provincial Disaster Management Authority (PDMA), and District Disaster Management Authorities (DDMAs). It outlines their roles in disaster preparedness, mitigation, response, recovery, and coordination across government agencies.	The Act is applicable as the project supports flood resilience, early warning systems, and institutional strengthening of PDMA and related agencies. Project will comply with the disaster risk management roles and procedures defined under this Act and coordinate with PDMA and DDMAs during planning and implementation.
27.	Hazardous Substance Rule, 2003	The rules describe procedures for handling, transporting, and disposing of hazardous substances and waste. They outline general and worker safety precautions, accident notification requirements, and the need for project waste management plans to prevent adverse environmental impacts.	The rules apply where hazardous materials or hazardous waste may be generated or handled during construction, rehabilitation, or operational activities. The project will ensure

Sr. No.	Policy/Act	Brief Coverage	Relevance to Project
			proper management and disposal in accordance with these requirements.
28.	Building Code of Pakistan – Seismic Provisions (2007 & 2021)	The Building Code of Pakistan (Seismic Provisions) shall apply for engineering design of buildings, structures and related components.	The Code is applicable as the project involves the construction and rehabilitation of structures, which will be designed in accordance with seismic safety requirements.

3.1 World Bank Standards and Key Gaps with the National Framework

The project will follow the World Bank Environmental and Social Standards (ESSs), as well as the World Bank Group Environmental, Health and Safety Guidelines. Overall environmental and social risk classification of the project is assessed to be substantial

The identified gaps between ESSs and national and provincial laws for E&S management and how these gaps are addressed in the ESMF are provided in Table 3.2 Where gaps exist between local laws vis-a-vis ESF, the most stringent requirements will prevail and will be followed under the proposed subprojects.

Table 3-2: Relevant World Bank ESS and Key Gaps with the National Framework

Environmental and Social Standard	Description	Relevance to the Project	Identification of Gaps in the context of local laws
ESS1 – Assessment and Management of Environmental and Social Risks and Impacts	This standard sets out the Client's responsibilities for assessing, managing, and monitoring environmental and social risks and impacts associated with each stage of a project supported by the Bank through IPF, in order to achieve environmental and social outcomes consistent with the ESF.	Relevant. The adverse environmental and social risk and impacts[10] are anticipated due to proposed construction and civil works activities and procurement of equipment. The provision in the ESMF and the related site-specific E&S instruments will be implemented throughout the project to comply with ESS1 requirements.	The criteria mentioned in the Acts for classifying environmental and social risk is different than in the ESF. Khyber Pakhtunkhwa Environmental Protection Act, 2014 and Khyber Pakhtunkhwa Environmental Assessment Regulations, 2021 mainly focus on environmental assessment and management through Environmental Impact Assessment (EIA) and Initial Environmental Examination (IEE), General Environmental Approval (GEA). The different methods and tools (ESIA, environmental and social audit, commutative impact assessment, ESMP, ESMF, regional and sectoral ESIA, SESA etc.) for environmental and social impact assessments, referenced in the ESF, are not part of the National and Provincial legislation. The ESF highlight to consider the environmental and social risks and impacts associated with primary suppliers and disadvantaged or vulnerable groups while the local relevant laws do not.
ESS2 – Labor and Working Conditions	ESS2 recognizes the importance of employment creation and income generation in the pursuit of poverty reduction and inclusive economic growth. Borrowers can promote	Relevant. The Project will engage direct workers through the Project Implementation Units (PIUs),contracted workers for	National and Provincial laws address most of the requirements of the ESS-2. However, the implementation of these laws and the management of certain issues

[10] Environmental and social risks and impacts such as pollution and nuisance (dust, noise, visual degradation of landscapes, debris), other solid and lquid waste generation, potential ground/surface water contamination community nuisance and safety concerns, Occupational Health and Safety (OHS), flora and fauna. Other social risks associated with interventions in conflict affected areas, land acquisition or involuntary (if involved), unequal distribution of benefits, risks related to the intra-district development disparities in the province, especially considering the Merged Areas, social exclusion and marginalization, especially of women and religious minorities, risks related to activities in Chitral District, home to a recognized indigenous population of Kalash.

	sound worker-management relationships and enhance the development benefits of a project by treating workers fairly and providing safe working conditions. This standard applies to project workers, including full-time, part-time, temporary, seasonal, and migrant workers.	construction and rehabilitation of flood protection infrastructure, and community workers under community-based disaster risk management activities. Labor and working conditions risks include occupational health and safety (OHS) hazards related to construction activities (e.g., working near rivers and streams, unsafe working conditions, heavy machinery use, and potential exposure to hazardous materials), as well as risks of unequal treatment, child labor, or lack of proper grievance handling. A standalone Labor Management Procedures (LMP) will be prepared in line with ESS2. The LMP will be noted in the legal agreement and in the ESCP. Necessary mitigation measures are included in this ESMF.	addressed under ESS-2, such as OHS, GBV/SEA and Violence Against Children (VAC), prohibition of children in hazardous work and child labor and fair treatment, non-discrimination and equal opportunity, are not done effectively as detailed coverage of certain requirements is partial. There is no specific requirement for employers to establish a workers' grievance mechanism except grievance redress mechanisms are available within relevant government departments for citizens to lodge complaints i.e., chief minister complaint cell and citizen portal.
ESS3 – Resource Efficiency and Pollution Prevention and Management	ESS3 establishes the requirements for resource efficiency and pollution management and prevention during the entire project lifecycle. The objectives of this standard are to enhance the sustainable use of resources, including energy, water, and raw materials. It also aims to promote favorable conditions for human health and the environment by minimizing pollution from project activities, and or minimize generation of waste.	Relevant. Construction/ civil works activities could result in the generation of solid and hazardous waste, including spoil, debris, and wastewater, increase in sediments load. The Project may require use of community resources and construction materials, therefore, sourcing needs to be managed responsibly, with strict requirements for use of materials only from legally approved quarries to minimize environmental and social risks. Under component 1, the Project already planned to incorporate nature-based solutions to compliment the grey infrastructure. Trainings and awareness session for efficient use of	Local laws address most of the requirements of the ESS-3, particularly on pollution prevention

		electricity, fuel, water, construction materials and other resources and waste management will be included in the project. Accordingly, necessary mitigation measures and waste management plan are included in this ESMF.	
ESS4 – Community Health and Safety	This standard recognizes that project activities, equipment, and infrastructure can increase community exposure to adverse risks and impacts. The objectives of ESS4 are to avoid or mitigate these adverse impacts on project-affected communities.	Relevant. The project interventions will take place in close proximity to local communities, often in mountainous and flood-prone terrain. The construction activities will pose risks that include increased traffic,operation of heavy machinery, dust and noise. Additional risks include slope instability, landslides, and erosion during earthworks in hilly and unstable areas, transmission of infectious diseases, GBV/SEA/SH. The presence of workers near villages may also raise concerns around labor influx and social interaction risks. The use of nature-based solutions will also contribute to stabilizing slopes, reducing disaster risks, and enhancing overall community safety, also CHS risks will be managed through the development of ESMPs including community and occupational health and safety plan, during project implementation. However, necessary measures have been included in the ESMF.	Local laws address most of the requirements of the ESS-4. However, detailed coverage has not been provided in the local laws (national and provincial) in comparison to ESS-4.
ESS5 Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	This standard recognizes that project-related land acquisition and restrictions on land use can have adverse impacts on communities and persons. Project-related land acquisition or restrictions on land use may cause physical	Relevant. Most activities are expected on government-owned land; however, temporary restrictions, access issues, or livelihood impacts may still occur, particularly for check	LAA 1894 There is no requirement for screening and scoping of project.

	displacement (relocation, loss of residential land or loss of shelter), economic displacement (loss of land, assets or access to assets, leading to loss of income sources or other means of livelihood), or both. The term "involuntary resettlement" refers to these impacts. Resettlement is considered involuntary when affected persons or communities do not have the right to refuse land acquisition or restrictions on land use that result in displacement.	dams, embankments, or bioengineering sites near communities. A Resettlement Framework has been prepared as an annex to this ESMF to guide screening and management of such impacts, and Resettlement Action Plans (RAPs) will be developed where applicable in line with ESS5. The project will screen for land acquisition to avoid or limit resettlement and displacement, and the Bank will review voluntary land donations, access, and community agreements to minimize impacts. For technical assistance under Component 1.3, TORs for feasibility studies and E&S documents will integrate ESS5 principles to ensure future investments meet policy requirements.	No specific requirements for meaningful consultations with affected persons, other stakeholders and vulnerable groups. No specific requirements for participation of displaced persons in planning, implementation and monitoring of resettlement programs. Does not require establishment of a GRM. Silent in lieu of compensations related to restoration and improvement of livelihoods. Generally, it covers cash compensation policy for the acquisition of land and built-up property, and damage to other assets such as crops, trees, and infrastructure. Does not provide additional support to the displaced poor or vulnerable groups and clear procedures for negotiated settlement. Does not include provisions for compensation of displaced persons without titles or recognizable rights to land. Does not require preparation of Resettlement Plans / Framework. Does not require for compensation or entitlements to be paid before physical or economic displacement. No provision for monitoring of resettlement activities.
ESS6 – Biodiversity Conservation and Sustainable Management of Living Natural Resources	This standard supports biodiversity conservation, habitat protection, and sustainable management of living natural resources. It emphasizes maintaining core ecological functions and ensuring sustainable production and harvesting. Its objective is to protect biodiversity and habitats and prevent adverse project impacts on them.	Relevant. The works will occur in ecologically sensitive areas, including rivers, mountain catchments, and forested regions. Potential risks include disturbance of aquatic and terrestrial habitats, erosion, sedimentation, and impacts on flora and fauna. Nature-based solutions are a positive feature of the Project, contributing to reforestation, afforestation, and ecosystem restoration. No interventions under	Local laws address most of the requirements of the ESS-6 except the categorization of habitats (natural, critical and modified).

		the project shall be carried out in critical, natural habitats and legally protected areas and areas with high biodiversity significance. The relevant mitigation measures are incuded in the ESMF based on the potential risks and impacts.	
ESS7 – Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	This standard applies to distinct social and cultural groups identified in accordance with descriptions provided in ESS10. The objectives of the standard are to ensure that the development process adopts full respect for the rights, dignity, aspirations, identity, culture of traditional local communities, and to avoid adverse impacts on Indigenous Peoples while providing them with sustainable development benefits and opportunities in an accessible, culturally appropriate, and inclusive manner.	Relevant. The project may plan activities in Chitral region where the Kalash community meets the bank criteria of Indigenous people. While most of the infrastructure activities are planned on Government owned land, however any investment in such areas needs to be carefully screened for any impacts on customary land use and collective rights. As the project location are not known, the project will prepare Indigenous Peoples Planning Framework (IPPF) to guide screening and consultation process in accordance to ESS7 and plans, if needed during project implementation.	There is no law, national or provincial, dealing with the rights and protection of Indigenous Peoples
ESS8 – Cultural Heritage	ESS8 recognizes the importance of cultural heritage as a valuable source of scientific and historical information, as an economic and social asset for development, and as an integral part of people's cultural identity. This standard sets out measures to protect cultural heritage throughout the lifecycle of the project.	Relevant. The construction and earthworks may lead to chance finds of archaeological or cultural resources, particularly in historically rich areas of KP. The project is not plannned to have any interventions directly related to cultural heritage sites. This ESMF has developed Chance Find Procedures to be followed during project implementation in case of any chance find of physical culture resource.	The provincial legislation is silent regarding the Development of Physical Cultural Resource Management Plan. There is no provision related to tangible and intangible cultural properties. The provincial legislation is silent about the disclosure of information regarding cultural heritage due to the safety or integrity of the cultural heritage or would endanger sources of sensitive information from public disclosure.

ESS10 – Stakeholder Engagement and Disclosure	This standard recognizes the importance of open and transparent engagement between the Client and project stakeholders as an essential element of good international practice. The objectives of ESS10 are to establish a systematic approach to stakeholder engagement that will build and maintain constructive relationships, assess the level of stakeholder interest and support for the project, and to enable stakeholders' views to be taken into account in project design and E&S performance. It also provides guidance on promoting and providing means for effective and inclusive stakeholder engagement throughout the life of the project.	**Relevant.** Effective stakeholder engagement and information disclosure are essential for the functioning of any project. In line with ESS10 guidance, a separate Stakeholder Engagement Plan (SEP) has been prepared. The SEP focuses on identifying and engaging directly affected parties, other interested parties, and vulnerable groups. It outlines procedures, engagement topics, and frequencies, as well as institutional responsibilities, grievance redress mechanisms, and budgets. The project-level Grievance Redress Mechanism (GRM) is detailed in both the SEP and the ESMF. Special attention will be given to engaging disadvantaged and vulnerable groups to ensure their participation and access to project benefits.	There is no provision for the preparation of Stakeholder Engagement Plan. Stakeholder engagement in public sector development projects is not done effectively. The regulations do not demand continued stakeholder engagement after the NOC has been granted, leading to a potential disconnect between the project and the affected people during construction and operations phases. Also, there is no proper mechanism to record the grievances.

The relevant policies to project other than ESSs are described in **Table 3.3.**

Table 3-3: Applicability of World Bank Policies

Sr. No.	WB Safeguard Policies Triggered by the Subproject	Triggered		Explanation
		Yes	No	
1.	The World Bank OP 7.50 Projects on International Waterways	[√]	[]	OP 7.50 is applicable to this Project. Majority waterways in Khyber Pakhtunkhwa (KP) ultimately flow into the Indus River, a transboundary river system, thereby triggering OP 7.50 for Project on International Waterways. The prevailing regional geopolitical context adds complexity, and any formal notification to riparian states under OP7.50 could result in protracted delays or even stalemate. Eligibility for exemption from notification will therefore be a critical consideration, which can itself significantly narrow the scope of potential interventions, particularly for new infrastructure schemes.
2.	The World Bank OP 7.60 Projects in Disputed Areas	[ ]	[√]	NA

3.2 Obligations under International Treaties

Pakistan is signatory to several multilateral environmental and social agreements. The proposed Project is obliged to respect the applicable agreements, which are provided in the following sections.

3.2.1 Environmental Obligations

- Paris Agreement, 2015.
- Stockholm Convention on Persistent Organic Pollutants, 2004.
- Vienna Convention, 1985.
- Convention on Conservation of Migratory Species of Wild Animals, 1979.
- UNESCO Convention on the Protection of the World's Cultural and Natural Heritage, 1972.
- Convention on Biological Diversity (CBD), 1994.
- United Nations Framework Convention on Climate Change (UNFCCC), 1992.
- Kyoto Protocol, 1992.
- The Rio Declaration, 1992.
- Montreal Protocol 1987.

- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), 1975.

3.2.2 Social Obligations

- Convention for Safeguarding the Intangible Cultural Heritage, 2003.
- Convention on the Rights of the Child, 1989.
- Convention on the Elimination of all Forms of Discrimination against Women, 1979.
- International Covenant on Civil and Political Rights, 1966.
- International Covenant on Economic, Social and Cultural Rights, 1956.
- International Labor Organization (ILO) Conventions – Ratified by Pakistan11
- C138 - Minimum Age Convention, 1973 (No. 138).
- C111 - Discrimination (Employment and Occupation) Convention, 1958 (No. 111).
- C107 - Indigenous and Tribal Populations Convention, 1957 (No. 107).
- C029 - Forced Labor Convention, 1930 (No. 29).
- C001 – Hours of Work (Industry) Convention, 1919 (No. 1)

3.3 World Bank Environmental, Health and Safety Guidelines

The World Bank Group's EHS Guidelines apply to the proposed project. The project will comply with the relevant provisions of these guidelines during implementation.

[11] *The Pakistan has ratified 36 ILO's conventions (At present, 31 are enforced) including its eight Core Conventions covering four areas, namely; child labor, forced labor, discrimination, right of freedom of association and to bargain collectively - (All ILO Conventions are available at ILO's website at https://www.ilo.org/global/lang--en/index.htm)*

4 ENVIRONMENTAL AND SOCIAL BASELINE

This baseline chapter provides an overview of the environmental, ecological and social conditions against which the proposed operation will be implemented. For any development project, the prevailing E&S conditions need to be assessed prior to the stages of planning, designing and execution. Identification of physical, ecological and social aspects of environment and collection of relevant data is essentially important for the evaluation of impacts as well as for the suggestion of adequate mitigation measures, which forms the basis for the implementation in terms of prevailing E&S conditions

4.1 Sample Districts for Field Visit

Peshawar, Nowshera, and Charsadda were selected as sample districts for the proposed Project. Among the seven typologies[12], Type 1 (bunds, embankments, retaining structures, channelization), Type 2 (canals, nullahs, outfalls, drains), and Type 7 (channelization and dredging) were chosen because they account for the highest share of project costs. Within these types, only existing schemes were selected to assess on ground environmental and social risks and to conduct consultations with local communities to better understand actual challenges and issues. The list of sites visited is provided in the Annex-A.

4.2 Physical Environment

The project interventions are planned in Khyber Pakhtunkhwa (KP) province of Pakistan, covering both rural and peri-urban areas, however the exact districts and location of interventions will be finalized following Project appraisal. Physical features of proposed Project Area and selected districts are given in the following sections.

4.2.1 Geography and Topography

KP features steep mountainous terrain in the north, sloping down into plains and river valleys such as the Indus and Kabul systems. The terrain of KP consists of mountain ranges, undulating sub mountain areas, and plains surrounded by hills. In the north the mountain ranges generally run north south; south of the Kabul River, which bisects the province from east to west, the ranges generally run east west. The Hindu Kush region in the north, is divided by the Kunar River into two distinct ranges, the northern Hindu Kush and the Hindu Raj.

Peshawar District covers 1,257 km² in the fertile Peshawar Valley, located between 31° to 34° North latitude and 70° to 74° East longitude, with an average elevation of 359 meters. The terrain consists of flat alluvial plains from the Kabul River system, with hills to the west and southwest. The district's high population density of 3,394 people per km² increases flood exposure in urban and peri-urban areas. Nowshera District covers 1,748 km² in central Khyber Pakhtunkhwa, located between 33°41′ to 34°10′ North latitude and 71°38′ to 72°15′ East longitude, with an average elevation of 288 meters. The terrain is mostly flat, part of the

[12] Seven (7) Types of Typologies: Type 1 Bunds, Embankments, Retaining Walls, Levees, Gabions, Channelization etc. Type 2 Canal, Nullah, Outfalls and Drains Type 3 Check Dams, Detention Dams and Weir Type 4 Restoration and Improvement of Wetlands (NbS) Type 5 Wells, Pits and Recharge Basins Type 6 Telemetry Gauge Stations Type 7 Channelization & Dredging

Peshawar Plain, with extensive alluvial floodplains along the Kabul and Indus River confluence. The low-lying topography makes the district highly vulnerable to seasonal riverine flooding. Charsadda District covers 996 km² in the Peshawar Valley, Khyber Pakhtunkhwa, located between 34°03′ to 34°28′ North latitude and 71°28′ to 71°54′ East longitude, with an average elevation of 276 meters. The terrain is flat, with extensive alluvial floodplains from the Kabul, Swat, and Jindi rivers. The low-gradient topography limits natural drainage, making the district highly susceptible to prolonged flooding.[13]

4.2.2 Climate

The climatic profile of the KP province is extremely diverse due to various altitudes and vegetation cover, mountain barriers and topography. Its climate varies from the dry and hot rocky zones in south to the cool and lavish green forests in the north. The northern region of KP experiences extremely cold and snowy winters, with heavy rainfall and pleasant summers, whereas the southern parts of KP experience less severe winters, moderate rainfall and hotter summers. Average annual rainfall ranges from 400 to 1,200 mm, with peak precipitation during the July and August monsoon season, which is the primary driver of seasonal flooding.

Peshawar has a semi-arid to sub-humid climate with hot summers (max. >40°C) and mild winters (min. 5-7°C). Annual rainfall is seasonal, peaking during the monsoon (July-August) with 260-310 mm/month. Nowshera also has a semi-arid climate, with summer temperatures exceeding 40°C and winter temperatures around 5-7°C. Rainfall averages 200-300 mm/month during the monsoon. Charsadda experiences a semi-arid to sub-humid climate, with hot summers (>40°C) and mild winters (min. 5-6°C). Annual rainfall is 400-500 mm, with peak monsoon rainfall of 250-300 mm/month.[14]

4.2.3 Soil

KP's soils range from alluvial fertile soils in plains to shallow, rocky soils in mountainous areas. Floodplains have clay loam and silty soils with low to moderate infiltration, contributing to waterlogging during heavy rains and riverine floods.

Soils in Peshawar District are mainly alluvial in origin, consisting of silty clay, clay loam, and sandy loam textures. The soil depth is generally deep in floodplain areas, with moderate to high water holding capacity. These soils have variable pH and salinity levels, particularly close to river channels and irrigation canals. The soils of Nowshera are mainly alluvial and calcareous, consisting of silty clay loam, clay loam and sandy loam soil types. These soils are deep and fertile but have moderate to low infiltration capacity in floodplain areas due to fine texture and compaction. Charsadda district is dominated by deep alluvial soils, mainly silty clay loam and clay loam in texture. These soils have high fertility but low to moderate permeability, especially in areas close to riverbanks and irrigated command zones.[15]

[13] Pakistan Bureau of Statistics (PBS), KP Government Mapping Portal

[14] Pakistan Meteorological Department (PMD)

[15] Soil Conservation KP, ARI Tarnab (Agriculture Department KP)

Soil instability and landslide prone areas are additional risks that need to be considered while infrastructure development like check dams and flood retaining structures.

4.2.4 Land Utilization

Agricultural land in Khyber Pakhtunkhwa makes up about 55-56% of reported land use, but only 22% (1.85-1.90 million hectares) is under cultivation due to the province's rugged terrain. Forests cover 1.2-1.25 million hectares, playing a key role in watershed protection and flood regulation. Most agricultural landholdings are small, with farmers owning less than 2.5 acres. Irrigation relies on canals, river diversions, and seasonal floodwaters.
In Peshawar District, around 45-50% of land is agricultural, mostly irrigated cropland. Urban expansion has reduced agricultural land and floodplain areas, increasing surface runoff during monsoons. Nowshera District has 60-65% agricultural land, irrigated by canals, river diversions, and seasonal floods, supporting crops like wheat, maize, and sugarcane. Forest cover is limited to small areas and plantations. Charsadda District, with 65-70% cultivated land, benefits from fertile soils and surface irrigation from the Kabul and Swat rivers. Forest cover is minimal, restricted to riparian vegetation and plantations.[16]

4.2.5 Seismicity

Khyber Pakhtunkhwa lies in the Hindu Kush Himalayan seismic belt, one of the most seismically active regions in Pakistan. Northern mountainous areas are prone to high intensity earthquakes, while central and southern plains experience moderate seismic activity. Earthquake events can trigger landslides, liquefaction in alluvial soils, and structural damage, potentially aggravating flood risk by weakening embankments and drainage infrastructure.

On the basis of Peak Ground Acceleration (PGA) values obtained through Probabilistic Seismic Hazard Assessment (PSHA), Pakistan is divided into five (05) seismic zones in line with the Uniform Building Code (UBC), 1997 of the Pakistan. The boundaries of these zones are defined on the basis as shown in table.

Table 4-1: Values of Seismic Zones of Pakistan

Sr. No.	Zone	PGA (g)
1	1	0.05 to 0.08
2	2A	0.08 to 0.16
3	2B	0.16 to 0.24
4	3	0.24 to 0.32
5	4	> 0.32 g

Peshawar District is classified as Zone 2B (Moderate), indicating a moderate earthquake risk. Nowshera District falls under Zone 2B (Moderate), reflecting a higher seismic vulnerability due

[16] Khyber Pakhtunkhwa Bureau of Statistics (District Land Use & Agriculture Statistics)

to its location at the confluence of the Kabul and Indus rivers. Charsadda District is also in Zone 2 (Moderate), representing moderate seismic exposure.[17]

4.2.6 Solid Waste Management and Drainage System

Solid waste management in KP is overseen by municipal and local government institutions, with collection efficiency varying significantly between urban and rural areas. Drainage infrastructure is often inadequate, particularly in older urban centers and floodplains, leading to blockage of natural drainage paths and increased urban flood risk during monsoon events. Eighty percent of the people in Khyber Pakhtunkhwa have access to sanitation services, 74% in rural and 98% in urban areas.

Peshawar generates high volumes of municipal solid waste, with partial collection coverage and limited sanitary disposal facilities. Storm water drains are frequently clogged due to solid waste dumping, contributing to localize urban flooding during intense rainfall and river backflow conditions. In Nowshera, solid waste management services are limited outside urban areas, and open dumping is common. Drainage systems are underdeveloped in riverine settlements, where floodwaters often mix with waste, creating public health and environmental risks. Charsadda lacks formal solid waste disposal facilities in many rural and peri urban areas. Natural drainage channels and irrigation canals often serve as informal waste disposal points, reducing hydraulic capacity and exacerbating flood impacts during monsoon seasons.[18]

4.2.7 Climate Change and Disaster Risk Screening

The population is exposed to a mix of hazard types including flash and riverine floods, GLOFs, mudflows and landslides precipitated by glacial melting and heavy monsoon rainfall. Rising regional temperatures have accelerated glacial melt in north western KP, resulting in the formation of more than 3,000 glacial lakes[19]. Further downstream, the province's exposure to sustained monsoon rainfall is expected to intensify, increasing flood potential[20]. Of KP's 35 districts, the Government currently designates 11 as high flood risk and 14 as medium flood risk[21].

The Climate Change and Disaster Risk Screening was conducted using a hazard based assessment framework supported by data from the ThinkHazard platform. The screening evaluated multi hazard exposure across Peshawar, Nowshera, and Charsadda, indicating consistently high risk of extreme heat and wildfire in all three districts. Riverine flood risk was assessed as medium in Peshawar and high in Nowshera and Charsadda, reflecting their proximity to major river systems and floodplains. Earthquake risk was classified as medium across all districts based on regional seismic zonation. Water scarcity risk was found to be

[17] Pakistan Meteorological Department (Seismology Wing)

[18] KP Flood Assessment Reports, PDMA

[19] UNDP. (2017). *GLOF II Project Document (signed): Scaling Up of Glacial Lake Outburst Flood (GLOF) Risk Reduction in Northern Pakistan.* UNDP Pakistan.

[20] Arshad, A., Mirchi, A., He, C. *et al.* Anthropogenic and climatic drivers of the 2022 mega flood in Pakistan. *npj Natural Hazards* **2**, 57 (2025).

[21] *Flood Maps.* KP PDMA, Government of Khyber Pakhtunkhwa.

higher in Nowshera relative to the other districts, while urban flooding risk remained generally low to medium due to local drainage capacity and topography. Other hazards, including landslides and cyclones, were screened as very low to low, indicating minimal relevance to the project's risk profile.[22]

Table 4-2; Disaster Risk Screening

Hazards	Peshawar	Nowshera	Charsadda
Extreme Heat	High	High	High
Wildfire	High	High	High
River Flood	Medium	High	High
Earthquake	Medium	Medium	Medium
Water Scarcity	Medium	High	Medium
Urban Flood	Low	Low	Medium
Land slide	Very Low	Low	Very Low
Cyclone	Very Low	Very Low	Very Low
Coastal Flood	N/A	N/A	N/A
Volcano	N/A	N/A	N/A
Tsunami	N/A	N/A	N/A

4.2.8 Flood and Hydrological Conditions

Khyber Pakhtunkhwa is highly prone to riverine and flash flooding, mainly due to the Indus, Kabul, and Swat rivers. Major floods in 2010 and 2022 caused significant damage to infrastructure, agriculture, and settlements. The province is monitored by PMD and managed by PDMA for flood forecasting and disaster response.

KP is characterized by steep mountains, with settlements in narrow valleys along rivers, making it flood-prone. Climate change has led to severe floods in 2010, 2016, 2020, and most recently in 2025, caused by cloudbursts, Glacial Lake Outburst Floods (GLOFs), and landslides triggered by glacial melting and heavy rainfall. These hazards result in significant loss of life, livelihoods, and infrastructure damage. The region features major rivers, glacier-fed tributaries, and high-biodiversity forests. Soil instability and landslides are additional risks for infrastructure development, such as check dams and flood-retaining structures.

Khyber Pakhtunkhwa suffered significant damage in the 2022 floods, with damages estimated at US$935 million and losses at US$658 million. Recovery needs were around US$780 million[23], while 309 people lost their lives.[24] In 2025, the monsoon caused localized riverine, glacial, and flash flooding, resulting in 484 fatalities[25], extensive infrastructure damage, and livestock losses. This marked the highest death toll in recent years, surpassing the 2022 floods.

[22] https://thinkhazard.org/en/report/40347 pakistan north west frontier peshawar district

[23] Government of Pakistan. (2022). *Pakistan Floods 2022 – Post Disaster Needs Assessment.* October 2022, Government of Pakistan, Asian Development Bank, European Union, United Nations Development Programme, World Bank.

[24] NDMA. (2022). Monsoon 2022 – SITREP, 18th November 2022. National Disaster Management Authority, Government of Pakistan.

[25] NDMA. (2025). Monsoon 2025 – SITREP. National Disaster Management Authority, Government of Pakistan.

Peshawar District covers 1,257 km² at an average elevation of 359 m, primarily consisting of a flat alluvial plain with urban lowlands. Flooding is influenced by the Kabul and Bara rivers, monsoon rainfall, river overtopping, and urban runoff. Flood impacts grew from about 730 households in 2010 to 784 in 2022, and 1,200 in 2025, highlighting increasing urban exposure. Flood behavior is partially moderated by Warsak Dam, with monitoring at Kabul/Warsak PMD gauges.

Nowshera District covers 1,748 km² at an average elevation of 288 m, located in a vulnerable floodplain at the confluence of the Kabul and Indus rivers. This exposes the district to backwater effects and high river discharges during monsoons. Flood impacts were severe, affecting 19,000–20,000 households in 2010, over 8,000 households in 2022, and around 10,500 households in 2025. Flood monitoring is supported by Nowshera and Kheshgi PMD gauges, with limited mitigation from upstream regulation by Warsak and Tarbela dams.

Charsadda District spans 996 km² with an average elevation of 276 m, featuring a flat, multi-river alluvial floodplain. The Kabul and Swat rivers influence the district, where river convergence and low drainage gradients cause frequent overbank flooding. Flood records show 28,000–30,000 affected households in 2010, 3,000–4,000 in 2022, and around 4,500 households in 2025. Flood monitoring relies on PMD gauges on the Kabul and Swat rivers, with minimal structural flow regulation and heavy reliance on natural floodplain storage.[26]

4.2.9 Water Resources (Surface and Groundwater)

Khyber Pakhtunkhwa's water resources are dominated by the Indus River system and its tributaries, including the Kabul, Swat, and Panjkora rivers. Surface water supports irrigation, domestic supply, and ecosystems, while groundwater is widely abstracted through tube wells, particularly in urban and agricultural plains. Provincial assessments indicate declining groundwater levels in urban centers due to over extraction and reduced recharge, especially in floodplain districts.

Peshawar relies on the Kabul River and a canal network for surface water, with groundwater as the main source for domestic use. PCRWR assessments highlight localized groundwater depletion and quality concerns due to high abstraction and urban contamination, increasing vulnerability during floods. Nowshera, at the confluence of the Kabul and Indus rivers, has abundant surface water but is flood-prone. Groundwater is used for agriculture and domestic needs, with seasonal recharge during floods, though sedimentation and contamination risks rise during high flows. Charsadda, intersected by the Kabul and Swat rivers and an extensive canal system, primarily relies on surface water. Groundwater is shallow and recharged during floods, but waterlogging and post-flood contamination affect drinking water safety.[27]

4.2.10 Cultural and Archaeological Heritage

KP has a wealth of documented cultural and archaeological heritage managed by the Directorate General of Archaeology & Museums, Government of KP, including major ancient

[26] PDMA Khyber Pakhtunkhwa

[27] Irrigation Department KP; Pakistan Bureau of Statistics (PBS)

city mounds, stupas, mosques, forts, and museums that reflect millennia of human history from prehistoric to colonial times. Key provincial sites include Amlukdara, Aziz Dheri, Jamal Garhi, Mahabat Khan Mosque, and Ranigat among others.

Peshawar District features heritage landmarks like Bala Hissar Fort, the Peshawar Museum with its Gandharan art, the City Museum at Gorkhatri, and the Victorian-era Old Christian Cemetery. Nowshera District is home to key heritage sites like the Black Rock/Khara Pathar archaeological site and various mounds and religious locations along river corridors, reflecting early settlement patterns. Charsadda District is anchored by the Bala Hisar (Pushkalavati) archaeological complex, along with mounds like Sheikhan Dheri and Palatu Dheri, representing the ancient Gandhara capital. These sites are preserved but vulnerable to flooding and erosion.[28]

4.3 Ecological Environment

KP hosts a diverse ecological landscape ranging from high mountains in the north to fertile alluvial plains in the south. The province's ecosystems include forested mountainous areas, riverine corridors, wetlands, and cultivated floodplains. Seasonal flooding plays an important ecological role, supporting nutrient deposition, groundwater recharge, and habitat for migratory birds and freshwater species. Khyber Pakhtunkhwa is divided into four agro-ecological zones based on climate and topography. The province is home to 4,500 plant species, 100 mammals, 466 birds, 66 reptiles, 44 butterflies, and 118 fish species, with protected areas covering over 14% of the total land. However, climate change, rising temperatures, altered rainfall, floods, droughts, and heavy agrochemical use are harming biodiversity. Over 20% of the province is forested, with 650,000 hectares designated as protected.

4.3.1 Land Cover and Vegetation

The landscape of KP ranges from high montane forests in the north to extensive alluvial agricultural plains in the south; forest and plantation programs under provincial authorities have increased managed tree cover while the low lying plains remain dominated by irrigated cropland and riparian vegetation. Seasonal floodplains and canal corridors provide the principal remaining native riparian vegetation in the southern plains.

Peshawar is mostly an urbanized alluvial plain with limited natural vegetation, primarily in riparian strips and small public plantations. Agricultural cropping (wheat, maize, sugarcane) occupies most of the floodplain, with modest plantations and shrubs maintained by the provincial Forest Department. Nowshera has more extensive floodplain agricultural land, with linear plantations and riparian shrubs along the Kabul and Indus rivers. Local forestry records highlight canal-side plantations and scattered trees that aid in riverbank stabilization. Charsadda is dominated by irrigated alluvial fields with narrow riparian and canal vegetation.

[28] https://www.kparchaeology.gkp.pk/sites and monuments/

Natural tree stands are scarce, and ecological value is concentrated in the river margins, where seasonal vegetation helps with soil stabilization and provides habitat corridors.[29]

4.3.2 Protected Areas, Forests and Plantations

KP maintains a network of protected areas, reserved forests and community plantations managed by the provincial Forest and Wildlife Departments. These protected sites are concentrated mainly in the hills and highlands rather than the alluvial plains.

In Peshawar District, reserved and plantation areas are small, mainly found in managed planting sites and roadside/canal plantations overseen by the Peshawar Forest Division. There are no national parks or large protected areas in the urbanized district. Nowshera has limited reserved forest blocks and plantation schemes managed by the provincial forest division. Riparian strips and canal plantations provide some ecosystem protection, but larger protected areas are uncommon in the lowland floodplain. Charsadda has minimal protected forest cover, mainly limited to scattered plantations and canal-side protection works. The district relies on regional protected areas and river corridors outside its agricultural landscape for biodiversity conservation.

The interventions under the proposed Project will be carried out in already transformed/ cultivated area. As such the interventions shall not be carried out in any natural or critical habitats and protected areas.

4.3.3 Aquatic Ecology and Fisheries

At Provincial level, River systems (Indus, Kabul, Swat and tributaries) form an important aquatic network supporting freshwater fisheries and seasonal wetlands; national and provincial monitoring (PCRWR, WAPDA) report that water quality and riverine habitats vary considerably, with ongoing monitoring of contaminants and fishery resources. Riverine fisheries are important for food security in floodplain districts.

In Peshawar District, the Kabul River and canals support local fisheries and aquatic communities. PCRWR water quality surveys identify variable quality and contamination risks affecting fish habitats and community reliance on river resources. Nowshera, situated on the Kabul-Indus corridor, creates productive seasonal fish habitats and floodplain wetlands. However, WAPDA and PCRWR monitoring highlight sediment loading and water quality deterioration during floods, impacting fisheries and biodiversity. In Charsadda, river margins and irrigation channels provide fish habitats for local communities. PCRWR and local studies report turbidity and contamination after floods, altering fish distribution and reducing catch reliability for dependent households.[30]

[29] Forest, Wildlife & Environment, Government of Khyber Pakhtunkhwa. *Forest Department; Peshawar Forest Division; Climate & Forestry pages.* (forest.kp.gov.pk).

[30] WAPDA / IWRM reports and hydrological monitoring (river corridors and fisheries context).

4.3.4 Key Flora and Fauna

KP biodiversity spans alpine conifers and broadleaf forests to riparian shrubs and floodplain grasses; provincially managed lists and KP Wildlife inventories include mammals (e.g., ungulates and carnivores in highlands), a diverse avifauna (including migratory waterfowl in riverine wetlands) and freshwater fish species in lowland rivers. Conservation emphasis is on protecting highland habitats and maintaining riverine corridors.[31]

The flora of Peshawar, Nowshera, and Charsadda includes drought-tolerant species such as *Acacia modesta* (Phulai), *Zizyphus nummelaria* (Ber), *Olea ferruginea* (Olive), and *Monotheca buxifolia* (Gurgurah). Riparian zones in Peshawar feature Populus (Poplar), Tamarix (Tamarisk), and planted Eucalyptus/ Acacia, while Nowshera and Charsadda have similar vegetation, supporting fish species like Labeo rohita (Rohu) and Catla catla (Catla), along with seasonal waterfowl. Fauna includes mammals like wild boar (*Sus scrofa*), red fox (*Vulpes vulpes*), golden jackal (*Canis aureus*), and porcupine (*Hystrix indica*), with reptiles such as Indian cobra (*Naja naja*) and sand boa (*Eryx johnii*). The region's biodiversity is influenced by the presence of freshwater fish, migratory waterfowl, and amphibians that rely on seasonal, inundated habitats for feeding and breeding.[32]

4.3.5 Ecosystem Services and Floodplain Functions

Floodplains and river corridors in KP provide vital services like soil fertility, groundwater recharge, and habitats for migratory birds and fisheries. Provincial programs focus on these ecosystem services in resilience and reforestation planning. In Peshawar, riverine strips and green spaces help moderate floods, trap sediments, and support groundwater recharge, but urbanization has reduced these natural benefits. Nowshera's floodplains store high flows, deposit sediments, enrich agriculture, and provide wetland habitats for fisheries and waterfowl, though they are vulnerable to channel modifications and sedimentation. Charsadda's plains aid nutrient cycling and recharge, supporting crop productivity but also carrying risks of siltation and waterlogging when floods exceed natural storage capacity. Riparian vegetation is crucial for preserving these services.

4.3.6 Threats and Conservation Challenges

Major provincial ecological pressures include deforestation, unsustainable grazing, river pollution, water quality deterioration and the increasing frequency of extreme hydro meteorological events; climate change and land use change are exacerbating biodiversity loss and reducing ecosystem resilience in both highland and lowland systems. In 2020, KP had 940 kha of natural forest, extending over 12% of its land area. In 2024, it lost 240 ha of natural forest, equivalent to 41 kt of CO_2 emissions. [33]

[31] Khyber Pakhtunkhwa Wildlife Department, Protected areas and wildlife inventories. (kpwildlife.kp.gov.pk).

[32] https://innspub.net/water quality parameters of river swat at district charsadda kpk pakistan/ (Charsadda Ecological Baseline)

[33] https://www.globalforestwatch.org/dashboards/country/PAK/5/?map=eyJjYW5Cb3VuZCI6dHJ1ZX0%3D

Peshawar District has urban expansion, encroachment on riparian corridors, solid waste dumping and localized contamination of the Kabul River are principal threats that degrade habitat quality and reduce biodiversity within Peshawar's floodplain environment. In Nowshera District channel sedimentation, agricultural runoff, and episodic contamination during floods are key pressures in Nowshera bank erosion and unplanned development on floodplains reduce effective habitat area and impede natural floodplain functions. Charsadda District has Intensive agriculture, waterlogging, sediment deposition and periodic contamination after high flows are the main ecological pressures, limited protected forest cover further reduces the district's capacity to buffer hydrological shocks.

4.4 Socioeconomic Conditions

Socially, KP is characterized by patriarchal tribal communities residing in rural and peri-urban areas, reliant on agriculture, livestock, and communal resources. Women, elderly, and persons with disabilities face heightened disaster risks due to exclusion and limited mobility. In Kalash Vallley of district Chitral, indigenous people maintain distinct socio-cultural systems, while in the NMAs, tribal landholding and collective ownership create complexities for land access and benefit-sharing. Poverty, limited services, and traditional governance structures further increase social vulnerability, which requires more attention to inclusive engagement, culturally appropriate consultations, and robust E&S risk management.

4.4.1 Demographic Characteristics and Services

Khyber Pakhtunkhwa has a population of approximately 40.9 million, according to the 2023 Census. The province remains largely rural, with many settlements along river plains, increasing exposure to seasonal flooding and hazards. The literacy rate is about 51.1%, with significant urban-rural and gender gaps. While access to basic services has improved, rural floodplain communities still face gaps in services. Peshawar District (2023 population ≈ 4,758,762) is the most urbanized with higher literacy and service sector employment. Nowshera District (2023 population ≈ 1,740,705) combines rural agriculture with urban centers. It has moderate-high literacy and a mixed economy, but its location at the Kabul-Indus confluence makes it prone to river backwater impacts and market disruptions. Charsadda District (2023 population ≈ 1,835,504) is largely rural, with extensive irrigated agriculture. While literacy has improved, livelihoods remain agriculture-dependent, making the district vulnerable to crop loss, market disruption, and seasonal displacement during major floods.[34]

At the provincial level, households in KP remain largely extended family based, with an average size of 7.8 persons. The average household size is 6.9 in Peshawar and Charsadda, and 7.7 in Nowshera, according to the 2023 census. KP's health system includes tertiary hospitals, district hospitals, BHUs, and RHCs, with over 2,000 BHUs and RHCs across the province. Peshawar has major tertiary hospitals, while Nowshera and Charsadda rely on district facilities. During floods, healthcare access is hindered by damaged roads, water contamination, and overburdened facilities.[35] Access to improved drinking water varies across

[34] Pakistan Bureau of Statistics (PBS). (2023). *Population and Housing Census 2023 –(Khyber Pakhtunkhwa)*. Government of Pakistan.

[35] Khyber Pakhtunkhwa Health Department. (2023). *Annual Health Profile of Khyber Pakhtunkhwa*. Government of KP.

KP, with a large proportion of households using hand pumps, tube wells, and gravity fed systems, while sewerage coverage remains limited in rural areas. Open drains are common in urban informal settlements. In the project districts, flood events frequently contaminate drinking water sources, damage sanitation infrastructure, and increase the risk of water borne diseases such as diarrhea and cholera.

4.4.2 Vulnerable Groups

Vulnerable social groups across KP include women, children, elderly persons, people with disabilities, religious minorities, internally displaced persons (IDPs), and low income households, especially in floodplain areas. And landless agricultural workers. Poverty, limited services, and traditional governance structures further increase social vulnerability, which requires more attention to inclusive engagement, culturally appropriate consultations, and robust E&S risk management. Peshawar District has vulnerable groups include low income urban residents and peri urban communities with limited flood protection. Nowshera District has Floodplain rural populations, women headed households, and small scale farmers are highly exposed. In Charsadda District the rural households, landless farmers, and elderly residents are most vulnerable to seasonal and extreme floods.[36]

4.4.3 Conflicts, Risk, and Vulnerability

KP continues to face social and institutional fragility stemming from prolonged exposure to conflict, security operations, and uneven development outcomes, particularly in rural and peripheral districts. While constitutional reforms and governance mainstreaming have expanded citizens' legal rights and access to state institutions, gaps in service delivery, institutional capacity, and public trust persist. Delays or weaknesses in implementation of governance reforms may exacerbate grievances, reinforce exclusion, and increase the risk of localized social tensions.

Social risks in KP are primarily linked to inequitable access to services, weak outreach, and the marginalization of vulnerable groups, including women, the poor, and religious minorities. Damage to education and health infrastructure during past conflicts, combined with population pressures, has constrained service availability in several districts. If development interventions are perceived as uneven or exclusionary, they may unintentionally intensify perceptions of injustice and mistrust toward government institutions.

Gender-based vulnerability remains a critical concern across KP. Many women face barriers to legal identity, mobility, participation, and access to justice, limiting their ability to benefit from social protection, financial services, and civic rights. Cultural norms and traditional power structures restrict women's decision-making and reporting of abuse, while awareness of legal rights remains low. These factors contribute to high levels of underreported gender-based violence and reduced female participation in public life, underscoring the need for inclusive, gender-sensitive planning and engagement under development programs.[37]

[36] Provincial Disaster Management Authority JP (PDMA KP). (2023). *Provincial Disaster Risk Profile – Khyber Pakhtunkhwa*.
[37] ESMF, KPRIISP

4.4.4 Informal Institutions

Informal institutions, particularly the jirga system, remain influential in Khyber Pakhtunkhwa, especially in rural Pashtun communities. Jirgas comprise local male elders who resolve civil and criminal disputes based on Pashtunwali and, at times, Islamic principles, with proceedings typically held in mosques or hujras. The system is widely trusted due to its accessibility, speed, and low cost; however, it operates outside the formal legal framework. Women and religious minorities are generally excluded from participation and decision-making. Ongoing provincial governance reforms emphasize strengthening formal justice and court-sanctioned mediation to improve inclusivity and legal safeguards.

5 STAKEHOLDER ENGAGEMENT, DISCLOSURE AND CONSULTATIONS

The project has prepared a Stakeholder Engagement Plan (SEP) as a separate document to describe objectives, process and outcome of the stakeholder engagement carried out during the project preparation and to be carried out during the project implementation the mode of consultations, frequency and responsibilities – in accordance with the World Bank ESS 10 (Stakeholder Engagement and Information Disclosure).

The SEP recognizes the importance of open and transparent engagement between the Borrower and project stakeholders as an essential element of good international practice. Effective stakeholder engagement can improve the environmental and social sustainability of projects, enhance project acceptance, and make a significant contribution to successful project design and implementation. Stakeholder engagement is an inclusive process conducted throughout the project life cycle. Where properly designed and implemented, it supports the development of strong, constructive, and responsive relationships that are important for successful management of a project's environmental and social risks.

The overall objective of the SEP is to define a plan of action for stakeholder engagement, including technically and culturally appropriate approaches to public consultation and information disclosure, throughout the entire project cycle. The SEP outlines ways in which the project team will communicate with stakeholders and includes a mechanism by which people can raise concerns, provide feedback, or make complaints about project activities.

The involvement of different stakeholders, including the local population is essential to the success of the project in order to ensure smooth collaboration between project staff and local communities.

5.1 SUMMARY OF STAKEHOLDER CONSULTATIONS CONDUCTED

During the project preparation phase, the team conducted extensive Institutional and Community Consultations across three high-risk districts: Peshawar, Nowshera, and Charsadda. The consultations involved Focus Group Discussions (FGDs) with local residents, to validate technical designs, assess ground-level vulnerabilities, and understand historical local response mechanisms. Institutional consultations engaged key government departments and relevant stake holders to identify capacity gaps. A standalone Stakeholder Engagement Plan (SEP) will be developed to ensure the continued inclusion of these flood-affected populations during implementation.

Table 5-1: Summary of Institutional Consultations

District	Date	Audience / Participants
Peshawar	December 12, 2025	**District Level:** Representatives from PDMA, Irrigation Department, C&W Department, Agriculture Department, and Rescue 1122, Irrigation Department, WWF , Local government, PTA, PCRWR, Planning and Development Department, TMA

Nowshera	December 10, 2025	**District Level:** Irrigation department, agriculture extension, Rural development, Social Welfare Department, Mines and Minerals, C&W, Soil and water, SRSP, Labour Department, ADC, On Farm water management**.**
Charsadda	December 9, 2025	**District Level:** Irrigation Department, Agriculture extension district, Rescue1122, Deputy Commissioner Office, district administration, Revenue Department, C&W Department

5.1.1 Key Findings from Institutional Consultations

A. **Consultation Session: Peshawar (Provincial Level)**:

The consultation in Peshawar was a strategic dialogue involving different government departments. Participants reviewed historical disaster patterns, noting that the floods of 2010, 2022, and 2025 caused massive devastation to the Peshawar Valley's agriculture and infrastructure. While the immediate response has often been community-led (self-help), government agencies like PDMA and Rescue 1122 utilized boats and helicopters for evacuations. However, significant operational weaknesses were flagged, including the non-functionality of dewatering pumps during emergencies, a lack of weather radars and river gauge stations, and the absence of backup satellite communication when cellular networks fail.

I. **Institutional Coordination and Data Systems:** Stakeholders highlighted that current coordination often relies on informal WhatsApp groups, leading to confusion when multiple agencies respond simultaneously. There was a strong consensus on the need for a Centralized Decision Support System. Participants recommended developing a unified digital dashboard at PDMA that integrates real-time hydrological data (Irrigation Dept), weather forecasts (Met Dept), and Safe City camera feeds to monitor flood levels. It was also proposed that Incident Command Centers be established to formalize inter-departmental workflows.

II. **Digital Preparedness and Early Warning (EWS):** Current EWS relies heavily on mosque announcements, which has limited reach in remote mountainous areas. Stakeholders proposed modernizing this by developing mobile apps in local languages, installing digital sirens, and using animated awareness videos. It was emphasized that PDMA should digitize its control rooms and introduce toll-free numbers, while addressing connectivity blind spots in the northern districts.

III. **Community Engagement and Social Inclusion:** The forum stressed that communities are the first responders but lack structure. Recommendations included notifying Village Disaster Management Committees (VDMCs) and integrating disaster preparedness into school curricula. A critical discussion point was Gender and Vulnerability; participants noted that cultural norms often prevent women from accessing relief. The project was urged to involve female activists and social mobilizers to reach women in *Purdah* and ensuring that evacuation centers have separate, private spaces for women and children.

IV. **Capacity Building and Sustainability:** There is an acute need for advanced equipment, specifically drones for surveillance, amphibious boats, life jackets, and first aid kits. Stakeholders also raised the issue of Build-Neglect-Rebuild, pointing out that donor-funded infrastructure often fails due to a lack of maintenance funds. The project was advised to include a dedicated Operations & Maintenance (O&M)

component or endowment fund. Additionally, strictly enforcing the River Act to remove encroachments and encouraging afforestation along riverbanks were identified as key sustainability measures. Capacity building for government officials and volunteers, with emphasis on technical skills and disaster management knowledge were highly suggested by government representatives.

V. **Citizen Feedback and Grievance Redress (GRM**): For handling complaints, the consultation revealed a community preference for Khuli Kachehris (Open Courts) and direct access via toll-free numbers (specifically the 1700 Helpline). It was recommended that the GRM must ensure anonymity to protect complainants and should be widely publicized through banners and social media. The role of the Media was also highlighted, with suggestions to train journalists on responsible disaster reporting to prevent panic.

B. **Consultation Session: Nowshera (District Level)**:

The institutional consultation in Nowshera served as a critical multi-stakeholder forum attended by several government departments and community Representatives. The discussion focused on Nowshera's critical vulnerability due to the backwater effects of the Indus River slowing down the Kabul River, and the increasing unpredictability of seasons due to climate change.

I. **Historical Context and Response Evolution:** Stakeholders drew sharp comparisons between the 2010 super flood and recent events to highlight the evolution of local response. It was noted that in 2010, lack of preparedness led to the destruction of critical infrastructure, including wheat stocks at Pirpai and Azakhel. Conversely, in 2022 and 2023, timely mobilization by the District Administration reduced human casualties. However, participants emphasized that the current response remains reactive, with evacuation efforts often becoming chaotic due to the lack of pre-designated safe zones for livestock and assets.

II. **Early Warning Systems and Digital Innovation:** Participants engaged in a detailed discussion on making early warning mechanisms more accessible to ensure alerts effectively reach the grassroots level. There was a strong consensus on establishing hierarchical WhatsApp communities, connecting the District Administration directly with Union Councils and Village Elders to ensure official alerts are disseminated instantly without distortion. A major challenge identified was the proliferation of fake news on social media causing panic; to counter this, it was agreed that all digital alerts must be authenticated by the Deputy Commissioner's office or should be through dedicated mobile application by the government. Recognizing digital limitations, stakeholders mandated the installation of physical sirens and hooters in high-risk zones for immediate mass evacuation, reinforcing the traditional use of mosque loudspeakers.

III. **River Morphology and Infrastructure Needs:** Technical discussions revealed that the Kabul River's carrying capacity has been drastically reduced due to heavy siltation. The Irrigation Department and community issued a unanimous demand for extensive dredging and de-silting alongside the construction of reinforced concrete or gabion walls, noting that simple earthen embankments have repeatedly failed. Simultaneously, the TMA highlighted urban flooding risks where internal sewerage lines suffer from backflow when river levels rise. To address this, the project was requested to provide heavy-duty de-watering pumps and non-return valves, while considering upper catchment interventions like small ponds to attenuate flood peaks.

IV. **Operational Challenges and Evacuation:** Rescue 1122 highlighted a critical resource gap, specifically the shortage of amphibious boats, diving suits, and oxygen cylinders, which compromises rescue operations. A recurring behavioral challenge is the refusal of families to evacuate without their livestock. The consultation recommended designating large Assembly Areas capable of housing animals to encourage timely evacuation. Furthermore, to address the fear of theft in evacuated neighborhoods, the Police Department was requested to deploy patrols to protect assets, thereby encouraging residents to move to safety sooner.

V. **Community Engagement and Gender Inclusion:** To overcome cultural barriers preventing women from accessing disaster training, the forum proposed engaging Lady Health Workers (LHWs) and female polio workers to conduct preparedness sessions inside homes, while using girls' schools and colleges as culturally acceptable venues. Recognizing economic pressures, stakeholders advised providing incentives for daily wage earners to attend these trainings. It was also noted that traditional door-to-door awareness is insufficient, necessitating structured school-based evacuation drills.

VI. **Sustainability and Institutional Coordination:** Regarding long-term sustainability, the District Administration advocated for a soft approach to encroachment removal through dialogue and compensation rather than forced evictions. The session concluded with a recommendation to break institutional silos by establishing a Central Control Room at the district level and forming Village Disaster Risk Management (DRM) Committees at tehsil level to monitor the maintenance of flood protection infrastructure post-completion.

C. **Consultation Session: Charsadda (District Level)**:

The consultation in Charsadda was a strategic dialogue involving a diverse range of stakeholders. The discussion was heavily influenced by Charsadda's unique geographic position at the confluence of the Swat and Kabul Rivers (Jindai Point), making it highly susceptible to complex flooding dynamics involving backwater effects and flash floods. Participants reviewed historical disaster patterns, noting that while the 2010 flood caused widespread devastation due to a lack of preparedness, the response in 2022 was significantly better due to timely alerts and organized evacuations. However, significant operational weaknesses were flagged, including a shortage of heavy machinery (boats, de-watering pumps) and the challenge of convincing communities to evacuate their homes and livestock in time.

I. **Critical Risk Zones and Infrastructure Needs:** Stakeholders identified the Jindai Point (the junction of Swat and Kabul rivers) as the most critical high-risk zone. The backwater effect, where the Indus slows the Kabul, and the Kabul slows the Swat causes water to pile up, inundating surrounding villages. There was a strong consensus on the need for specialized engineering interventions here, specifically raising flood protection walls at the Munda Headworks and constructing reinforced embankments along the Swat River.

II. **Digital Preparedness and Early Warning (EWS):** Current EWS relies on a mix of modern and traditional methods. The Irrigation Department and District Administration successfully utilized WhatsApp groups and official social media pages in 2022 to disseminate alerts, supplemented by mosque loudspeakers for last-mile connectivity. However, a major challenge identified was misinformation on social media, which creates confusion and skepticism among the public. Stakeholders proposed that all digital alerts must be authenticated by the District

Administration to maintain credibility. Additionally, despite warnings, many residents delay evacuation; thus, more aggressive forceful evacuation protocols and designated safe assembly areas for livestock were suggested.

III. **Community Engagement and Social Inclusion:** The forum stressed that while communities are the first responders, their capacity is limited by poverty and a lack of resources. A critical discussion point was Gender and Vulnerability; cultural constraints in Charsadda often prevent women from participating in public disaster trainings. To address this, stakeholders recommended engaging Lady Health Workers (LHWs) and female teachers to conduct digital preparedness sessions inside homes or at girls' schools or through animated videos and digital tools. It was also noted that community volunteers (especially youth) are active but lack incentives; the project was urged to provide safety equipment, transport, and refreshments to sustain volunteer motivation.

IV. **Capacity Building and Sustainability:** There is an acute need for institutionalizing resilience. Stakeholders raised the issue of sustainability, noting that local bodies and community committees must take ownership of flood protection infrastructure to ensure its maintenance. The Soil Conservation Officer emphasized that without community-led maintenance, infrastructure degrades quickly. The consultation recommended forming Village Disaster Management Committees (VDMCs) to act as the custodians of these assets. Furthermore, capacity building for Rescue 1122 was requested, specifically regarding the procurement of advanced rescue equipment like amphibious boats to navigate the complex river currents of the district and the IT skills for digital early warning systems.

V. **Citizen Feedback and Grievance Redress (GRM):** For handling complaints, the consultation revealed that communities currently use platforms like the Ikhtiyar Awam portal and Open Kachehris (Open Courts). However, stakeholders recommended establishing a project-specific grievance mechanism that is integrated with these existing systems. It was suggested that the Irrigation Department should share regular progress updates on social media and use WhatsApp-based feedback loops to allow communities to report quality issues or grievances in real-time. Transparency initiatives such as Social Audits were also proposed to ensure accountability at the local level.

5.1.2. Key Findings from Community Consultations

To ensure the inclusion of directly affected populations, the project team conducted extensive field consultations across the three high-risk districts. These sessions involved Focus Group Discussions (FGDs) with farmers, community elders, and separate sessions for women to capture gender-specific vulnerabilities.

Table 5-1-2: Summary of Community Consultations

District	Date	Venue / Village	FGDs (Male/Female)	Participants (F)	Participants (M)
Charsadda	Nov 11, 2025	Shakoor Village (Tehsil Tangi)	2	14	16

Charsadda	Nov 11, 2025	Haji Abad Village (Tehsil Umerzai)	2	10	30
Charsadda	Nov 11, 2025	Kashmir Khan Village (Tehsil Nisata)	2	7	32
Peshawar	Dec 3, 2025	Pyari Payian (Tehsil Mathra)	2	22	10
Nowshera	Dec 3, 2025	Camp Korono (Tehsil Pabbi)	2	12	18
Nowshera	Dec 4, 2025	Banda Sheikh Ismail (Tehsil Pabbi)	2	12	32
Nowshera	Dec 4, 2025	Pashtoon Gharai (Rahim Abad)	2	9	29
Nowshera	Dec 4, 2025	Azakheil Bala (Tehsil Nowshera)	2	6	12
Nowshera	Dec 4, 2025	Gujar Basti, Amangar (Tehsil Nowshera)	2	5	20

The following findings summarize the feedback received directly from flood-affected communities. Special emphasis has been placed on the Female Consultations to highlight the disproportionate impact of floods on women and children.

A. District Charsadda

I. **Infrastructure Failure and Technical Gaps:** Consultations in Charsadda focused on communities living along major drains and the Kabul River confluence.In the villages of Kashmir Khan (Nisata) and Shakoor (Tangi), the primary concerns revolved around infrastructure failure and public health. Residents identified the Hisara Drain as a critical hazard, due to backflow from the Kabul River, the drain frequently overflows, submerging an area with a population of over 100,000. Communities explicitly demanded the concrete lining and deepening of the drain, alongside a protection wall along the Kabul River from the Motorway Bridge to Pashton Gharai.

II. **Abazai Canal Seepage:** Farmers reported that the unlined Abazai Canal causes severe seepage, damaging the foundations of adjacent houses and waterlogging agricultural land. They requested canal lining and the construction of patrol roads to improve market access.

III. **Lack of Early Warning:** While alerts exist for major rivers, communities noted a complete lack of warning for flash floods in the drains (Hisara/Shobla), leaving them vulnerable to sudden inundation.

IV. **Psychosocial Distress:** Women expressed deep emotional trauma, stating they do not enjoy Eid or festivals because their lives are consumed by the fear of rain floods. The uncertainty of the next flood has created a state of permanent anxiety.

V. **Economic Loss (Dowry):** A specific economic shock raised by women was the loss of **Sanduqs (Trunks)** containing dowry items collected for their daughters' marriages. These assets take years to accumulate and are often the first to be destroyed by floodwaters, pushing families into severe economic regression.

VI. **Evacuation Barriers:** Women reported being stuck on **rooftops (*Chat*)** for days during floods due to a lack of boats or transport. Cultural restrictions often delay their evacuation until the situation becomes life-threatening.

VII. **Health and Hygiene:** Due to the lack of clean water, women are forced to use polluted drain water for washing clothes. This has resulted in high incidences of Hepatitis C and Dengue among women and children.

VIII. **Digital Exclusion and GRM:** Women reported significant digital barriers, noting they are not allowed to complain to government systems and lack internet access.

B. District Nowshera

I. **Urban flooding**: In Gujar Basti, the community reported that the Nalla is clogged with dense sediment and animal waste. When the Kabul River rises, water backflows into the Nalla, flooding the village. They proposed installing a gate at the outfall and constructing a paved road along the banks.

II. **Economic Loss (Crop Destruction):** Residents in Camp Korono stated that floods from June to August destroy their standing crops every year. Although their land is fertile for fruits and vegetables, the recurring floods from the Ghari Momin drain and Bara River make cultivation risky. They also highlighted that floods frequently disrupt electricity, plunging the village into darkness during emergencies.

III. **Encroachment on Drains:** A critical finding in the Labour Colony Drain area was that the entire drain is heavily encroached upon. The community acknowledged this but requested a sensitive approach to rehabilitation that avoids rendering them homeless.

IV. **Public Health:** Women highlighted that after floods, the stagnation of water leads to immediate outbreaks of allergies, flu, UTIs and Hepatitis among children and young girls. They requested that the project include health camps or sanitation kits as part of the response.

V. **Trainings and Preparedness:** Women expressed a desire to participate in disaster preparedness trainings but noted that cultural norms (*Purdah*) prevent them from attending sessions led by men. They specifically requested that Lady Health Workers (LHWs) or female teachers be used to conduct training inside villages or at girls' schools.

VI. **Priority Evacuation:** Women noted that while they try to evacuate children and the disabled first, they are often hindered by the need to secure livestock, which is a primary source of household income/nutrition.

***C.* District Peshawar**

I. The community in **Pyari Payian (Tehsil Mathra)** presented unique challenges related to the Naguman River system and emergency response.

II. **Water Management:** The community presented a dual challenge. During winter, there is zero water flow in the civil canals (*Kattas*), making it impossible to irrigate wheat crops. Conversely, during the monsoon, the Naguman and Adizai Rivers overflow,

causing destruction.The community proposed a balanced engineering solution like constructing a feeder canal to ensure winter irrigation and gabion walls to protect against summer floods. They also requested the installation of gates on the Naguman River side to regulate flow.

III. **Emergency Response:** While Rescue 1122 is responsive, communities noted that the nearest rescue focal point is quiet away from their villages. They requested the establishment of a Rescue 1122 point at the center of the five villages to ensure quicker response times.

IV. **Gender Equity and Safety:** Women raised concerns regarding equity in relief distribution, noting that male household heads typically collect supplies, often overlooking women's specific needs (hygiene kits, medicines). They also urged strict monitoring of contractors, noting that construction debris and open pits near homes pose a severe safety risk to children playing in the area.

V. **Digital Access and Grievances:** Digital Access and Grievance Redress (GRM): Women reported a complete lack of awareness regarding any grievance mechanisms. They emphasized that due to strict cultural mobility restrictions (*Purdah*), they are unable to visit government offices to file complaints physically. Furthermore, they stated they would only be willing to utilize a system if anonymity is strictly guaranteed. To address these barriers, they recommended identifying female community activists as focal points to collect grievances directly from households or establishing accessible digital/phone-based channels that allow them to lodge complaints safely from home.

5.1.3. Summary of Project Stakeholder Needs, Methods, Tools and Techniques for Engagement

The Stakeholder Engagement Plan details the engagement process, methods, sequencing, topics of consultations, and target stakeholders. The World Bank and the Borrower do not tolerate reprisals and retaliation against project stakeholders who share their views about Bank-financed projects.

A. Proposed Strategy to Incorporate the Views of Vulnerable Groups

The project will actively seek the views of vulnerable groups, specifically small-scale farmers, *Purdah*-observing women, female-headed households, the elderly, persons with disabilities (PWDs), and families living in encroachment zones. Engagement will be conducted through culturally appropriate meetings, gender-segregated focus groups, and household surveys. To ensure full participation, materials will be provided in Pashto and Urdu and in formats accessible to the illiterate. A safe space will be created for open dialogue, leveraging partnerships with local Elders (*Mashars*) to reach marginalized segments.

A. The project will engage these groups through the following methods:

- **Community Meetings (*Hujras*/*Jirgas*):** Organizing meetings in local guest houses to facilitate direct interaction with male elders and farmers.
- **Gender-Segregated FGDs:** Conducting separate sessions for women in private venues to discuss sensitive issues like sanitation and privacy.
- **Mosque Announcements:** Utilizing mosque loudspeakers for rapid dissemination of updates, identified as a trusted channel during consultations.

- **Digital Engagement:** Leveraging tiered WhatsApp communities and dedicated local voice-enabled chatbots to share audio and pictorial updates, ensuring outreach to youth, women, and stakeholders with low literacy
- **Household Interviews:** Engaging in one-on-one interviews for PWDs, the elderly, or encroachment-affected families fearing social stigma or eviction.
- **Collaboration with LHWs:** Partnering with Lady Health Workers and female polio workers to disseminate information to women inside households.

II. The following measures will be taken to remove obstacles to full participation and access to information:

- **Local Languages:** Translating all engagement materials (GRM brochures, PIDs) into Pashto and Urdu.
- **Accessible Formats:** Using pictorial guides and audio messages delivered through local voice-enabled chatbots and WhatsApp for stakeholders with low literacy; displaying helpline numbers and other supporting information on clear, visible signage.
- **Culturally Appropriate Venues:** Holding women's consultations in private spaces (homes/girls schools) and mens in Hujras or Mosques.
- **Female Staffing:** Mandating the presence of Female Social Mobilizers to lead all engagements with female stakeholders.
- **Flexible Timing:** Scheduling sessions to avoid prayer times and peak agricultural activity.
- **Transportation Support:** Facilitating transport for PWDs or remote communities to central meeting points.
- **Feedback Loops:** Utilizing the Ikhtiyar Awam Portal, Open *Kachehris* (Public Courts), and complaint boxes and Project GRM for continuous two-way communication.

Where subproject screening identifies the presence of communities that may meet the criteria under ESS7 (Indigenous Peoples), additional measures shall be applied, including undertaking a Social Assessment and obtaining Free, Prior and Informed Consent (FPIC), where relevant and applicable, in accordance with ESS7.

5.2 GRIEVANCE REDRESSAL MECHANISM (GRM)

A Grievance Redress Mechanism (GRM) is a system that allows not only grievances, but also queries, suggestions, positive feedback, and concerns of project-affected parties related to the environmental and social performance of a project to be submitted and responded to in a timely manner.

5.2.1 Description of Grievance Redress Mechanism (GRM)

READY-KP will establish a detailed GRM at project effectiveness to receive, address, and monitor complaints and community feedback. The GRM will operate at Tehsil, District, and Provincial levels, with clear reporting lines to the Project Implementation Unit (PIU) under the Irrigation Department. All complaints will be routed to the Social Specialist of the PIU, who will act as the Grievance Redress Officer (GRO).

5.2.2 GRM Implementation Structure

a) **Provincial Level**: Project Implementation Unit (PIU) GRC, A Grievance Redress Committee (GRC) will be formed at the Provincial PIU level to handle high-priority cases and oversee the entire system.

Composition of PIU GRC:

- Project Director (Chair)
- Social Specialist (Grievance Redress Officer - GRO)
- Gender Specialist
- One representative from each implementing partner (Irrigation & RRSD)

b) District Level: Each district will have a Grievance Focal Person (GFP) nominated by the Irrigation Department and linked to the PIU. GFPs will collect complaints and forward them to the PIU Social Specialist. A District GRC will also be notified in each target district to handle medium-priority issues. The GRC will convene hearings for complaints that cannot be resolved at the field level (e.g., crop compensation disputes, significant construction nuisances).

Composition of District GRC:

- Executive Engineer (XEN) Irrigation / District Emergency Officer (Rescue 1122) (Chair)
- District Grievance Focal Person (GFP)
- Sub-Engineer / Field Officer

c) **Tehsil/ Field Level:** Local GFPs will be designated by respective PDs from each implementing partner that is irrigation department and Relief, Rehabilitation and Settlement Department (RRSD) at Tehsil level to receive complaints in person and through community meetings. They will maintain grievance registers and coordinate with district GFPs. A Tehsil-level committee called Tehsil GRC will also be established to resolve minor operational issues directly at the site.

Composition of Tehsil GRC:

- Sub-Divisional Officer (SDO) / Tehsil Lead (Chair)
- Local Grievance Focal Person (GFP)
- Community Elder / VC Representative

5.2.3 Grievance Uptake Channels

Grievances can be submitted via the following channels, integrating existing provincial systems as requested during consultations:

1. **Provincial Helpline:** PDMA Helpline 1700 (Toll-free, 24/7).
2. **Online Portal:** *Ikhtiyar Awam* / Pakistan Citizen Portal (Project Category).
3. **WhatsApp:** Dedicated Project WhatsApp Number (to be established).
4. **In-Person:** Through Open *Kachehris* (Public Courts), SDO/XEN Offices, and Grievance Focal Persons (GFPs) at all levels.

5. **Complaint Boxes:** Located in communities near construction sites, Tehsil offices, and DC offices.
6. **Postal/Email:** Dedicated complaints email address monitored by the PIU Social Specialist.
7. **Website Forms:** Online forms available on the relevant project pages of the Irrigation Department and Relief, Rehabilitation and Settlement Department (RRSD) websites.

5.2.4 Process Flow and Timeframe

GRM Process Flow

S. No	Step	Description of Process	Timeframe	Responsibility
1.	**Receipt & Central Logging**	Grievances received via any channel are forwarded immediately to the PIU. The Social Specialist logs the complaint into the centralized Grievance Management System (GMS) and assigns a unique Tracking ID.	Immediate (Within 24 Hours)	PIU Social Specialist (GRO)
2.	**Acknowledgement**	The complainant receives a formal acknowledgement containing the Tracking ID and expected date of resolution. This is sent via SMS/WhatsApp/Letter, or provided verbally/in-person by the Local GFP for illiterate complainants.	Within 5 Days	PIU Social Specialist / Local GFP
3.	**Sorting & Categorization**	The PIU Social Specialist screens the complaint and assigns a priority level **Low Priority:** Minor issues (e.g., dust,	Upon Receipt	PIU Social Specialist

		noise). Referred to Tehsil Level GRC. **Medium Priority:** Serious but not critical (e.g., compensation delays). Referred to **District Level GRC**. **High Priority:** Critical issues (e.g., corruption, GBV, legal violations). Handled by Provincial PIU GRC.		
4.	**Verification & Investigation**	**Low Priority (Tehsil):** The Local GFP/SDO conducts a site visit and resolves it locally. **Medium Priority (District):** The District GRC convenes a hearing with the complainant and contractor. **High Priority (Provincial):** The PIU GRC convenes a special session, potentially involving site audits or legal consultation.	**Low/Med:** Within 10 Working Days **High:** Within 21 Days	Relevant GRC (Tehsil / District / Provincial)
5.	**Resolution & Closure**	A formal Resolution Letter/Notification is drafted. The PIU reviews the decision for ESS compliance. The resolution is communicated to the complainant.	Post-Resolution	PIU Social Specialist / District GFP
6.	**Feedback& Satisfaction**	Within one week of conveying the resolution, the GFP contacts the complainant (via phone or visit) to verify if they are satisfied with the outcome. If satisfied,	Within 7 Days of Resolution	District / Local GFP

		the case is marked Closed.		
7.	**Monitoring &Reporting**	The PIU compiles data from the GMS to analyze trends. Quarterly reports are submitted to the World Bank detailing open, closed, and pending grievances.	Quarterly	PIU Social Specialist
8.	**Appeals**	If the complainant rejects the resolution, they may lodge an appeal to the Project Director. If still unsatisfied, they may seek legal recourse through the judicial system.	Within 5 days of appeal	Project Director / PIU GRC

Handling GBV/SEA/SH Grievance

To address any complaints related to **GBV/SEA/SH**, the project will ensure that GBV related grievances received by the GRM are referred to relevant GBV service providers. Dedicated trained female staff (e.g., Gender Specialist) will be appointed to receive and process GBV related complaints. Special considerations will be taken to ensure that the complainant's identity is treated as privileged information, and the option to lodge the complaint anonymously will also be provided. Additionally, all GRM response teams will be trained on GBV, SEA and SH. Detailed protocols for receiving, managing and addressing complaints related to GBV/SEA/SH will be developed in the GBV/SEA/SH Action Plan and added to the GRM.

6 ENVIRONMENTAL AND SOCIAL IMPACTS AND MITIGATION MEASURES

This chapter identifies the potential environmental and social risks and impacts envisaged due to the implementation of proposed Project. The appropriate mitigation and remedial measures of each environmental and social impact are proposed in this chapter keeping in view the mitigation hierarchy (avoid, minimize or reduce; mitigate risks and impacts; or compensate), which will guide the preparation of E&S instruments of the proposed project interventions.

5.2. PROJECT ACTIVITIES

The Project activities will involve infrastructure investments, prcurememnt of equipment which could have potential environmental and social risks, assessed as substantial[38]. It is anticipated that following are the activities under Component 1 and 2 which may have adverse E&S impacts:

Component 1 – Improving Infrastructure and Planning for Resilience: Flood Protection Infrastructure includes embankments, flood carrier channels, spurs, retaining walls, revetments, gabion works, and check dams. NbS interventions include afforestation/reforestation, terracing, and bioengineering.

Component 2 – Establish Flood Early Warning System: Telemetry and Flood Forecasting activities involve establishing the Forecast and Warning System (FFWS), installing modern monitoring equipment, data management systems, and conducting training in hydrological modeling.

Component 3 Strengthening Institutional and Community Preparedness: Activities include modernization of provincial and district emergency operations center systems, refurbishment of warehouses, and staff training. The community volunteer network will be strengthened through rescue equipment and specialized disaster response training. Enhancing Emergency Response Systems includes establishing additional rescue stations, providing water rescue equipment, flood-specific personal protective gear, boats and vehicles for evacuation, upgrading communication and dispatch systems, specialized training for Rescue 1122, establishing district-level warehouses and stockpiles of emergency supplies.

The ESMF has accordingly assessed the potential impacts and suggests the generic mitigation measures in line with the relevant local legislation and WB ESSs. Both PIUs for component 1 and Component 2 shall ensure the effective implementation of relevant mitigation measures during the implementation of proposed project. This chapter was also developed by incorporating site observations gathered during field visits to selected sample districts.

Most of the above-stated risks and impacts are temporary site-specific, largely reversible in nature and manageable by adopting mitigation measures provided in this ESMF, in

[38] *Project Appraisal Document, October 2025*

accordance with the mitigation hierarchy under the relevant ESSs. In line with the World Bank ESF, the Technical Assistance (TA) outputs will also incorporate social risk assessments and corresponding mitigation measures.

Potential adverse impacts envisaged from the implementation of the proposed Project along with their proposed remedial or mitigation measures are detailed in the following sections.

5.3. ENVIRONMENTAL/SOCIAL IMPACTS AND MITIGATION MEASURES – DESIGN PHASE

5.3.2. Technical Design and Layout Planning

Incompatible layout plan and engineering design of the project's structures under component 1 and 2 , particularly the lack of consideration for hydrological modeling, sediment transport dynamics, climate change projections, GLOF-related peak flow scenarios, extreme weather events, Soil instability and landslide prone areas, lack of community engagement, especially communities in Kalash Chitral may lead to reduced water flow for lower riparian areas, temporary impacts on water supply and availability for communities, and deterioration of water quality during construction and rehabilitation works.. This impact is medium to substantial adverse in nature.

Mitigation Measures

- All structural, layout and engineering designs of the project shall be in strict accordance with the applicable national and international guidelines/ codes/ standards, climatic factor including translation of projected climate into design, hydrological aspects and engineering practices;
- Project design will incorporate disaster risk reduction principles and apply environmentally sound and socially acceptable engineering approaches to enhance disaster resilience.
- Meaningful consultations shall be carried out with the identified stakeholders as per SEP (prepared separately for the project) and incorporate their applicable suggestions/ recommendation in the project design;
- Water storage structures shall be designed with impermeable and permanent liners like buried geomembranes to prevent seepage and keep soils stable underneath and around the structures, where applicable;
- Conduct geotechnical assessments to identify landslide-prone areas, avoid construction in these zones, and implement slope stabilization measures such as bioengineering solutions and proper drainage to prevent soil movement;
- To conserve the rights of the lower riparian, a provision of regulated flow shall be ensured in the design;
- After competitive bidding process, only shortlisted Contractors shall be hired for the construction/ rehabilitation works and supply of materials;
- For technical assistance under Component-1.3, ensure the provision to include dam safety requirements, under ESS4 Annex- 1 Safety of Dam, in the TORs of the feasibility studies and E & S documents.
- Efforts shall be made to carry out the construction and rehabilitation activities during the low water demand periods in the command area.

5.3.3. Seismic Hazard

The project area falls in Zone 2B (Moderate Hazard), Zone 3 (High Hazard) and Zone 4 (very High Hazard). A moderate to severe intensity earthquake may impact structures under the proposed project. The impact is high to moderate adverse.

Mitigation Measures

The proposed infrastructure will be designed and constructed to withstand moderate to severe intensity earthquake. For seismic hazard analysis, updated structural and seismic evaluations will be used accordingly. Ensure the compliance with the Updated Seismic Building Code of Pakistan.

5.3.4. Water Sharing Issues

In flood irrigation systems, the water distribution is entirely different from perennial systems. In the project areas where flood irrigation systems operate without fixed distribution cycles, the construction of new irrigation structures under Components 1 and 2 may alter the timing and volume of floodwater used for irrigation. This can lead to water-sharing disputes among shareholders, particularly affecting downstream users dependent on natural flood flows. The impact is assessed as substantial adverse.

Mitigation Measures

- The sites selection for flood dispersal structure will be proposed based on the availability of flood water.
- The provision of the structures will be finalized after long deliberation with all stakeholders regarding their usefulness according to prevailing site conditions.
- Respect traditional water rights and historical distribution practices, and avoid locations where disputes among water users already exist.
- Avoid construction and rehabilitation works during peak irrigation periods to minimize temporary disruptions.
- Provide alternative water access (e.g., temporary channels or pumps) where construction activities restrict flow.
- Document and publicly disclose agreed water-sharing arrangements with local committees.

5.4. ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES – IMPLEMENTATION PHASE

5.4.2. Soil Erosion and Contamination

The construction and rehabilitation activities[39] under both the component 1 and 2 may potentially involve excavation, quarrying/creation of borrow areas[40], land clearing, and land leveling. Under Component 1, these works mainly relate to *Flood Protection Infrastructure*[41] while Component 3 may involve similar localized disturbances during the establishment or

[39] *The term construction and rehabilitation activities refer to the activities which may have E&S impacts as discussed in Section 7.2: Project Activities. This approach has been adopted to avoid the repetition.*
[40] *Potential sources of mosquito breeding and may health and safety risks for project staff and local communities, livestock and wildlife.*
[41] *includes embankments, flood carrier channels, spurs, retaining walls, revetments, gabion works, and check and detention dams, Bunds, levees, weirs, wells, pits, recharge basins, channelization, and dredging.*

upgrading of Rescue 1122 stations, emergency operations centers and storage warehouses. These activities may disturb the surrounding soil, making it more susceptible to erosion due to wind or rain and degrading its quality. Whereas contamination of soil may be caused by solid and liquid waste (also from the construction camps, if established) generated at sites and by accidental leakage of fuel/lubricant. Localized sediment disturbance along riverbanks may also occur, particularly where nature-based solutions such as terracing or bioengineering will be implemented. These impacts are expected to be limited to the immediate vicinities of project areas. This impact is medium to low adverse in nature.

Mitigation Measures

- Embankments and excavated slopes will not be left untreated/unattended for long durations. Appropriate slope stabilization measures will be taken as per the design. The excavation for the foundation will be carried out only in specified area, as per the approved engineering design and the excavated material will be used for filling;
- Avoid or minimize vegetation removal/clearing which would accelerate erosion;
- Sites disturbed by construction activities will be restored to their original conditions upon completion of construction work and photographic record will be maintained to ensure pre-post project conditions intact;
- If any contaminated soils are found, it shall be removed and disposed appropriately at designated sites (as per advice of Environmental Specialist). All the waste generated at sites shall be properly disposed at designated sites. Special care will be taken near flood carrier channels and embankment works to prevent runoff of contaminated soil;
- Vehicles must be properly maintained and regularly checked for possible leak of fuel. Waste oils will be collected in drums and sold to the recycling contractors;
- The Contractor will not leave the borrow pits in such a condition that they are unusable and could be filled with rainwater and cause the problems for the community and project staff;
- The Contractor will ensure that selected borrow areas are clearly demarcated, including the allowable depth of the excavation, before starting any soil removing and unnecessary excavations will be avoided;
- The inert recyclable waste from the site (such as card board, drums, broken/used parts, etc.) will be sold to approved recycling contractors. The hazardous waste will be kept separate and handled according to the nature of the waste;
- Ensure the training of workforce on resource conservation themes and involve in the storage, handling of materials and waste management. Material Safety Data Sheets (MSDS) will be strictly followed.

The significance of impact is expected to be low after taking the above-mentioned mitigations.

5.4.3. Wastes Generation

Wastes including discarded construction material, asphalt, steel scrap, oil, fuel, empty containers and bags, excavated material and municipal waste (particularly from the construction camps, if established) will likely be generated during the construction and rehabilitation activities. If waste is not well managed or properly dumped, it may negatively impact the surrounding area including causing blockages in water channels/ bodies and soil

contamination. Discarded materials and equipment may also pose safety risks for the workers and pedestrians if left on the routes/unattended. The impact is moderate adverse in nature.

Mitigation Measures

- Construction waste will be routinely collected and safely disposed of in clearly demarcated waste disposal sites located near each proposed project intervention. Waste disposal will ensure that there are no negative impacts on water bodies, existing waste management systems, transport routes, and the aesthetic value of the area;
- Left over construction and demolition waste materials will be reused at other proposed project intervention sites, as far as possible in an effective way to save money while protecting natural resources.
- Waste Management Plan (WMP) will be developed, as part of Site- Specific C-ESMP and implemented by the contractors and workforce will be trained in the handling, storage, and disposal of construction waste. Construction materials and stockpiles of soils will be covered to reduce material loss;
- Stockpiles, lubricants, fuels, and other materials will be located away from steep slopes and water bodies and kept in adequately protected areas;
- Resource conservation themes to be included in awareness raising and training sessions for project staff; and
- Burning of waste material will not be allowed.

The impact significance will likely to be low after taking the above-mentioned mitigations.

5.4.4. Ambient Air Quality

A decline in the ambient air quality due to dust from vehicle movement, and emissions from vehicles and construction machinery within the vicinity of works is expected during the construction and rehabilitation activities, particularly under component 1 (*Flood Protection Infrastructure*) and 3 (civil works for rescue facilities) due to the movement of construction machinery (operation of concrete batching and concrete mixer, diesel generator,) and activities (excavation, site clearance and leveling, filling of earth material, demolition, loading/unloading of material etc.). The overall impact on air quality is assessed to be temporary and moderate and is unlikely to have lasting impacts after the construction and rehabilitation work is complete. The impact is low to moderate adverse in nature.

Mitigation Measure

- Vehicles and other equipment (such as generator) used during construction and rehabilitation activities shall be kept in good working condition and be properly tuned and maintained with designated fuel in order to minimize the exhaust emissions and to ensure fuel efficiency;
- All dust raising locations shall be kept wet with water sprinkling. Fugitive dust emissions will be minimized by appropriate methods such as spraying water on material where required and appropriate. It will be ensured that the construction debris is removed on regular basis;

- Construction material such as cement, loose material, sand, or aggregates and spoil materials will be transported in a covered truck. Impose speed limits on all vehicle movement at the worksite to reduce dust emission, particularly enforced near the communities;
- Road damage caused by project activities will be promptly attended with proper road repair and maintenance work;
- Proper Personal Protective Equipment (PPE) shall be provided to the site workers and staff and make sure the workers wear the PPE properly during working on site;
- Ensure the effective implementation of GRM.
- Ensure compliance with the NEQS and IFC/WHO guidelines whichever is stringent (as per advice of Environment Specialist).
- Regular air quality monitoring will be carried out at sensitive locations, near riverine and canal works and community facilities.

The impact will likely to be low after taking the above-mentioned mitigations.

5.4.5. Noise Pollution

Since the proposed project involve infrastructure investments under component 1 and 3, therefore an increase in noise level and the vibration is predictable due to the operation of construction machinery (such as bulldozers, excavators, pneumatic machinery, etc.), generators and construction activities such as excavation, site clearance and leveling, filling of earth material, demolition, loading/unloading of material. Noise pollution generated by the construction and rehabilitation activities may likely have impacts on the nearby sensitive receptors (if any), workers, nearby communities and local wildlife. However, the impacts are likely be short-term in nature and are unlikely to have any lasting effects once the construction work is completed. The impacts are medium adverse in nature.

Mitigation Measures

- Vehicular traffic through the communities shall be avoided as far as possible. Project routes shall be authorized by the Contractor and verified by the E&S specialists. The main roads will be used by the construction traffic to the maximum extent possible;
- Construction vehicles and machinery shall be kept in good working condition and be properly tuned and maintained throughout construction work to minimize excessive noise/vibration;
- Noisy construction work shall be limited to normal working hours to minimize disturbance to nearby communities, avoid excessive use of horns and vehicle speeds will be kept low;
- When possible, noisy construction activities will be displaced from the construction sites to a fair distance from the nearest sensitive receptors (if any). Construction schedules shall be disclosed to the nearby communities. Additional precautions will be taken near schools, health facilities, and residential areas close to project activities; and
- Ensure the compliance with NEQS and IFC/WHO guidelines whichever is stringent (as per advice of Environment Specialist). Ensure the effective implementation of GRM.

The impact is likely to be low after taking the above-mentioned mitigations

5.4.6. Water Contamination

The project will operate in areas containing local water resources (surface and ground) which may be at risk of contamination from construction site runoff[42] and wastes from the worker camps (if established) if not managed properly. Under Component 1, activities related to flood protection infrastructure pose a higher risk of sedimentation, accidental spills, and runoff entering surface waters. Component 3 may also contribute localized risks from wastewater and construction runoff during the upgrading or establishment of Rescue 1122 facilities. Contamination of surface water resources may have adverse impacts on aquatic life (where applicable) and also pose health and livelihood risks to communities that depend on them for household and agricultural use. The impact is medium adverse in nature.

Mitigation Measures

- Construction camp will not be located within 500m of any water body. The contractor will develop camp layout and waste disposal system, and obtain approval from Supervisory Consultant (as per advice of Environmental Specialist);
- The construction wastewater from the work site will be disposed through a settling tank of appropriate capacity, which will be levelled back after completion of construction work. Settling arrangements will be placed to ensure no discharge flows toward riverbanks, canals, or drainage lines connected to flood-carrier channels;
- It will be ensured that the wastes are not released into any water bodies, cultivation fields, or critical habitat. Special attention will be given to preventing runoff from embankment, spur, and channel works from entering surface water;
- Ensure the compliance with NEQS and IFC/WHO guidelines whichever is stringent (as per advice of Environment Specialist);
- Construction machinery will be kept in good working condition and be properly tuned and maintained throughout construction to avoid spills and leaks; and
- Fuels and chemicals will be stored on concrete-floored, bounded, covered to provide shade and prevent the ingress of rain and should be located away from the open water sources. Designated storage must not be placed within drainage paths leading to rivers or canals.

The significance of impact is expected to be low after taking the above-mentioned mitigations.

5.4.7. Traffic Issues

Traffic problems including traffic jams, accidents and inconvenience to the locals may arise during implementation of construction and rehabilitation activities, particularly during excavation, stacking of materials and movement of equipment for embankments, flood carrier channels, spurs, gabion works, and check dams under Component 1, as well as access to construction areas for Rescue 1122 facilities under Component 3. The movement of construction machinery and vehicle. The movement of vehicles along the haulage route may

[42] Runoff is likely to contain oil and other automotive/mechanical fluids, as well as chemicals and materials used in the construction process.

cause soil erosion, debris flow, dust emissions, deterioration of existing roads, vibrational impacts, etc. These issues may be more pronounced along narrow village roads leading to construction and rehabilitation sites. This impact is categorized as medium adverse in nature.

Mitigation Measures

- Movement of vehicles carrying construction materials and equipment/machinery shall be restricted during the night time to reduce traffic load and inconvenience to the locals;
- Construction vehicles and machinery shall be parked at designated areas to avoid unnecessary congestion along major roads. Designated parking/staging areas will be identified as part of site specific Contractor ESMP.
- Vehicle speed shall be kept low (20-40 km/h);
- Damage of roads due to construction vehicles shall be instantly repaired and/or compensated after the completion of work by the contractor, and provisions for this shall be included in the C-ESMP;
- Proper safety signboards will be provided for a smooth flow of traffic;
- Mobilization activities shall be scheduled during off-peak hours to avoid disturbance to sensitive receptors such as educational institutes, religious places, and hospitals (if any). Additional care will be taken in settlements located along haul routes to construction and rehabilitation sites.
- Any closure of the roads (especially main roads) and deviations / diversions proposed shall be informed to the riders through standard signs and displays; and
- Traffic Management Plan (where applicable) will be prepared by the Contractor and implemented to avoid traffic accidents, jams/public inconvenience.

The impact of traffic issues will be low significant after taking the above-mentioned mitigations.

5.4.8. Flora and Fauna

Project is not likely to have a significant impact on the biodiversity as most of the construction/rehabilitation activities will be carried out in the built environment. However, some activities under Component 1 will occur in ecologically sensitive areas, including rivers, mountain catchments, and forested region.

However, the construction and rehabilitation activities under Components 1 and 3 (such as clearing of sites, establishment of construction camps (if established), and mobility of construction machinery) may affect local agricultural land/vegetation/trees and cause disturbance to fauna, particularly due to increased noise levels and decline in ambient air quality. In sensitive locations, potential risks include disturbance of aquatic and terrestrial habitats, erosion, sedimentation, and impacts on local flora and fauna. Works under Component 1 may temporarily disturb riparian vegetation and aquatic species. Upgrading or establishing Rescue 1122 facilities under Component 3 may also cause localized vegetation disturbance. The Contractor's workers may also damage and cut ornamental plants and trees for firewood. Moreover, the movements of mammals and reptiles will be restricted during the construction phase. Birds and animals may tend to move away from the construction areas and find shelter and food elsewhere for fear of disturbance or being hunted/trapped. The significance of this impact is considered medium to low.

Mitigation Measures

- The proposed project will specifically exclude physical investments that may have significant adverse impacts to natural and critical habitats;
- Sites, for the installation of construction camps (if required) and mobility of construction machinery shall be properly planned to avoid or minimize the cutting of trees/shrubs/herbs and loss of agriculture land. Camp placement will avoid riparian buffers, forest edges, and wildlife movement corridors;
- The project will not introduce any alien or non-native species of flora or fauna only selective native species of trees and shrubs will be planted as part of rangeland management;
- Compensatory plantation will be carried out with a ratio of five trees for each tree fell/cut. Forest and Wildlife Departments shall be consulted to fulfill the legal requirements, where applicable;
- The construction crew will be provided with LPG as cooking (and heating, if required) fuel. Use of fuel wood will not be allowed;
- The Contractor's staff and labour shall be strictly directed not to damage any nearby agriculture land/vegetation/trees;
- The speed of construction vehicles shall be kept low to avoid killings of reptiles and other fauna. If there are any specie and habitat found of special concern, Wildlife department should be informed to take care of asset. Particular caution will be applied where wildlife crossings are expected.
- Hunting, poaching and harassing of wild animals and birds shall be strictly prohibited, and Contractor shall be required to instruct and supervise its labour force accordingly; and
- In addition to above, ensure the compliance with the relevant measures provided for air and noise pollution and waste management.

The significance of impact is expected to be low after taking the above-mentioned mitigations.

5.4.9. Impact on Aquatic Life

The construction and rehabilitation activities under Component 1 (flood protection infrastructure) and Component 3 (emergency response facilities) may have adverse effects on aquatic life. Excavation, sediment disturbance, and changes in water flow could disrupt aquatic habitats, including fish spawning areas. Increased turbidity and sedimentation may reduce water quality and oxygen levels, while potential chemical contamination from runoff or spills could further harm aquatic ecosystems. These changes may affect species that depend on stable water conditions. The impact is expected to be medium to low adverse, primarily temporary and localized during the construction phase.

Mitigation Measures

- Ensure flood protection infrastructure designs (where applicable) maintain natural water flow and minimize impacts on aquatic species;
- Select the proposed construction sites carefully, to avoid disrupting fish spawning areas and aquatic habitats and assess current conditions at existing sites to ensure minimal impact.

- Use silt curtains, sedimentation basins, and barriers to control sediment disturbance during excavation, dredging, and construction of waterworks;
- Regularly monitor water quality at existing and proposed sites for turbidity, contamination, and oxygen levels;
- Prevent chemical spills by properly storing and disposing of fuels, oils, and construction debris, with spill containment protocols;
- Limit excavation to defined areas in water bodies to reduce ecosystem disturbance;
- Conduct regular post construction monitoring of water quality and aquatic habitats to ensure long-term sustainability;
- Ensure the compliance with NEQS/IFC/ WHO guidelines whichever is stringent.

5.5. SOCIAL IMPACTS AND MITIGATION MEASURES – IMPLEMENTATION PHASE

5.5.2. Occupational Health and Safety (OHS) Risks

Occupational Health and Safety related risks may arise during the construction and rehabilitation of flood protection infrastructure[43] under component 1 and emergency response and preparedness facilities under component 3[44] including unsafe and unhealthy working conditions, risk incident and accident during the construction/rehabilitation activities, installation of contractor camps, deep excavations, laying of transmission pipelines, steel fixing, installation of a batching plant, concrete pouring, movement of various heavy machines, manual handling during loading-unloading operation, bad housekeeping, exposure to electrical hazards from the use of tool and machinery and improper management and exposure to hazardous and non-hazardous wastes, lack of compliance with local OHS rules and regulations, GBV/SEA/SH, child labor and forced labor and exposure to water-borne diseases. As the project activities will be carried out in water bodies such as rivers, canals, workers may face a risk of drowning due to strong currents, sudden water releases, flash floods, and GLOF events, especially during the monsoon season. In some areas, localized security or tribal conflicts may also pose risks to worker safety. This impact is moderate adverse in nature.

Mitigation Measures

- The Contractor shall comply with the Khyber Pakhtunkhwa Occupational Safety and Health Act, 2022 and the World Bank Group EHS Guidelines (2007), and prepare and implement a site-specific OHS Plan, through dedicated staff;
- Community liaison mechanisms and project and worker level GRMs will be maintained to address related complaints;
- Ensure the compliance with the provisions outlined in the LMP;
- Compliance with the Worker's Code of Conduct (Annex-B) will be ensured;

[43] *Embankments, flood carrier channels, spurs, retaining walls, revetments, gabion works, check and detention dams, bunds, levees, weirs, wells, pits, recharge basins, channelization works, and dredging. Nature-based solutions will be implemented through afforestation/reforestation, terracing, and bioengineering measures and installation of telemetry system.*

[44] *Modernization of provincial and district Emergency Operations Center systems; refurbishment of warehouses; establishment of additional rescue stations; development of district-level warehouses and emergency supply stockpiles.*

- Construction sites will be restricted from unauthorized entry, particularly by children, elderly, and persons with disabilities, and appropriate safety signage will be installed, including near rivers, canals, deep excavations, and flood-prone areas;
- Appropriate PPE will be provided and used by all workers, including life jackets, safety harnesses, and non-slip footwear for work near water bodies and compliance with NEQS and IFC/WHO guidelines whichever is stringent (as per advice of Environment Specialist);
- A comprehensive emergency response plan, including communication, evacuation procedures, and coordination with emergency services, will be implemented;
- All occupational incidents, accidents, and diseases will be recorded and reported to the PIU and the World Bank within 48 hours, as specified in the ESCP.
- Fire prevention and firefighting equipment will be provided at all worksites;
- Workers will receive regular training and toolbox talks on construction safety, PPE use, fire safety, waste management, defensive driving, hygiene, communicable diseases, and water safety, including flood awareness and drowning rescue procedures;
- First aid kits, snake bite kits, and on-site paramedic support will be provided, along with lifesaving equipment such as rescue ropes and flotation devices at sites near major water bodies; and
- Identify and minimize, so far as reasonably practicable, the causes of potential hazards to workers, including communicable diseases such as HIV/AIDs and vector borne diseases.

With the help of the above mitigation measures, the residual impact is likely to be low significant.

5.5.3. Community Health and Safety

The Project will include infrastructure investment under Component 1 and construction and refurbishment activities under Component 3. Community health and safety issues may arise during the construction/rehabilitation activities including dust and noise, physical harm due to accidents, traffic incidents due to heavy machinery and construction vehicles, disruption to people and businesses, injuries due to falls in excavated sites, exposure to hazardous materials, security, inappropriate disposal of liquid/solid wastes, safety risks related to flooding, sudden water releases, and access restrictions. Conflicts may occur between local communities and project workers over scheme design, water sharing, and inter- and intra-tribal issues, potentially affecting vulnerable groups. Poorly planned community engagement may escalate tensions and lead to violence. Project may also result in transmission of infectious diseases, GBV/SEA/SH during civil works. The impact significance is moderate adverse.

Mitigation Measures

- The Contractor shall prepare and implement a site specific Community Health and Safety Plan, in accordance with ESS4 and relevant sections of the World Bank Group General EHS Guidelines (2007), as part of the OHS Plan, within 28 days after the commencement date and prior to mobilization/start of civil works.;
- Construction sites and camps will be secured and access restricted to prevent exposure of communities, particularly children, elderly persons, and persons with disabilities, with appropriate safety signage installed;

- Adequate fencing and physical barriers will be provided around working areas, excavations, and other hazardous locations to protect nearby communities;
- Measures to control dust, noise, waste generation, and pollution will be implemented to minimize risks to community health and safety;
- Traffic and road safety risks will be managed through speed control, avoidance of unnecessary horn use near settlements, and implementation of a Traffic Management Plan approved by the PIU;
- Excavation, trenching, and backfilling activities will be planned and scheduled to reduce exposure of the public to open pits, unstable ground, and construction hazards;
- Effective implementation of GRM (project level and workers) will be ensured to timely address the issues;
- Ensure the effective implementation of SEP and compliance with workers code of conduct;
- Contractor will take due care of the local community and observe sanctity of local customs and traditions. Contractor will warn the staff strictly not to involve in any unethical activities and to obey the local norms and cultural restrictions;
- Awareness sessions and trainings will be conducted regularly for community, and workers on road safety, communicable diseases, emergency procedures, worker code of conduct and basic medical services; and
- Ensure the compliance with the measures provided for security risks.

With the help of the above mitigation measures, the residual impact is likely to be low significant.

5.5.4. Site Security

The project spans a wide area of Khyber Pakhtunkhwa, including remote and security-sensitive districts such as the Newly Merged Districts and southern KP. Security risks may arise during implementation of project activities under Components 1 and 3, particularly in above areas where law-and-order conditions remain fragile. These risks could affect the safety of workers, local communities, project sites, and project-related travel, and may disrupt project activities if not effectively managed. In addition, project interventions may exacerbate existing social tensions or give rise to perceptions of inequity, potentially leading to social unrest, community grievances, and increased risks to project personnel and assets. The impacts are assessed as high Adverse.

Mitigation Measures

- The Project will continue to rigorously engage with the local communities to ensure a positive image amongst the people in the project area and build local ownership to mitigate security risks;
- Prior to commencement of works, a site-specific security risk assessment shall be carried out. Security Risk Management Plan shall be developed by the Contractor as part of the site-specific ESMP, aligned with ESS4, and shall be strictly implemented, regularly reviewed, and updated in line with the prevailing security situation;
- The Contractor shall maintain coordination, through the Employer, with local police and law enforcement agencies and keep them informed of construction activities, particularly in sensitive areas;

- The Contractor shall ensure that all works executed by itself or its sub-contractors comply with applicable local laws and are carried out in accordance with high standards of safety and security;
- Adequate numbers of trained security personnel (where applicable) shall be deployed at worksites and labor camps (if established), and all security personnel shall hold valid police clearance certificates. Compliance with the Worker's Code of Conduct will be ensured;
- Construction sites and labor camps shall be properly fenced with strict access controls, and unauthorized entry to worksites or camps shall not be permitted;
- Emergency evacuation procedures shall be prepared and emergency contact numbers clearly displayed at all sites and camps; and
- Ensure the effective implementation of GRM and allow communities and workers to report security-related concerns and incidents in a timely manner.

5.5.5. Labor Influx

The construction and rehabilitation activities, particularly under component 1 and 3 are likely to require the use of skilled labor from outside the districts or province. This labor influx may have several potential adverse impacts, including conflicts between local communities and outside labor, disrespect of local cultural norms (Pashtunwali), increased illicit behavior and crime, increased burden on local public services and utilities, the spread of communicable diseases, and risk of GBV/SEA/SH. In socially conservative areas, particularly the NMDs, even limited labor influx may result in heightened social sensitivities and conflicts. Overall, the impact is assessed as moderate to high adverse.

Mitigation Measures

In addition to the measures provided for Occupational Health and Safety (OHS) Risks (refer section 7.5.1);

- Locals will be given preference in hiring where possible, for both skilled and unskilled labor;
- Contractors and their employees will be required to respect local cultural norms and will receive training on cultural sensitivity and conduct; and
- Contractors shall ensure the effective implementation of project level and workers GRM.
- If labor camps are required, they must be located at least 500m away from settlements and must provide with adequate facilities.

With the help of the above mitigation measures, the residual impact is likely to be low.

6.1.1 Gender Based Violence (GBV), Sexual Exploitation and Abuse/ Sexual Harassment (SEA/SH)

Risks of GBV, SEA, and SH may arise due to the influx of non-local labor, under Components 1 and 3, into conservative rural communities, economic vulnerability of flood-affected women, and limited access to safe and culturally appropriate reporting mechanisms. These risks may include harassment of women, children and girls near construction sites, exclusion of women from grievance mechanisms due to cultural barriers, and exploitation of vulnerable groups during construction, rehabilitation, and emergency response activities.

Specialized activities under the project may require skilled labor from outside the project areas, increasing interaction between workers and local communities. In conservative areas, including the Newly Merged Districts and southern regions of Khyber Pakhtunkhwa, such interactions may heighten GBV/SEA/SH risks if not properly managed. Engagements related to scheme design, water sharing, inter- and intra-tribal arrangements and training and capacity building may further expose vulnerable community members to potential exploitation.

Flood events in Pakistan have also shown that women and girls faced disproportionate vulnerabilities such as restricted mobility, limited access to relief, and heightened protection risks due to cultural norms and lack of gender-sensitive facilities. This impact is assessed as moderate adverse.

Mitigation Measures

- A separate Action Plan on GBV/SEA/SH will be prepared for the Project and same will be implemented, which includes mapping of GBV service providers for referral support.
- The SEA/SH complaints received through the GRM will be redirected to the dedicated staff who are trained on the GBV/SEA/SH with the required sensitivities and confidentiality. It will be ensured that safe and confidential accountability mechanism is established for complaints;
- Labor and or other staff engaged by the contractor will be educated and made aware of the civil, social, and legal rights of women and vulnerable groups and about the actions taken in the event of GBV and SEA/SH;
- Awareness session will be conducted regularly for community and workers through skilled trainers/ service providers. Targeted communications and awareness to women regarding potential SEA / GBV risks, especially as literacy rates amongst women are lower. This could include organizing consultations during times when women are not busy with their household chores, holding consultations in areas accessible to women;
- Project staff (skilled and unskilled) will sign the code of conduct before commencement of civil works, describing acceptable and prohibited behaviors and communicated through training and publicized;
- Service providers will be identified and mapped to address SEA/SH issues;
- Provision related to SEA/SH or GBV will be incorporated in the bidding document; and
- Gender specialist will be hired in the PIU, particularly for component 1, with experience on GBV/SEA/SH and supervision consultant team overseeing civil works activities will also include a GBV specialist;
- Institutionalize GBV response and prevention systems within provincial disaster management institutions under Component 2;
- Train Rescue 1122 personnel, PDMA staff, and volunteers on survivor-centered case management, empathetic response, and gender-sensitive disaster planning; and
- Develop GBV response protocols within PDMA, clarify referral pathways, and improve coordination with service providers for timely survivor referrals.

With the help of the above mitigation measures, the residual impact is likely to be moderate to low significant.

6.1.2 Forced/Child Labor

Without enforcement of project commitments and comprehensive monitoring, project activities could include the use of child forced/child labor. This includes indentured labor, bonded labor, and the hiring of underage children. These risks may be more pronounced in economically disadvantaged and remote areas of the province, including the NMDs, where poverty and limited livelihood options increase vulnerability. The impacts are assessed as moderate adverse.

Mitigation Measures

- Contractors will be prohibited from hiring children below the age of 14 for any type of labor, and below the age of 18 for hazardous work;
- Contractors and sub-contractors will be bound through contractual agreements to strictly follow the Khyber Pakhtunkhwa Prohibition of Employment of Child Act, 2015, KP Bonded Labour System (Abolition) Act, 2015, and World Bank ESS2 requirements during hiring;
- Age verification via CNIC (National Identity Card) will be mandatory for all workers prior to hiring;
- Project staff will monitor sites to check for child labor and will hold regular consultations to keep a check on forced labor at project sites;
- Awareness will be created among the local communities and project staff about the adverse impacts of child labor. Contractors will be required to follow the LMP with regard to contracts and terms of employment for labor;
- Only shortlisted/ licensed Contractors/ primary suppliers shall be hired for the construction/ rehabilitation works and supply of materials and it will be ensured that no forced and child labor is used;
- Ensure effective implementation of GRMs (project and workers levels).

5.5.6. Elite Capture and Exclusion Risks

There is a risk of elite capture and exclusion during the prioritization of flood protection investments under Component 1 and the delivery of early warning and preparedness measures under Components 2 and 3. Influential actors may seek to influence decision making, while existing socioeconomic disparities, particularly in the Merged Areas and other conflict and disaster affected regions may result in unequal distribution of project benefits.

Vulnerable groups, including women, persons with disabilities, religious minorities, and disaster affected households, may face barriers to participation and access to project benefits, especially where outreach and communication are not inclusive. These risks are particularly relevant for early warning systems and preparedness activities, which may fail to reach all at risk populations.

During the field visits, women reported limited awareness and access to grievance mechanisms and often rely on male family members, which restricts their participation in disaster preparedness and decision-making. In the absence of targeted inclusion measures, women risk continued exclusion from early warning systems, CBDRM activities, and grievance redress processes, thereby reinforcing existing gender inequities in disaster risk management.

A rapid assessment from flood-affected areas found that 84% of women reported dissatisfaction with the relief services provided during floods, indicating low involvement in disaster decision-making and planning[45]. Overall, the impact is assessed as moderate to high adverse.

Mitigation Measures

- Ensure the effective implementation of SEP throughout the project
- Technical and social selection criteria for all flood protection sub-projects will be publicly disclosed in line with the SEP to prevent elite capture and ensure risk- and vulnerability based investments;
- Establish or strengthen Community Disaster Management Committees (CDMCs) in flood-prone areas, ensuring the inclusion of women. youth, and persons with disabilities;
- Vulnerable individuals (e.g., unemployed youth and daily wage earners) will be prioritized for community mobilization, data collection, and unskilled construction work;
- Digital literacy training will be provided through Social Mobilizers, and the Early Warning System (EWS) will use Interactive Voice Response (IVR) and voice enabled chatbots in local languages (Pashto/Urdu) to ensure accessibility for low literacy users;
- Provide targeted training to women in CDMCs on disaster preparedness, early warning, and leadership;
- Promote women's participation and leadership in disaster preparedness and response;
- Compliance with the GRM will be ensured, along with regular collection of beneficiary feedback;
- Provide regular training on the GRM to ensure effective implementation, with a particular focus on disadvantaged and vulnerable groups; and
- Project staff will receive training on social inclusion and stakeholder engagement.

5.5.7. Chance Findings of Important Physical and Cultural Resources

The specific information on exact location and scale of project activities are not known at this stage. However, the construction and earthworks may lead to chance finds of archaeological or cultural resources, particularly in historically rich areas of KP. This impact is assessed as low to moderate adverse.

Mitigation Measures

- Subprojects sites will be screened for the presence of physical cultural resources prior to commencement of construction and rehabilitation work;
- Ensure the compliance with the chance find procedure provided in Annex-C.

5.5.8. Land Acquisition and Involuntary Resettlement

[45] *Ashraf, M., Shahzad, S., Sequeria, P., Bashir, A., & Azmat, S. K. (2024). Understanding Challenges Women Face in Flood-Affected Areas to Access Sexual and Reproductive Health Services: A Rapid Assessment from a Disaster-Torn Pakistan. International Journal of Environmental Research and Public Health, PMCID*

Risks related to land acquisition and involuntary resettlement may arise where flood protection works under Component 1 require permanent or temporary use of private or communal land, or result in temporary access restrictions and livelihood disruption, particularly for check dams, embankments, and bioengineering interventions near communities. Encroachments along public RoWs may also be encountered, especially along rivers and drains. Potential impacts include physical displacement, economic displacement, loss of agricultural land or crops, and disruption of livelihoods. These risks may be heightened in the NMDs due to limited formal land records and communal ownership arrangements, which can lead to disputes and social tensions. Overall, the impact is assessed as moderate to high significance.

Mitigation Measures

- Engineering designs will prioritize the use of existing government or state-owned land to avoid or minimize land acquisition and displacement;
- A Resettlement Framework (RF) has been prepared prepared to guide screening and management of land acquisition and resettlement impacts during implementation, and RP documents (RAP/ARAP) will be developed where required, in line with ESS5;
- Any voluntary land donations or community agreements will be carefully reviewed by the Bank to ensure they are truly voluntary and do not result in livelihood impacts;
- For technical assistance under Component 1.3, Terms of Reference for feasibility studies and E&S instruments will incorporate ESS5 principles to ensure future investments comply with resettlement requirements; and
- Forced evictions will not be permitted under the Project.

5.5.9. Encroachment

Risks related to encroachment may arise during the implementation of the Project under both Component 1 (flood protection infrastructure) and Component 3 (construction and refurbishment of emergency and response facilities), particularly where works are planned on land owned by the implementing agencies. Field missions and community consultations in Peshawar (along the Kabul River Canal and Naguman River) and Nowshera (including Camp Korono and Mahmood Abad) have confirmed the presence of encroached structures and privately owned trees within proposed project footprints.

Removal or restriction of such encroachments may lead to loss of access, livelihood impacts, social tensions, and disputes, especially where affected persons are economically vulnerable or lack formal land tenure. These risks are likely to be more pronounced in densely settled, flood-prone, and historically underserved areas, including parts of the Merged Areas. Considering the site-specific context and scale of potential impacts, this impact is assessed as substantial adverse.

Mitigation Measures

- The Project will not finance any scheme where anti-encroachment drives have been conducted within the previous three (3) years;
- Where feasible, technical design adjustments will be made to avoid impacts on established residential structures;

- Where displacement is unavoidable, appropriate resettlement planning documents (to be determined once project footprints and designs are finalized) will be prepared and implemented in accordance with ESS5, and forced evictions will be strictly prohibited; and
- The SEP will be effectively implemented to ensure transparent and inclusive consultation with affected communities.
- A Resettlement Framework (Annex-D) is prepared as part of this ESMF, and specific Resettlement Action Plans will be prepared for schemes where ESS5 related risks are deemed to be relevant.

6.2 ENVIORNEMNTAL AND SOCIAL IMPACTS AND MITIGATION MEASURES – OPERATIONAL PHASE

5.5.10. Residual Flood Risk

The flood-protection infrastructure and early warning systems are expected to reduce flood risks across Khyber Pakhtunkhwa, however, residual impacts may still occur. If not properly maintained, embankments, flood carrier channels, spurs, gabion works, revetments, and check dams may alter natural flow patterns, causing localized erosion, sedimentation, blockages, or overtopping during extreme flood events. In mountain catchments, failure of check dams or bioengineering works may increase downstream flood hazards.

Effective functioning of the province-wide Flood Forecast and Warning System (FFWS) is critical. Malfunction of telemetry, forecasting models, or warning dissemination may delay alerts and heighten risks for downstream and flash-flood/GLOF-prone communities. Structural deterioration, sediment buildup, or encroachments in riverine and canal areas may further reduce flood-carrying capacity.

Climate variability, such as more frequent intense rainfall, flash floods, and glacial melt events, may place additional pressure on the infrastructure. Vulnerable households living along riverbanks and floodplains may remain disproportionately affected if O&M systems are inadequate. Overall, the residual impact during the operation phase is assessed as high to moderate adverse.

Mitigation Measures

- Flood-dispersal and channel-improvement structures constructed under Component 1 will help redirect peak flows from major rivers and tributaries designated flood carrier channels, reducing downstream inundation risks in densely populated and agricultural areas.
- Flood-retention and attenuation measures, including check dams, detention basins, strengthened embankments, spurs, revetments, and flood-protection bunds, will reduce the severity of riverine and flash-flood events, while also improving water availability for communities and agriculture during dry periods.
- Watershed management, afforestation/reforestation, terracing, and bioengineering interventions in upper catchments (including GLOF-prone valleys) will slow runoff, reduce sediment loads, stabilize slopes, and delay peak flood flows, thereby reducing downstream damage.

- Maintenance of the FFWS including telemetry stations, early warning protocols, and communication networks will ensure timely alerts to vulnerable communities, enhancing preparedness and minimizing loss of life and assets.

5.5.11. Water Borne Diseases

Still, shallow, and warm water can serve as an ideal breeding ground for mosquitoes and other nuisance insects. Mosquitoes may pose public-health risks by spreading human and animal diseases, and even in areas where they do not carry serious diseases, they can cause significant discomfort for nearby residents. Under Component 1, structures such as retention ponds, check dams, embankment depressions etc. may hold stagnant water if not properly managed, increasing the risk of mosquito breeding. Flood events that recede slowly in low-lying areas may further exacerbate waterborne and vector-borne diseases. The potential impact is considered moderate adverse in nature.

Mitigation Measures

- Community-based disaster risk management activities will also incorporate awareness on safe water handling, particularly after flood events;
- Conduct regular inspections of retention ponds, check dams, flood carrier channels, sediment traps, and any temporary water-storage areas to identify stagnant-water issues early; and
- Prompt interventions such as introducing mosquito-eating fish, promoting water surface movement, maintaining drainage, or eliminating standing water in borrow pits can prevent mosquito breeding and reduce the spread of waterborne diseases.

5.5.12. Reduction in Storage Capacity

Sedimentation is a common issue across riverine and upland catchments, leading to a decline in water quality and reduced storage capacity of hydraulic structures. Under Component 1 of READY-KP, structures such as flood-retention ponds, check dams, flood carrier channels may gradually lose capacity due to sediment deposition originating from steep mountain catchments and erodible slopes. Sedimentation may also reduce the effectiveness of embankments and channelized sections in managing peak flows. If not periodically maintained, these ponds and storage structures may become less effective for flood mitigation, irrigation support, and emergency water supply. The potential impact is considered moderate adverse in nature.

Mitigation Measures

- Conduct regular monitoring to observe the performance of check dams, retention ponds, flood carrier channels etc. and identify sedimentation issues early;
- Proper desilting shall be carried out followed by routine maintenance to ensure continued hydraulic function and flood mitigation benefits; and
- Afforestation, terracing, and bioengineering interventions implemented under the Project will help reduce upstream erosion and sediment inflow, thereby prolonging the operational capacity of storage structures.

5.5.13. Improper Distribution of Water

Unavailability or improper distribution of irrigation water may lead to social unrest, especially where upstream use affects downstream users. In KP's conflict-affected and disaster prone areas, unequal distribution can heighten existing tensions and affect livelihoods. Structures under Component 1 may alter traditional water-sharing patterns if not coordinated with communities. Marginalized groups, including those in the Merged Areas, women, religious minorities, and the Kalash in Chitral, may face higher exclusion risks if allocation is not transparent and inclusive. The impact is medium adverse in nature.

Mitigation Measures

- Engage local communities directly to ensure fair and transparent water distribution decisions, especially between upstream and downstream users with special attention to Kalash communities;
- Develop clear water allocation plans/ strategies for areas benefiting from diversion channels, retention ponds, and other project interventions, ensuring all user groups understand how water will be shared; and
- The water saved through project interventions shall be used to address water stress and/or bring fallow land under cultivation. Priority will be given to areas facing chronic shortages or vulnerable households.

5.5.14. Enhanced Use of Pesticides

Improved water availability in the project areas may lead to increased use of fertilizers and pesticides. Uncontrolled or excessive application may harm farmers, contaminate soil and water, and negatively affect surrounding ecosystems. Indiscriminate pesticide use may also trigger pest resistance or outbreaks. This impact is of high to medium significance.

Mitigation Measures

- Conduct awareness and training programs on integrated pest management, safe and sustainable fertilizer use, and proper disposal of pesticide containers; and
- Prohibit the use of WHO-classified restricted pesticides and ensure farmers are informed about safer alternatives.

5.5.15. Waste Generation

Activities under Components 1, 2 and 3 will generate waste, including electronic waste (e-waste) from flood forecasting and warning systems such as telemetry equipment, sensors, batteries, servers), construction and demolition waste, used oil, spare partss from maintenance of flood protection infrastructure, and general liquid and solid wastes from emergency operation centers, rescue stations, warehouses, and offices. Improper handling or disposal of such waste particularly hazardous and e-waste may result in soil and water contamination and risks to worker and community health and environmental pollution,

especially in areas with limited waste management capacity. Overall, the operational waste generation impact is assessed as moderate adverse.

Mitigation Measures

- Prepare and implement an Operation Phase Waste Management Plan covering solid waste, hazardous waste, and e-waste generated under Components 1, 2, and 3;
- Ensure segregation, safe storage, and environmentally sound disposal of e-waste (telemetry equipment, batteries etc.) in accordance with national and international practice;
- Engage licensed and authorized waste handlers/recyclers for collection, recycling, or disposal of hazardous waste and e-waste;
- Designate secure, flood-safe waste storage areas to prevent leakage, spillage, or unauthorized access;
- Train operational staff (Irrigation Department, PDMA, Rescue 1122) on waste segregation, e-waste handling, and spill response procedures; and
- Maintain records of waste generation, transfer, and disposal to support monitoring and compliance with NEQS and IFC/WHO guidelines whichever is stringent (as per advice of Environment Specialist).

5.5.16. Community Health and Safety

The communities may face several safety risks linked to open channels, canals, embankments, flood carrier routes, and check dams. These structures may carry high velocity flows during monsoon periods, creating drowning hazards for children, elderly individuals, and livestock if the banks are not secured. Unstable edges, slippery surfaces, and unmarked drop-offs may increase accident risks. Telemetry stations and other operational sites may attract community members who are unaware of electrical or restricted area hazards. Poor lighting, low visibility at night, and limited community awareness may further raise the chances of unintended access and accidents. Overall, this impact may be assessed as moderate to high adverse in nature.

Mitigation Measures

- Install fencing, guardrails, or other physical barriers along open channels, canals, in areas close to settlements/ sensitive locations or grazing zones;
- Place clear and visible warning signs in local languages at all high risk locations, highlighting deep water, sudden flows, and restricted access;
- Mark the sides at dangerous points with reflective paint or posts so people can see them at night and avoid accidents;
- Create designated and secure access points for operation and maintenance staff and prevent public entry to telemetry and monitoring installations;
- Conduct community awareness campaigns, particularly before monsoon periods to inform residents about water level changes, hazards, and safety practices;
- PDMA and Rescue 1122 will maintain emergency rescue and response arrangements in high risk areas;
- Ensure regular inspection and maintenance of embankments, signage, access controls, and erosion-prone sections; and

- Maintain vegetation and visibility around channels to prevent concealed hazards and improve surveillance.

5.5.17. Institutional Capacity

The institutional capacity risk for implementing and sustaining the Project remains substantial. Although the Irrigation Department and the RRSD have experience with multilateral development projects, the multi-sectoral nature of this Project, the integration of innovative approaches such as nature-based solutions and flood-forecasting systems, and the need for continuous coordination with PDMA and district authorities pose capacity challenges. Limited technical depth and coordination constraints may affect timely implementation, quality assurance, and long-term sustainability of project interventions.

Mitigation Measures

- Strengthen collaboration and technical support from KP Climate Change, Forestry, Environment and Wildlife Department;
- Recruit specialized technical, fiduciary, and safeguards experts to supplement existing teams, coupled with technical assistance embedded in the project to strengthen planning, analytics, and preparedness functions;
- Provide targeted capacity-building programs for implementing agencies on nature-based solutions, O&M, flood risk management, and multi-sectoral coordination.
- Ensure effective implementation of SEP.

7 IMPLEMENTATION OF ESMF

This chapter summarizes the mitigation, monitoring requirements, screening procedure, institutional arrangement monitoring and measures to be taken during the implementation and implementation budget.

5.6. Environmental and Social risk Management Procedures

The environmental and social risk management procedures will be implemented through the Project's subproject selection process. The summary of E & S procedures is provided in table 7.1.

Table 7-1: Project Cycle and E&S Management Procedures

Project Stage	E&S Stage	E&S Management Procedures
a. Assessment and Analysis: Subproject identification	Screening	- During subproject identification, ensure no subproject will fall under the Exclusion List, provided in table 7-2 below. - For all activities, use the Environmental and Social Screening Checklist in Annex E to identify and assess potential environmental and social risks and impacts, and identify the appropriate mitigation measures for the subproject.
b. Formulation and Planning: Planning for subproject activities, including human and budgetary resources and monitoring measures	Planning	- Based on Environmental and Social Screening Checklist to adopt and/or prepare relevant environmental and social procedures and plans. - For activities requiring Environmental and Social Management Plans (ESMPs), submit the ESMPs for prior review and no objection by the World Bank prior to initiating bidding processes. Integration of Recommendations in Project Design / E&S Instruments - Ensure that the contents of the ESMPs are shared with relevant stakeholders in an accessible manner and consultations are held with the affected communities in accordance with the SEP. - The project will coordinate with Khyber Pakhtunkhwa Environmental Protection Agency to fulfil the legal requirements of the Khyber Pakhtunkhwa Environmental Protection Act 2014 for environmental approval, where applicable. - Ensure hiring of dedicated E &S staff. - Training of staff responsible for implementation and monitoring of E & S instruments prepared as part of the project. - Incorporate relevant environmental and social management plans into contractor bidding documents, - Sufficient budget should be allocated for the effective implementation of mitigation measures including third party monitoring.
c. Implementation and Monitoring: Implementation support and continuous	Implementation	- Contractor will develop site specific construction ESMPs and ensure implementation through dedicated E & S staff. - Ensure implementation of E & S instruments through site visits and regular reporting from the field. - Track grievances/beneficiary feedback.

Project Stage	E&S Stage	E&S Management Procedures
monitoring for projects		- Continue awareness raising and/or training for relevant E&S staff including PIUs, supervisory consultant, contractor and communities.
d. Review and Evaluation: Qualitative, quantitative, and/or participatory data collection on a sample basis	Completion	- Assess whether plans have been effectively implemented. - Ensure that physical sites are properly restored.

5.7. Contingent Emergency Response Component

The Contingent Emergency Response Component (CERC) Manual to be prepared for the Project will include a description of the environmental and social risk assessment and management arrangements if the CERC component becomes activated. This may include a CERC ESMF or an Addendum to this ESMF based on the subproject activities that will be funded under the CERC component. If such additional documentation or revision to documentation is needed, the PMU will prepare, consult, adopt, and disclose these in accordance with the CERC Manual, and implement the measures and actions necessary.

5.8. Capacity Assessment of Implementing Agency

The Component-1 of the project will be implemented by KP-ID, Component 2 will be jointly implemented by KP-ID and RRSD, and Component 3 will be implemented by Relief, Rehabilitation and Settlement Department (RRSD) of Khyber Pakhtunkhwa which is parent department of PDMA and Rescue 1122. KP-ID is currently an implementing agency in WB financed KPRIISP and is also executing a flood reconstruction project with support from the Asian Development Bank (ADB) focused on recovery from the 2022 floods—both of which reflect its active role in the province's infrastructure and resilience agenda while RRSD is yet to be a partner in any WB financed project. At present, both the Khyber Pakhtunkhwa Irrigation Department and the RRSD lack dedicated E&S staffing arrangements for the proposed project.

Separate PIUs shall be established for each implementing agency, with one PIU for KP-ID and one PIU for RRSD. Therefore, to ensure effective and smooth project implementation, the PIU under the Irrigation Department shall be staffed with one Environmental Specialist, one Social Development Specialist and one Occupational Health and Safety Specialist, while the PIU under RRSD shall be staffed with one Environmental Specialist.one Social Development Specialist and one Occupational Health and Safety Specialist. The two PIUs will share a Gender Specialist, responsible for gender-related ESF requirements. All E&S staff shall be responsible for ensuring compliance with the applicable E&S requirements under the project. In addition to the core E&S staffing within the PIUs, project design and supervision consultants will be engaged to support overall project implementation and will have dedicated responsibility for day-to-day E&S implementation support, field-level compliance monitoring, and reporting. Furthermore, the effectiveness of E&S risk management, safeguards implementation, and compliance will be periodically validated through Monitoring and

Evaluation Consultants engaged as independent third-party monitors, with dedicated E&S expertise.

5.9. Subproject E&S Screening

As a first step, all proposed activities/subprojects should be screened to ensure that they are within the boundaries of the Project's eligible activities, and are not included in the E&S Exclusion List as below:

Table 7-2: E&S Exclusion List

- Any construction in protected areas or priority areas for biodiversity conservation, as defined in national law.
- High risk activities as defined in the screening checklist in Annex E.
- Complex interventions with high environmental and social risks, such as land degradation and changes in hydrology, impact on Ramsar sites, wildlife sanctuaries, and reserved forests, loss of access to resources, including restricted access to water, grazing, or other community resources, impacting livelihoods.
- Interventions which may involve large scale labor influx with a risk of gender based violence (GBV) and sexual exploitation and abuse/harassment (SEA/SH).
- Activities that have the potential to cause any significant loss or degradation of critical habitats, whether directly or indirectly, or which would lead to adverse impacts.
- Activities that involve the use of international waterways except those falling under the Bank's "Exceptions to the Notification Requirement."
- Dams with a height of 15 meters or greater from the lowest foundation to crest or dams between 5 meters and 15 meters impounding more than 3 million cubic meters.
- All other dams regardless of size or retention capacity (referred to as "small dams") that (i) could cause safety risks, such as an unusually large flood-handling requirement, location in a zone of high seismicity, foundations that are complex and difficult to prepare, retention of toxic materials, or potential for significant downstream impacts or (ii) are expected to become large dams during their operating life.
- Any activity affecting physical cultural heritage such as graves, temples, churches, historical relics, archeological sites, or other cultural structures.
- Activities that may cause or lead to forced labor or child abuse, child labor exploitation or human trafficking, or subprojects that employ or engage children, over the minimum age of 14 and under the age of 18, in connection with the project in a manner that is likely to be hazardous or interfere with the child's education or be harmful to the child's health or physical, mental, spiritual, moral, or social development.
- Any activity that will cause medium to large scale land acquisition and/or resettlement of people
- Any activity that will cause significant physical and/or economic displacement of households or will require the use of eminent domain.
- Areas where Anti Encroachment Drives have been conducted in the past three (3) years
- Activities that may cause any significant displacement or severe loss of livelihood.
- Activities that will have adverse impacts on Indigenous Peoples

All the subprojects will be screened for E&S impacts using the screening checklist provided in Annex-E. Since exact extent and precise location/footprints of individual interventions (subprojects) to be implemented under the proposed Project are not known at this stage, therefore, a framework approach has been adopted for the present E&S assessment for this ESMF. This ESMF provides screening procedure following the ESF for the type of E&S instrument to be used before implementing a subproject.

The screening criterion is based on the nature of activities and potential E&S risks and impacts as described below:

- **High-risk (H)** proposed project interventions that have the potential for severe adverse environmental and social impacts that are diverse, irreversible or unprecedented. However, such type of subprojects will be avoided and not supported under the proposed Project.

- **Substantial-risk (S)** proposed project interventions may have the potential for adverse environmental and social impacts, but are less adverse than those of high-risk proposed project interventions. **These proposed project interventions will require the preparation and submission of ESMP/RP** (Generic Template of ESMP is attached as Annex-F).

- **Moderate-risk (M)** proposed project interventions would have moderate levels of environmental and social impacts. These impacts are likely to be temporary and reversible and are not expected to have lasting effects on the proposed project intervention areas. For these proposed project interventions, the preparation and submission of a **checklist with mitigation measures will be required. An ESMP/RP may also be prepared if needed as per E&S screening process/outcome.**

- **Low-risk (L)** proposed project interventions will have negligible to no negative impacts, and no further environmental assessment will be needed following the initial screening process. Any site-specific impacts will be mitigated through simple mitigation measures suggested in the E&S Checklist(s), where applicable, or through adopting ECOPs. Implementation will be monitored and supervised through a monitoring checklist.

Table 7.3 shows the READY-KP subprojects environmental screening, anticipated classification and guides on preparation of relevant E&S management instrument/tool. The exact instrument will however be decided as per screening outcome of individual subproject.

Table 7-3: Subprojects Environmental and Social Screening

Project Components[46]	Type of Subprojects	Nature of Environmental and Social Risks	Indicative E&S Management Instrument
Component 1 – Improving Infrastructure and Systems for Resilience	Embankments, flood carrier channels, spurs, retaining walls, revetments, gabion works, and check and detention dams, Bunds, levees, weirs, wells, pits, recharge basins, channelization, and dredging.	Likely to have substantial to moderate E&S risks	ESMP/RP[47] / Checklist with mitigation measures
	NbS interventions include afforestation/reforestation, terracing, and bioengineering.	Likely to have moderate to low E&S risks	Brief ESMP/Checklist with mitigation measures
Component 2 – Establish Flood Early Warning Systems	Telemetry and Flood Forecasting activities involve establishing the FFWS, installing modern monitoring equipment, data management systems, and conducting training in hydrological modeling.	Likely to have low to moderate E&S risks	Brief ESMP/Checklist with mitigation measures
Component 3 Strengthening Institutional and Community Preparedness	*Modernization of provincial and district emergency operations center systems, refurbishment of warehouses, establishing additional rescue stations, establishing district-level warehouses and stockpiles of emergency supplies.*	Likely to have moderate E&S risks	ESMP/Checklist with mitigation measures

[46] *Only those Components which may E&S risks.*
[47] *RAP/ ARAP/checklist, finalized upon confirmation of project footprints.*

Project Components[46]	**Type of Subprojects**	**Nature of Environmental and Social Risks**	**Indicative E&S Management Instrument**
	Water rescue equipment, flood-specific personal protective gear, boats and vehicles for evacuation, upgrading communication and dispatch systems, staff training, specialized training for Rescue 1122	Likely to have moderate to low E&S risks	Brief ESMP/Checklist with mitigation measures

5.10. Environmental and Social Requirements in Bidding Documents

The ESMPs will be prepared based on the guidelines provided in this ESMF before the Contract award. The ESMP will be included in the bidding/ contract documents and their implementation will be a contractual binding for the Contractors. To ensure the effective implementation, the ESMP cost will be the part of BOQ under a separate budget head.

Environmental, Social, Health and Safety (ESHS) conditions will also be included in the bidding documents to ensure all mitigation measures proposed in the relevant ESMPs are effectively implemented as provided in **Table 7.4.**

Table 7-4: E&S Requirements in Bidding Documents

Condition	Rationale	Specifications to be Included in Bidding Documents
Past performance of the Contractor on E&S and OHS	The contractor's past performance on compliance with E&S and OHS considerations is an indicator of the contractor's commitment and capability for implementation of the screening checklists/ESMF/ESMP	Record of past E&S and OHS performance
The Contractor shall propose E&S Specialist (s)/ Officer (s) /Focal Point (s) in its team (proportionate to the scope/type of work and corresponding risks and impacts)	The Contractor's staff should include E&S Specialist(s)/ Officer(s) /Focal Point(s) who will be responsible for the implementation of the mitigation measures in compliance with the relevant instruments	The bidder will include CVs of the proposed, suitably qualified E&S Specialist(s)/Officer(s) /Focal Point(s).
Contractor shall obtain performance bond for compliance with E&S obligations	The Contractor should have a financial implication if it fails to comply with E&S requirements.	The Contractor will obtain a performance bond
Contractor shall implement construction related mitigation measures provided in the E&S instruments	Mitigation measures from E&S instruments will be included on the tender	Tender documents will contain site-specific construction related mitigation measures
Code of Conduct for all site personnel	All workers hired by the Contractor should sign a Code of Conduct to ensure compliance with E&S requirements	The Contractor will submit a Code of Conduct with the bidding documents

5.11. Institutional Arrangements for E&S Implementation

Two Project Implementation Units (PIU) will be established with dedicated resources and enhanced systems to meet the operational, fiduciary, and safeguards standards of the World Bank. The first PIU will be established under the Irrigation Department and the second PIU under the Relief, Rehabilitation and Settlement Departments. The PIUs will include dedicated

technical, fiduciary, and safeguards personnel. Targeted technical assistance and capacity-building support will be provided by the World Bank during preparation and early implementation to ensure readiness and effective delivery, while promoting coordination with ongoing resilience and flood management programs in the province. A Project Steering Committee, chaired by the Chairman of the Khyber Pakhtunkhwa Planning and Development Department, will be responsible for overall project-level oversight of implementation and cross-sectoral coordination.

The Irrigation Department will implement Component 1. The component will support the planning, design, and implementation of flood protection infrastructure across vulnerable areas of the province. The Department holds the statutory mandate for flood management and irrigation service delivery and operates through a decentralized structure with zonal and district-level engineering directorates. It is currently implementing World Bank-financed activities under the KP Rural Investment and Institutional Support Project (KP-RIISP) and is also executing a flood reconstruction project with support from the Asian Development Bank (ADB) focused on recovery from the 2022 floods—both of which reflect its active role in the province's infrastructure and resilience agenda.

The Irrigation and Relief, Rehabilitation and Settlement Departments will jointly implement Component 2. Due to the integrated and cross-sectoral nature of the FEWS and coordination required between the KP Irrigation Department and PDMA, which is under RRSD, both departments will collaborate to ensure effective implementation and long-term sustainability of assets and systems established under this component. Private sector engagement will potentially be taken up to enhance O&M.

The Relief, Rehabilitation and Settlement Department will implement Component 3. The department oversees PDMA and Rescue 1122 in KP and the two agencies will serve as executing partners, with PDMA working on improving multi-hazard disaster preparedness and Rescue 1122 supporting the improvement of disaster response. This institutional arrangement will promote coordination, efficiency, and accountability across concerned departments, while ensuring consistency with the project's objectives and fiduciary standards.

Accordingly, the ESMF implementation arrangements have been designed to ensure close alignment with the overall project implementation and institutional setup.

Within this institutional arrangement, the Project Directors, through the E&S Specialists of the PIUs, will be responsible for the overall project implementation, including compliance with this ESMF and other E&S instruments prepared as part of the project. In this context, the E&S Specialists of the PIUs will ensure that the plans and procedures for E&S management outlined in the ESMF and other E&S instruments are followed and effectively implemented throughout the project life cycle.

To support implementation at the field level, the E&S Specialists of the PIUs will be assisted by designated E&S Focal Points, where required. Through regular coordination, the E&S Specialists of the PIUs will maintain liaison with the E&S Focal Points to ensure the effective implementation of the ESMF and other E&S instruments.

In addition, the E&S Specialists of the Supervision Consultant will also provide support in the implementation of the ESMF and associated E&S instruments. For systematic oversight, E&S monitoring checklists will be used to monitor compliance with and implementation of the ESMF and other E&S instruments.

At the execution level, contractors will be required to comply with the Project's E&S risk management documents and procedures, including the ESMP, LMP, and applicable local legislation. This requirement will be explicitly included in the contractors' agreements. Contractors will also be required to disseminate information and create awareness among their workforce regarding environmental and social risk management requirements to ensure effective implementation. However, in cases where a contractor fails to comply with the E&S requirements of the ESMPs, appropriate deductions will be made from payments claimed under the environmental components.

5.12. ROLES AND RESPONSIBILITIS ENTITIES INVOLVED IN E&S MANAGEMENT

PIUs

Roles and responsibilities will be:

- The Irrigation Department and RRSD PIUs will be responsible for the implementation of the ESMF activities independently.
- Provide support, oversight, and quality control to field staff working on E&S risk management.
- Review, and provide quality assurance and approval to E&S Screening checklist and ESMPs as relevant. Keep documentation of all progress.
- Oversee overall implementation and monitoring of environmental and social mitigation and management activities, compile progress reports from subprojects, and report to the World Bank on a quarterly basis.
- Train field staff, contractors and communities who will be responsible for implementing the E&S instruments.
- Ensure that all bidding and contract documents include all relevant E&S requirements/ instruments.
- Ensure project activities do not fall under the Exclusion List.
- Maintain the close liaison with the World Bank, Government Departments (where applicable), E&S FPs (where required) at field level for smooth and effective implementation of E&S aspects.
- The PIUs will also track grievances/ feedback (in line with the SEP) during project implementation to use as a monitoring tool for implementation of project activities and environmental and social mitigation measures.

The PIUs becomes aware of a serious incident in connection with the project, which may have significant adverse effects on the environment, the affected communities, the public, or workers, it should notify the World Bank within 48 hours of becoming aware of such incident. The Incident reporting Form is attached as Annex-G.

Upon completion of Project activities, the PIUs will review and evaluate progress and completion of project activities and all required environmental and social mitigation measures. Especially for civil works, the PIUs will monitor activities with regard to site restoration and landscaping in the affected areas to ensure that the activities are done to an appropriate and acceptable standard before closing the contracts, in accordance with measures identified in the ESMPs and other plans. The sites must be restored to at least the same condition and standard that existed prior to commencement of works. Any pending issues must be resolved before a subproject is considered fully completed.

Project Design and Supervision Consultant

Roles and responsibilities will be:

- To oversee the performance of the Contractors, through dedicated E&S Specialists, to make sure that the Contractors are complying with ESMP requirements and any other measures suggested in the checklist (as per advice of E&S Specialist).
- Ensuring that the day-to-day construction activities are carried out in an environmentally and socially sound and sustainable manner;
- Strong coordination with the Contractors and E&S Specialists- PIUs;
- To supervise and monitor E & S activities being performed at site;
- To organize periodic E&S training programs and workshops for the relevant E&S Specialists including PIUs and contractor.
- Ensure periodic reporting on E&S aspects to relevant PIUs.
- Suggest any additional mitigation measures (if required).

Construction Contractor

Roles and responsibilities will be:

- Comply with the Project's environmental and social mitigation and management measures as specified in ESMPs and contract documents, as well as national and local legislation, in particular, the requirements of Khyber Pakhtunkhwa Environmental Protection Act, 2014.
- To appoint E&S Specialists for effective implementation of ESMPs and the measures suggested in the checklist (as per advice of E&S Specialist);
- Take all necessary measures to protect the health and safety of workers and community members, and avoid, minimize, or mitigate any environmental harm resulting from project activities.
- To develop Site Specific Environmental and Social Management Plan (SSESMP) (only for those subprojects which may require preparation of an ESMP) and OHS Plan with the support/consent of E&S staff of relevant PIUs and the guidelines provided in the ESMP, within 28 days after the commencement date and prior to mobilization/start of civil works.
- To train its dedicated E & S Specialists on regular basis for effective implementation of E & S aspects.

Third Party Validation

Third Party Validation (TPV) firm will be recruited by PIUs to monitor effectiveness, efficacy and soundness of processes and procedures adopted for and related to: environmental assessment of subprojects, identification of risks and impacts and compliance monitoring at all levels, in addition to assessing sufficiency of institutional arrangements meant for E&S aspects and recommend measures for course correction and to further strengthen, if so required. TPV will be done on annual basis throughout the project duration. The third party will have E&S Specialists to carryout intermittent monitoring of the project. The terms of reference for the TPV firm will be approved by the Bank prior to procurement.

5.13. Environmental and Social mitigation and Monitoring Plan

Enviromental and Social mitigation and Monitoring Plan, provided in **Table 7.5** will be used as the management tool for mitigation measures. The plan includes the envisaged impacts and their recommended mitigation measures and; the person/organization directly responsible for adhering to or executing the required mitigation measures and suggest frequency of monitoring the mitigation measures. Detailed E&S impacts and mitigation measures have been provided in Chapter 7.

Table 7-5: Environmental and Social Mitigation and Monitoring Plan

Sr. No.	Project Impacts	Mitigation Measure	Implemented by	Monitoring Frequency	Monitoring Mechanism	Monitored by
Environmental and Social Mitigation and Monitoring- Design/ Planning Phase						
1.	**Technical Design and Layout Planning:** Incompatible layout and design, without considering hydrological modeling, climate projections, soil instability, lack of community engagement, especially communities in Kalash Chitral, may reduce water flow to riparian areas, impact water supply, and degrade water quality.	• All designs will comply with national/international standards, incorporating climate projections, hydrological factors, and engineering practices. • Disaster risk reduction principles will be applied with environmentally sound and socially acceptable engineering. • Stakeholder consultations per SEP will integrate feedback into the design. • Water storage structures will use impermeable geomembranes to prevent seepage and stabilize soil. • Geotechnical assessments will identify landslide risks, with slope stabilization and drainage measures implemented. • Regulated flow will ensure lower riparian rights are conserved. • Only shortlisted contractors will be hired after competitive bidding for construction and materials. • Dam safety requirements under ESS4 will be included in the TORs for technical assistance. • Construction will be scheduled during low water demand periods.	Design Consultant	As and when required basis/Monthly	• Confirmation of design incorporation. • Stakeholder Consultation with photographic records	PIU- KP-ID PIU- RRSD
2.	**Seismic Hazard:** The project area spans Zone 2B (Moderate Hazard), Zone 3 (High Hazard), and Zone 4 (Very High Hazard), where moderate to severe earthquakes may impact structures.	The infrastructure will be designed to withstand moderate to severe earthquakes, using updated seismic evaluations and ensuring compliance with the Updated Seismic Building Code of Pakistan.	Design Consultant	As and when required basis/Monthly	Confirmation of design incorporation.	PIU- KP-ID PIU- RRSD
3.	**Water Sharing Issues:** Water sharing issues may arise among shareholders with the construction of new dispersal structures as a result of increase or decrease in irrigation supplies.	• Select flood dispersal structure sites based on flood water availability. • Finalize structures after stakeholder consultation on site conditions. • Respect traditional water rights and avoid disputed areas. • Avoid construction during peak irrigation to reduce disruptions. • Provide alternative water access where flow is restricted. • Document and disclose water-sharing agreements publicly.	Design Consultant	As and when required basis/Monthly	• Confirmation of design incorporation. • Stakeholder Consultation with photographic records	PIU- KP-ID PIU- RRSD
Environmental Mitigation and Monitoring- Implementation Phase						
4.	**Soil Erosion and Contamination:** Construction and rehabilitation activities under Components 1 and 2 may cause soil erosion, contamination from waste and fuel leaks, and localized sediment disturbance.	• Embankments and excavated slopes will be stabilized promptly, with excavation limited to approved areas. • Minimize vegetation removal to reduce erosion. • Disturbed sites will be restored and documented with photographic records. • Contaminated soils will be removed and disposed of properly, especially near flood channels. • Vehicles will be maintained to prevent fuel leaks, and waste oils will be recycled. • Borrow pits will be left safe and clearly demarcated to avoid community issues. • Inert waste will be recycled, while hazardous waste will be handled separately. • Workforce will be trained on resource conservation and proper waste management.	Contractor	Monthly	• Visual checks and photographic record • Ensure site restoration.	E&S Staff of PIUs Supervision Consultant
5.	**Waste Generation:** Wastes, including construction material, asphalt, steel scrap, oil, fuel, containers, excavated material, and municipal waste, may be generated during construction and rehabilitation. If not properly managed, waste can cause blockages in water channels, soil contamination, and safety risks for workers and pedestrians.	• Construction waste will be collected and disposed of at designated sites, ensuring no impact on water bodies, waste systems, transport routes, or aesthetics. • Leftover materials will be reused at other project sites to conserve resources and save costs. • A Waste Management Plan (WMP) will be developed and implemented, with workforce training on waste handling, storage, and disposal.	Contractor	Monthly	• Visual checks and photographic record. • Waste Management plan implementation • Training Record	E&S Staff of PIUs Supervision Consultant

Sr. No.	Project Impacts	Mitigation Measure	Implemented by	Monitoring Frequency	Monitoring Mechanism	Monitored by
		• Stockpiles, lubricants, fuels, and materials will be stored away from slopes and water bodies in protected areas. • Resource conservation will be included in staff training. • Burning of waste materials will be prohibited.				
6.	**Ambient Air Quality:** Ambient air quality is expected to decline temporarily during construction under Components 1 (Flood Protection) and 2 (rescue facilities) due to machinery use and site activities. The impact is moderate and short-term, with no lasting effects after completion.	• Vehicles and equipment will be maintained to minimize emissions and ensure fuel efficiency. • Dust will be controlled with water sprinkling, and debris will be regularly removed. • Construction materials will be transported in covered trucks, with speed limits enforced to reduce dust. • Road damage will be promptly repaired. • Proper PPE will be provided and worn by workers. • GRM will be effectively implemented. • Compliance with NEQS and IFC/WHO guidelines will be ensured. • Regular air quality monitoring will be conducted near sensitive locations and community areas.	Contractor	Monthly	• Visual checks • Vehicle maintenance records • Water sprinkling records. • Use of PPEs • Training Record • Compliance with NEQs/IFC/WHO Guidelines • GRM complaints record	E&S Staff of PIUs Supervision Consultant
7.	**Noise Pollution:** The project's infrastructure investments are expected to increase noise and vibration due to machinery, generators, and construction activities. This may impact nearby sensitive receptors, workers, communities, and wildlife.	• Vehicular traffic through communities will be minimized, with authorized project routes and main roads used for construction traffic. • Construction vehicles and machinery will be well-maintained to minimize noise and vibration. • Noisy work will be limited to normal hours, with low vehicle speeds and no excessive horn use. • PPE will be provided and worn by personnel, with training on proper use. • Noisy activities will be relocated away from sensitive receptors, and construction schedules will be shared with nearby communities. • Compliance with NEQS and IFC/WHO guidelines will be ensured, along with effective GRM implementation.	Contractor	Monthly	• Physical observation • Vehicle maintenance records • Use of PPEs • Training records • GRM complaints record • Compliance with NEQs/IFC/WHO	E&S Staff of PIUs Supervision Consultant
8.	**Water Contamination:** The project may contaminate local water resources from construction runoff and waste, with higher risks under Component 1 (flood protection) and localized risks from Component 2 (Rescue 1122 facilities). This could harm aquatic life and pose health risks to communities relying on these water sources.	• Construction camps will be located at least 500m from water bodies, with layout and waste disposal systems approved by the Supervisory Consultant. • Wastewater will be disposed of through a settling tank, ensuring no discharge to riverbanks or canals. • Wastes will not be released into water bodies or critical habitats, with special attention to preventing runoff from construction sites. • Compliance with NEQS and IFC/WHO guidelines will be ensured. • Machinery will be maintained to prevent spills and leaks. • Fuels and chemicals will be stored in covered, concrete-floored areas away from water sources and drainage paths.	Contractor	Monthly	• Regular monitoring • Waste Management plan implementation • Training Record • Compliance with NEQs/IFC/WHO	E&S Staff of PIUs Supervision Consultant
9.	**Traffic Issues:** Traffic issues, including jams, accidents, and local inconvenience, may occur during construction, especially with excavation, material stacking, and equipment movement for embankments, flood channels, and Rescue 1122 facilities. Vehicle movement may cause soil erosion, debris flow, dust, road deterioration, and vibration, particularly along narrow village roads leading to project sites.	• Vehicle movement for construction materials will be restricted at night to reduce traffic and local inconvenience. • Vehicles will be parked in designated areas to avoid congestion, as outlined in the site-specific Contractor ESMP. • Vehicle speed will be kept low (20-40 km/h). • Road damage caused by construction vehicles will be promptly repaired or compensated. • Safety signboards will be installed to ensure smooth traffic flow. • Mobilization activities will occur during off-peak hours to avoid disturbing sensitive areas like schools and hospitals.	Contractor	Monthly	• Vehicle maintenance record • Training record • Implementation of TMP • GRM complaints record	E&S Staff of PIUs Supervision Consultant

Sr. No.	Project Impacts	Mitigation Measure	Implemented by	Monitoring Frequency	Monitoring Mechanism	Monitored by
		• Road closures and diversions will be communicated with signs and displays. • A Traffic Management Plan will be prepared and implemented to prevent accidents and traffic issues.				
10.	**Flora and Fauna:** The project is unlikely to significantly impact biodiversity, as most activities will occur in built environments. However, Component 1 may affect rivers, mountain catchments, and forests, while both components could disturb local vegetation and wildlife. Construction may temporarily impact riparian vegetation, aquatic species, and displace animals due to noise and habitat disruption.	• The project will exclude investments that may harm natural habitats. • Construction camp sites and machinery movement will be planned to minimize tree cutting and agricultural land loss, avoiding riparian buffers and wildlife corridors. • Only native species will be planted, and compensatory planting will follow a 5:1 ratio for trees cut. • LPG will be provided for cooking and heating; fuel wood use will be prohibited. • Workers will be instructed not to damage nearby land, vegetation, or trees. • Vehicle speed will be kept low to protect wildlife, and any special species or habitats will be reported to the Wildlife Department. • Hunting and poaching will be strictly prohibited, with supervision by the contractor. • Compliance with air, noise pollution, and waste management measures will be ensured.	Contractor	Monthly	• Regular monitoring, • Monitoring of SEP • Training record	E&S Staff of PIUs Supervision Consultant
11.	**Aquatic Life:** Excavation, sediment disturbance, and altered water flow could harm habitats and spawning areas, while increased turbidity and potential chemical contamination may reduce water quality and affect species dependent on stable conditions.	• Design flood protection infrastructure to maintain natural water flow and minimize impacts on aquatic species. • Carefully select construction sites to avoid disrupting fish spawning areas and aquatic habitats. • Use silt curtains, sedimentation basins, and barriers to control sediment disturbance during excavation and construction. • Regularly monitor water quality for turbidity, contamination, and oxygen levels. • Prevent chemical spills by properly storing and disposing of fuels, oils, and debris, with spill containment protocols. • Limit excavation to defined areas to reduce ecosystem disturbance. • Conduct post-construction monitoring of water quality and aquatic habitats for long-term sustainability. • Ensure compliance with NEQS/IFC/WHO guidelines, whichever is more stringent.	Contractor	Monthly	• Regular Monitoring of Water Quality, Sedimentation, Aquatic Habitat Conditions, Aquatic Species Health, Chemical Contamination, Erosion and Sediment Transport, Vegetation • Training records	E&S Staff of PIUs Supervision Consultant
Social Mitigation and Monitoring- Construction Phase						
12.	**Occupational Health and Safety (OHS) risks**: These include unsafe working conditions, accidents, exposure to electrical hazards, improper waste management, and non-compliance with OHS regulations. Workers may also face risks of drowning in water bodies, especially due to strong currents, flash floods, and GLOF events. Additionally, security or tribal conflicts could pose safety risks in certain areas.	• Comply with the Khyber Pakhtunkhwa OHS Act, 2022, and World Bank EHS Guidelines, implementing a site-specific OHS Plan and LMP. • Community liaison and project-level GRMs will address related complaints. • Ensure compliance with the Worker's Code of Conduct. • Restrict unauthorized entry to construction sites, with safety signage, especially near water bodies, deep excavations, and flood-prone areas. • Provide and ensure the use of PPE, including life jackets, safety harnesses, and non-slip footwear, for workers. • Implement a comprehensive emergency response plan, including communication, evacuation, and coordination with emergency services. • Record and report all incidents, accidents, and diseases to the PIU and World Bank within 48 hours. • Provide fire prevention and firefighting equipment at all worksites. • Provide regular safety training, including PPE use, fire safety, hygiene, and water safety, such as flood awareness and rescue procedures. • Supply first aid kits, snake bite kits, paramedic support, rescue ropes, and flotation devices at sites near water bodies.	Contractor	Weekly during construction / As and when required basis	• Implementation of LMP. • Use of PPEs. • Training Records. • Work permits • Implementation of Emergency Response Plan. • Implementation of GRM complaints records • Accident/Incident reported.	E&S Staff of PIUs Supervision Consultant

Sr. No.	Project Impacts	Mitigation Measure	Implemented by	Monitoring Frequency	Monitoring Mechanism	Monitored by
		• Identify and minimize potential hazards, including communicable and vector-borne diseases.				
13.	**Community Health and Safety:** Dust, noise, accidents, traffic incidents, business disruptions, injuries from falls, exposure to hazardous materials, and safety risks from flooding and access restrictions. Conflicts may arise between local communities and workers over design, water sharing, and tribal issues, potentially affecting vulnerable groups. Poor community engagement could escalate tensions and lead to violence, along with risks of infectious diseases and GBV/SEA/SH.	• A site-specific Community Health and Safety Plan will be prepared and implemented, in line with ESS4 and World Bank EHS Guidelines. • Construction sites and camps will be secured with restricted access and safety signage to protect vulnerable groups. • Adequate fencing and barriers will be provided around hazardous areas to safeguard nearby communities. • Dust, noise, waste, and pollution will be controlled to minimize health and safety risks. • Traffic and road safety will be managed with speed control, limited horn use near settlements, and a Traffic Management Plan. • Excavation and trenching activities will be scheduled to reduce public exposure to construction hazards. • GRM will be effectively implemented to address issues promptly. • SEP will be followed, and local customs and traditions will be respected. • Awareness sessions on road safety, communicable diseases, emergency procedures, and worker conduct will be held regularly. • Security risk management measures will be ensured.	Contractor	Monthly	• Implementation of Community health and safety Plan (as a part of SSEMP). • Community Concerns Record. • Training Records. • Implementation of GRM complaints records • Medical reports of worker (as per advice of E&S Specialists) • Accident/Incident reported.	E&S Staff of PIUs Supervision Consultant
14.	**Site Security:** Security risks may affect the safety of workers, local communities, project sites, and travel, potentially disrupting activities, remote and security-sensitive areas like the Newly Merged Districts and southern KP, where law-and-order conditions are fragile. Additionally, the project may exacerbate social tensions, lead to perceptions of inequity, and increase the risk of social unrest, grievances, and threats to personnel and assets.	• Project will engage with local communities to build positive relationships and mitigate security risks. • Site-specific security risk assessment and Security Risk Management Plan will be implemented, aligned with ESS4. • Coordination with local police will be maintained, and work will comply with local laws and safety standards. • Trained security personnel with police clearance will be deployed, and sites will have controlled access. • Emergency evacuation procedures and contact numbers will be displayed. • Effective implementation of GRM will allow timely reporting and resolution of security concerns.	Contractor	Monthly	• Regular Monitoring • Implementation of Security Risk Management Plan • Consultation with Security Agencies	E&S Staff of PIUs Supervision Consultant
15.	**Labour Influx:** Skilled labor from outside the districts or province could lead to conflicts with local communities, disrespect for cultural norms (Pashtunwali), increased crime, strain on local services, spread of diseases, and risks of GBV/SEA/SH. In socially conservative areas like the NMDs, even limited labor influx may heighten social tensions and conflicts.	In addition to measures for Occupational Health and Safety (OHS) Risks • Preference will be given to locals for both skilled and unskilled labor where possible. • Employees will be trained on cultural sensitivity and required to respect local cultural norms. • Effective implementation of project-level and workers GRM will be ensured. • Labor camps, if required, will be located at least 500m from settlements and equipped with adequate facilities.	Contractor	Monthly	• Visual checks, • GRM implementation • Training Records • LMP • Worker's code of conduct	E&S Staff of PIUs Supervision Consultant
16.	**Gender Base Violence (GBV)**: Risks of harassment, exclusion of women from grievance mechanisms, and exploitation of vulnerable groups may arise during construction and emergency response activities. Skilled labor from outside could increase interaction between workers and local communities, heightening GBV/SEA/SH risks, particularly in conservative areas. Women and girls may face disproportionate vulnerabilities, including restricted mobility, limited access to relief, and increased protection risks due to cultural norms and lack of gender-sensitive facilities	• A GBV/SEA/SH Action Plan will be implemented, mapping GBV service providers for referrals. • SEA/SH complaints through GRM will be handled by trained staff with confidentiality and accountability. • Labor will be educated on the rights of women and vulnerable groups and GBV/SEA/SH actions. • Regular awareness sessions will be held, focusing on women with lower literacy rates. • Staff will sign a code of conduct outlining acceptable behaviors. • Service providers will be identified and mapped for SEA/SH issues, with provisions in bidding documents.	Contractor	Monthly	• Regular Monitoring • Grievance Record • Training and awareness Record • Compliance with GBV/SEA/SH Action Plan Implementation	E&S Staff of PIUs Supervision Consultant

Sr. No.	Project Impacts	Mitigation Measure	Implemented by	Monitoring Frequency	Monitoring Mechanism	Monitored by
		• A gender specialist will be hired for Component 1, with a GBV specialist on the supervision team. • GBV response systems will be institutionalized within disaster management institutions under Component 2. • Rescue 1122 and PDNA staff will be trained on survivor-centered case management and gender-sensitive planning. • GBV response protocols will be developed within PDMA, ensuring timely referrals and coordination.				
17.	**Force/Child Labor :** Project activities may involve child or forced labor, including indentured, bonded labor, and the hiring of underage children. These risks are heightened in economically disadvantaged and remote areas, such as the NMDs, where poverty and limited livelihood options increase vulnerability.	• Hiring of children under 14 and those under 18 for hazardous work will be prohibited. • All hiring will comply with the Khyber Pakhtunkhwa Prohibition of Employment of Child Act, 2015, KP Bonded Labour System (Abolition) Act, 2015, and World Bank ESS2 requirements. • Age verification via CNIC will be mandatory for all workers. • Project staff will monitor sites for child and forced labor and hold regular consultations to address issues. • Awareness will be raised among local communities and staff about the impacts of child labor, and the LMP will be followed. • Beneficiaries and suppliers will be informed about provincial labor laws and World Bank regulations on child/forced labor. • GRMs will be effectively implemented at both project and worker levels.	Contractor	Monthly	• Regular Monitoring • Grievance Record • Compliance with LMP	E&S Staff of PIUs Supervision Consultant
18.	**Elite Capture and Exclusion Risks:** Elite capture and exclusion risks may arise in flood protection and early warning systems, leading to unequal distribution of benefits, particularly in vulnerable groups like women, minorities, and disaster-affected households. Limited outreach and communication may prevent these groups from accessing project benefits, especially in disaster preparedness. Without targeted inclusion, women risk further exclusion from decision-making and grievance processes, reinforcing gender inequalities.	• Ensure the effective implementation of SEP throughout the project, particular attention will be placed on outreach activities in Chitral District; • Technical and social selection criteria for all flood protection sub-projects will be publicly disclosed to prevent elite capture and ensure risk- and vulnerability based investments; • Establish or strengthen Community Disaster Management Committees (CDMCs) in flood-prone areas, ensuring the inclusion of women. youth, and persons with disabilities; • Vulnerable individuals (e.g., unemployed youth and daily wage earners) will be prioritized for community mobilization, data collection, and unskilled construction work; • Digital literacy training will be provided through Social Mobilizers, and the Early Warning System (EWS) will use Interactive Voice Response (IVR) and voice enabled chatbots in local languages (Pashto/Urdu) to ensure accessibility for low literacy users; • Provide targeted training to women in CDMCs on disaster preparedness, early warning, and leadership; • Promote women's participation and leadership in disaster preparedness and response; • Compliance with the GRM will be ensured, along with regular collection of beneficiary feedback; • Provide regular training on the GRM to ensure effective implementation, with a particular focus on disadvantaged and vulnerable groups; and • Project staff will receive training on social inclusion and stakeholder engagement.	Contractor / PIUs	Monthly	• Grievance Record, • Implementation of SEP • Access to Project Benefits • Awareness and Participation • Gender Disparities • Satisfaction with Relief and Preparedness Services • Social Tensions and Conflicts	E&S Staff of PIUs Supervision Consultant
19.	**Chance Findings of Important Physical and Cultural Resources:** Project may encounter the chance finding of important physical cultural resources during the implementation.	• Subprojects sites will be screened prior to commencement of civil work; • Ensure the compliance with the chance find procedure.	Contractor	Monthly	• Visual Monitoring • Compliance with Chance find Procedures	E&S Staff of PIUs Supervision Consultant
20.	**Land Acquisition and Involuntary Resettlement:** Risks of land acquisition and involuntary resettlement may arise from flood protection works under Component 1, including the use of private or communal land and temporary access restrictions. Potential	• Engineering designs will prioritize existing government or state-owned land to minimize land acquisition and displacement. • A Resettlement Policy Framework (RPF) will guide the management of land acquisition and resettlement impacts, with RAP/ARAP developed as needed, in line with ESS5.	PIUs	Monthly	• Regular Monitoring • Compliance with RPF /RAP/ARAP	E&S Staff of PIUs Supervision Consultant

Sr. No.	Project Impacts	Mitigation Measure	Implemented by	Monitoring Frequency	Monitoring Mechanism	Monitored by
	impacts include physical and economic displacement, loss of agricultural land, and livelihood disruption, particularly in the NMDs, where limited land records and communal ownership can lead to disputes and social tensions.	• Voluntary land donations or community agreements will be carefully reviewed to ensure they are truly voluntary and do not impact livelihoods. • Terms of Reference for Component 1.3 will incorporate ESS5 principles to ensure compliance with resettlement requirements. • Forced evictions will not be permitted under the project.			documents (if prepared)	
21.	**Encroachment:** Risks of encroachment may arise during the implementation on land owned by implementing agencies. Field missions in Peshawar and Nowshera have confirmed encroached structures and privately owned trees within proposed project areas. Removing or restricting such encroachments may cause access loss, livelihood impacts, and social tensions, particularly in economically vulnerable areas, including parts of the Merged Areas.	• No schemes will be financed where anti-encroachment drives have occurred within the past three years. • Technical design adjustments will be made to avoid impacts on established residential structures, where feasible. • Where displacement is unavoidable, resettlement planning documents will be prepared and implemented in accordance with ESS5, with forced evictions strictly prohibited. • SEP and RFwill be implemented effectively to ensure transparent and inclusive consultations with affected communities.	PIUs Design Consultant	Monthly/ As and when required basis	• Compliance with RPF /RAP/ARAP documents (if prepared) • Implementation of SEP • Grievance Record • Social and Livelihood issues	E&S Staff of PIUs Supervision Consultant
Environmental and Social Mitigation and Monitoring- Operation Phase						
22.	**Residual Flood Risk:** Flood-protection infrastructure and early warning systems may reduce risks, but poorly maintained structures could cause erosion, sedimentation, or blockages during extreme floods. Malfunctions in the Flood Forecast and Warning System (FFWS) could delay alerts, increasing risks for vulnerable areas. Climate variability and inadequate O&M systems may further strain the infrastructure, leaving flood-prone communities disproportionately affected.	• Flood-dispersal and channel-improvement structures will reduce downstream inundation risks in populated and agricultural areas. • Flood-retention measures like check dams, embankments, and bunds will mitigate riverine and flash-flood severity, while improving water availability during dry periods. • Watershed management and bioengineering in upper catchments will reduce runoff, stabilize slopes, and delay peak flood flows, minimizing downstream damage. • Maintaining the FFWS, including telemetry and early warning systems, will ensure timely alerts, improving preparedness and reducing loss of life and assets.	Relevant Implementing Agency	As and when required basis/quarterly	Regular monitoring	E&S Staff of PIUs Supervision Consultant
23.	**Water Borne Disease:** Shallow, stagnant water from structures like retention ponds, check dams, and embankment depressions under Component 1 can become breeding grounds for mosquitoes and other insects, posing public health risks. Even in areas without serious diseases, mosquitoes can cause discomfort. Slow-receding floodwaters in low-lying areas may further increase the risk of waterborne and vector-borne diseases.	• Community-based disaster risk management will include awareness on safe water handling, especially after floods. • Regular inspections of retention ponds, check dams, and water-storage areas will identify stagnant-water issues early. • Interventions like introducing mosquito-eating fish, promoting water movement, maintaining drainage, and eliminating standing water will prevent mosquito breeding and reduce waterborne diseases.	Relevant Implementing Agency	As and when required basis/quarterly	Regular monitoring	E&S Staff of PIUs Supervision Consultant
24.	**Reduction in Storage Capacity:** Sedimentation in riverine and upland catchments can reduce the capacity of structures like flood-retention ponds, check dams, and flood channels under Component 1. This may hinder flood management, irrigation, and emergency water supply if not regularly maintained.	• Regular monitoring will identify sedimentation issues in check dams, retention ponds, and flood channels. • Desilting and routine maintenance will ensure continued hydraulic function and flood mitigation benefits. • Afforestation, terracing, and bioengineering will reduce upstream erosion and sediment inflow, extending the operational capacity of storage structures.	Relevant Implementing Agency	As and when required basis/ quarterly	Regular monitoring	E&S Staff of PIUs Supervision Consultant
25.	**Improper Distribution of Water:** Improper irrigation water distribution may cause social unrest, especially in conflict-affected areas. Structures under Component 1 could disrupt traditional water-sharing patterns, increasing exclusion risks for marginalized groups like women, religious minorities, and the Kalash in Chitral.	• Engage local communities to ensure fair and transparent water distribution, especially between upstream and downstream users, with special attention to Kalash communities. • Develop clear water allocation plans for areas benefiting from project interventions, ensuring all user groups understand the sharing process. • Saved water will be used to address water stress and bring fallow land under cultivation, prioritizing areas with chronic shortages or vulnerable households.	Relevant Implementing Agency	As and when required basis/ quarterly	• Regular monitoring • Consultations with relevant stakeholders	E&S Staff of PIUs Supervision Consultant
26.	**Enhanced Use of Pesticides** Extended and indiscriminate use of pesticides may result in pest outbreaks as well as adverse effects on locals working in the agricultural fields and the surrounding environments.	• Awareness and training program shall be conducted regarding pest management, sustainable use of fertilizers, safe disposal of empty containers. • Use of restricted pesticides identified by WHO shall not be allowed. **1**	Relevant Implementing Agency	As and when required basis	• Regular monitoring • Training and awareness sessions	E&S Staff of PIUs Supervision Consultant

Sr. No.	Project Impacts	Mitigation Measure	Implemented by	Monitoring Frequency	Monitoring Mechanism	Monitored by
27.	**Waste Generation:** Waste including e-waste from flood forecasting systems, construction waste, used oil, and general waste from emergency centers and offices. Improper disposal of hazardous and e-waste may lead to soil and water contamination, posing health risks to workers and communities, especially in areas with limited waste management capacity.	• Prepare and implement a Waste Management Plan for solid, hazardous, and e-waste under Components 1 and 2. • Ensure proper segregation, safe storage, and disposal of e-waste in line with national and international practices. • Engage licensed waste handlers for collection, recycling, or disposal of hazardous and e-waste. • Designate secure, flood-safe waste storage areas to prevent leakage or unauthorized access. • Train operational staff on waste segregation, e-waste handling, and spill response. • Maintain records of waste generation, transfer, and disposal to ensure compliance with NEQS and IFC/WHO guidelines whichever is stringent (as per advice of Environment Specialist).	Relevant Implementing Agency	As and when required basis	• Regular monitoring • Training and awareness sessions	E&S Staff of PIUs Supervision Consultant
28.	**Community Health and Safety:** Communities may face safety risks from open channels, canals, embankments, flood routes, and check dams, especially during high flows in monsoon periods. Unsecured banks, unstable edges, slippery surfaces, and unmarked drop-offs can increase drowning and accident risks. Telemetry and other operational sites may also attract people unaware of electrical or restricted area hazards. Low visibility at night and limited awareness can further raise the chance of unintended access and accidents.	• Install fencing or barriers along open channels and canals near settlements and grazing areas. • Place clear warning signs in local languages at high risk points. • Mark dangerous points with reflective paint or posts for night visibility. • Provide secure access for O&M staff and restrict public entry to telemetry sites. • Conduct awareness campaigns before monsoon periods on water level changes and safety. • PDMA and Rescue 1122 will maintain emergency rescue and response arrangements. • Carry out regular inspection and maintenance of embankments, signage, and erosion prone areas. • Maintain vegetation and clear visibility around channels to avoid concealed hazards.	Relevant Implementing Agency	As and when required basis	• Regular monitoring • Training and awareness sessions	E&S Staff of PIUs Supervision Consultant

5.14. Monitoring

Monitoring will be carried out to ensure that the mitigation plans are regularly and effectively implemented. It will be performed at PIUs, field level and by the Contractor. Two complementary methodology approaches are being applied to monitor the proposed actions under the ESMF:

Compliance monitoring; which checks whether the actions proposed by the ESMF/ E&S Instruments have been carried out by visual observation, photographic documentation and the use of checklists prepared for the ESMF; and Effects monitoring; which records the consequences of program activities on the biophysical and social environment; as applicable, these effects are repeatedly measured by applying selected indicators.

A separate monitoring checklist will be developed by PIUs based on the ESMPs, which will be used by field monitor on monthly basis. The sample monitoring checklist is provided in Annex-H.

5.15. Reporting and Documentation

At a minimum, the reporting will include (i) the overall implementation of E&S risk management instruments and measures, (ii) any environmental or social issues arising as a result of project activities and how these issues will be remedied or mitigated, including timelines, (iii) Occupational Health and Safety performance (including incidents and accidents), (iv) community health and safety, (v) stakeholder engagement updates, in line with the SEP, (vi) public notification and communications, (vii) progress on the implementation and completion of project works, and (viii) summary of grievances/beneficiary feedback received, actions taken, and complaints closed out, in line with the SEP. The sample for E&S monitoring report is provided in Annex-I.

The PIUs become aware of a serious incident in connection with the project, which may have significant adverse effects on the environment, the affected communities, the public, or workers, it should notify the World Bank within 48 hours of becoming aware of such incident, as per the procedure defined in the LMP.

Reports from the field levels will be submitted to the relevant PIUs, where they will be aggregated and submitted to the World Bank on a quarterly basis. The reporting requirements are provided in **Table 7.6**

Table 7-6: Reporting Requirements

Sr. No.	Type of Reporting	Frequency	Responsibility	Submitted to
1	Visit Reports and Consultations with relevant stakeholders (with date, time, venue and photographs)	Monthly	E&S Specialists	Relevant PIUs
2	E&S Screening Checklists and Screening Reports	Before commencement	E&S Specialists	Relevant PIUs and PIUs will

Sr. No.	Type of Reporting	Frequency	Responsibility	Submitted to
		of physical works at all schemes /As and when required basis		share with World Bank
3	E&S Monitoring Checklists	Monthly	E&S Specialists	Relevant PIU
4	Progress Reports, including reporting against ESCP commitments (where relevant)	Quarterly	PIUs[48]	World Bank
5	Incident and Accident Reporting	Within 48 hours	PIUs	World Bank
6	Training Reports	Biannual	PIUs	World Bank
7	MEC/ Third Party Reports	Annually	PIUs	PSC and World Bank
8	Completion Report	After completion of Project	PIUs	World Bank

5.16. Training and Capacity Building

To ensure the successful implementation of ESMF and compliance of the E&S mitigation measures, strengthening capacity of project staff and workers is essential. This will achieve through series of customized trainings and awareness sessions. **Table 7.7** below provides capacity building / training framework for the proposed project.

Table 7-7: Capacity Building and Training Framework

Sr. No.	Key Areas	Key Aspects to Cover	Potential Participants	Frequency of Training	Responsibility
1.	E&S Orientation / Awareness	E&S awareness; WB Environmental and Social Standards (ESSs); OHS and CHS aspects; Local E&S Legal requirements ESMF findings; Checklist /ESMP and its components; GBV and GRM. Reporting on incidents and accidents and emergency	READY-KP staff[49] Contractor Staff Local Communities	At the start of the project; and Refresher afterwards as and when required/bi-annual basis	E&S Specialists of PIUs with the support of Supervision Consultant

[48] *Prepare the quarterly reports.*
[49] *PIUs*

Sr. No.	Key Areas	Key Aspects to Cover	Potential Participants	Frequency of Training	Responsibility
		preparation and response preparedness Labor Management Procedures Resettlement and Land Acquisition (if applicable)			
2.	GBV/SEA/SH	Prevention of GBV/SEA/SH GRM for GBV/SEA/SH	READY-KP staff Consultant and Contractor Staff Local Communities	At the start of the project; and Refresher afterwards as and when required/ bi-annual.	Social and Gender Specialists of PIUs with the support of SC
3.	ESMF/ESMP Implementation	ESMF components; Key steps for the implementation of ESMF; Checklists used in the field; GRM & GBV; Checklist /ESMP implementation; and Documentation and reporting.	READY-KP staff Consultant and Contractor Staff Local Communities	At the start of the project; and Refresher afterwards as and when required/ bi-annual	E&S Specialists of PIUs with the support of SC.
4.	E&S Management	E&S mitigation plans; Stakeholder mapping and engagement OHS and CHS aspects Emergency Prevention, preparedness and response planning Resource Efficiency and Pollution Prevention and Management	READY-KP staff Consultant and Contractor Staff Local Communities	At the start of the project; and On-going/informal	E&S Specialists of PIUs with the support of SC.

5.17. ESMF Disclosure

The ESMF and other E&S documents after review and clearance from the bank will be disclosed on the official website of READY-KP, and shall also be available in World Bank

repositories. Executive summaries of each instrument will be translated into Urdu/Pashto (Pashto where required only) and will also be made available.

5.18. Tentative ESMF Implementation Budget

Table 7.8 presents the estimated cost of ESMF implementation. This tentative cost will be included in the overall project cost. This cost will be reviewed and firmed up when the project footprints will be finalized at subproject level to ensure realism. Additional costs could be included in the subproject specific ESMPs that will become part of each bidding/BOQ documents. The Contractor(s) however shall be paid against the actual execution with evidential proof of relevant E&S instruments activity. The cost for contractor's E&S staff will be included in site specific E&S instruments. Other E&S documents prepared as part of the project will have their own separate implementation budgets.

Table 7-8: Estimated Budget

Item	**Frequency/Quantity**	**Unit Rate (PKR)**	**Estimated Cost (Million PKR)**	**Remarks**
Environmental Specialist- PIUs	02	500,000	60	This is the tentative monthly cost for 5-years, and shall be reassessed annually with increment.
Social Development Specialist- PIUs	02	500,000	60	
Occupational Health and Safety Specialists - PIUs	02	500,000	60	
Gender Specialist - PIUs	01	500,000	30	Gender Specialist will support both PIUs This is the tentative monthly cost for 5-years, and shall be reassessed annually with increment.
E&S Supervision Cost by PIUs E&S staff	Lump sum		50	For field activities such as trainings, E&S monitoring, meetings, site visits (travel, fuel, per diem) etc.
Trainings and Capacity Building	15	800,000	12	As per the frequency defined in the Training and Capacity Building Section.
GRM Implementation Cost	Lump sum		15	
PPEs and Fire Safety Equipment Cost	Lump sum		60	PPEs: helmet, vest, gloves, shoes, dust masks, harness, earplugs etc.
ESMP(s) Preparation Cost	Lump sum		25	
Third party Audit/Monitoring	Annual	15,000,000	60	Lump sum
Total			**432**	Tentative cost for 5-year. The cost shall be updated based on the current market prices during implementation.

ANNEXURES

ANNEX-A

LIST OF VISITED EXISTING SCHEMES

S.No	Site Visited	Village	Teshil	District
1	Abazai Canal	Kareemo Kalay	Tangai	Charssada
2	Munda Headworks	Munda	Tangai	Charssada
3	Shobla Drain	Umer zai	Charssada	Charssada
4	Hisara Drain	Kashir Kalay Nisata	Charssada	Charssada
5	Naguman River	Sarkhana	Matra	Peshawar
6	Left Side of Jalbela & Mian Gujar	Jalbela	Matra	Peshawar
7	Shah Alam River	Islamabad Koroona	Shah Alam	Peshawar
8	Mohammad Zai Drain	Sobai Bundai	Shah Alam	Peshawar
9	Bara River	Camp Koroona	Pabbi	Nowshera
10	Kabul River Canal	Tarnab Farm	Peshawar	Peshawar
11	Challa Nalla	Banda Mohib	Pabbi	Nowshera
12	Landai Drain	Pashtoon Gharai	Pabbi	Nowshera
13	Palossin Khwar	Azakheil Bala	Nowshera	Nowshera
14	Laboure Colony Drain	Laboure Colony Amangar/ Baringar	Nowshera	Nowshera
15	Amangar Main Nalla	Gujar Basti	Nowshera	Nowshera

ANNEX-B

WORKERS' CODE OF CONDUCT

I, _____, acknowledge that that adhering to environmental, social, health and safety (ESHS) standards, following the project's environmental, social, health and safety (OHS) requirements, preventing GBV/SEA/SH and child abuse/exploitation is important. Any activity, which constitutes acts of gross misconduct is therefore grounds for sanctions, penalties, or even termination of employment. All forms of misconduct are unacceptable be it on the work site, the work site surroundings, or at worker's camps. Prosecution of those who commit any such misconduct will be pursued as appropriate. I agree that while working on this project, I will:

1. Consent to a security background check;
2. Treat women, children, project staff including other workers, and persons with disability with respect regardless of race, color, language, religion, political or other opinions, national, ethnic, or social origin, property, birth, or another status;
3. Not use language or behavior towards men, women, or children/learners that are inappropriate, harassing, abusive, sexually provocative, demeaning, or culturally inappropriate;
4. Carry out his/her duties competently and diligently;
5. Comply with all applicable national/provincial laws, regulations, and World Bank requirements
6. Comply with the SSESMP as approved by the Client to meets its ESHS and OHS objectives as well as preventing and/or mitigating the risks of GBV
7. Maintain a safe working environment including but not limited to:
    a. Ensuring that workplaces, machinery, equipment, and processes under each person's control are safe and without risk to health, preventing avoidable accidents, and reporting conditions or practices that pose a safety hazard or threaten the environment
    b. Wearing required personal protective equipment;
    c. Using appropriate measures relating to chemical, physical and biological substances, and agents; and
    d. Following applicable emergency operating procedures.
8. Not engage in any form of sexual harassment including unwelcome sexual advances, requests for sexual favors, and other unwanted verbal or physical conduct of a sexual nature at work site, the work site surroundings/nearby communities, or at worker's camps
9. Not participate in sexual activity with children/learners—including grooming or online grooming. Mistaken belief regarding the age of a child and consent from the child is not a defense;
10. Not exchange money, employment, goods, or services for sex, with community members including sexual favors or other forms of humiliating, degrading, or exploitative behavior;
11. Refrain from all forms of GBV, are unacceptable, regardless of whether they take place on the work site, the work site surroundings, at worker's camps or within the local community.

12. Attend training related to HIV and AIDS, SEA/SH, occupational health, and any other relevant courses/Trainings as a part of this project;
13. Report to the relevant committee any situation where I may have concerns or suspicions regarding acts of misconduct by a fellow worker, whether in my company or not, or any breaches of this code of conduct provided it is done in good faith;
14. Regarding children:
    a. Refrain from hiring children for labor, which is inappropriate given their age, or developmental stage, which interferes with their time available for education and recreational activities, or which places them at significant risk of injury.
    b. Bring to the attention of my manager the presence of any children on the construction site or engaged in hazardous activities.
    c. Comply with all relevant local legislation including labor laws and World Bank requirements in relation to child labor and forced labor.
15. Refrain from any form of theft for assets and facilities including from surrounding communities.
16. Remain in the designated working area during working hours;
17. Refrain from possession of alcohol and illegal drugs and other controlled substances in the workplace and being under the influence of these substances on the job and during workings hours;
18. Follow prescribed environmental occupation health and safety standards;
19. Channel grievances through the established grievance redress mechanism.

I do hereby acknowledge that I have read the foregoing Code of Conduct, do agree to comply with the standards contained therein and understand my roles and responsibilities to prevent and respond to ESHS, OHS, GBV issues. I understand that any action inconsistent with this Code of Conduct or failure to act mandated by this Code of Conduct may result in disciplinary action which could include:

1. Informal warning.
2. Formal warning.
3. Additional Training.
4. Loss of up to one week's salary.
5. Suspension of employment (without payment of salary), for a minimum period of 1 month up to a maximum of 6 months.
6. Termination of employment.
7. Report to the Police if warranted.

Signed by: _____

Signature: _____

Date: _____

For the Employer/Contractor

Signed by: _____

Signature: _____

Date: _____

ANNEX-C

CHANCE FIND PROCEDURES

The specific information on exact location and scale of project activities are not known at this stage. However, construction and earthworks may result in chance finds of archaeological or cultural resources, particularly in historically rich areas of KP. The construction and rehabilitation activities under Component 1 (flood protection infrastructure) and Component 2 (emergency response facilities) may involve excavation, which increases this risk. Therefore, the possibility of chance find is not ignorable. In case of any chance find, the Contractor will immediately report to Design and Supervision Consultant (DSC). The DSC will immediately report to Directorate General of Archaeology & Museum, Government of KP/ District office with the consent/approval of Project Directorate to take further suitable action to preserve those antique or sensitive remains. Representative of the DG (Archaeology & Museum) will visit the site and observe the significance of the antique, artifact and cultural (religious) properties and significance of the project. The report will be prepared by representative and will be given to the DG (Archaeology & Museum). The documentation will be completed and if required suitable action will be taken to preserve those antiques and sensitive remains.

In case any artifact, antiques and sensitive remains are discovered, chance find procedures should be adopted by Contractor or workers as follows:

- Workers will be trained in the location of heritage zones within the construction area and in the identification of potential items of heritage significance;
- Stop the construction activities in the areas of chance find;
- Delineate the discovered site or area;
- Consult with the local community and provincial Archaeological Department;
- The suggestion of the local communities and the concerned authorities will be suitably incorporated during taking the preventive measures to conserve the antique, artifact and cultural (religious) properties;
- Secure the site to prevent any damage or loss of removable objects. In case of removable antiquities or sensitive remain, a night guard shall be arranged until the responsible local authorities take over;
- After stopping work, the Contractor or workers must immediately report the discovery to the DSC;
- Ensure the compliance with the Khyber Pakhtunkhwa Antiquities (Amendment) Act, 2020 and ESS8 of World Bank ESF.

The contact address of Directorate Archaeology and Museums, Government of Khyber Pakhtunkhwa, is given below:

Directorate of Archaeology and Museums,
Government of Khyber Pakhtunkhwa.
Jail Road, Finance Department,
Civil Secretariat, Peshawar.
Tel: (091) 9211194

ANNEX-D
RESETTLEMENT FRAMEWORK

GLOSSARY

Term Used	Definition
Affected Person	Any person or household adversely affected by any project related change or changes in use of land, water or other natural resources, or the person/s who loses his/her/their asset or property movable or fixed, in full or in part including land, with or without displacement, after the commencement and during execution of a project.
Affected Households	All members of a household residing under one roof and operating as a single economic unit, who are adversely affected by the Project or any of its components; may consist of a single nuclear family or an extended family group.
Census	A field survey carried out to identify and determine the number of Affected Persons (APs) or Displaced Persons (DPs) as a result of land acquisition and related impacts. The census provides the basic information necessary for determining eligibility for compensation, resettlement, and other measures emanating from consultations with affected communities and the local government institutions
Compensation	The payment in kind, cash or other assets given in exchange for the acquisition of land including fixed assets, is called compensation. These include other impacts resulting from activities to rehabilitate or cushion the impacts from displacement
Cut-off Date	There is not a single overall project cut-off date. The date of start of census for all land and non-land related entitlements. It is the date for announcement of Section 4 notification under the LA Act of 1894 under which any person entering the project area after the cut-off date is not eligible to receive the agreed upon entitlements. The Bank accepts the date of the baseline survey as the cutoff date for eligibility.
Economic Displacement	Loss of land, assets, access to assets, income sources, or means of livelihoods as a result of (i) involuntary acquisition of land, or (ii) involuntary restrictions on land use or on access to legally designated parks and protected areas.
Encroachers	People who do not have legal title and have trespassed onto private/community land to which they are not authorized. If such people arrived before the entitlements cut-off date, they are eligible for compensation for any structures, crops or land improvements that they will lose.
Entitlement	The range of measures comprising compensation in cash/voucher or kind, relocation cost, income rehabilitation assistance, transfer assistance, income substitution, and business restoration which are due to APs, depending on the type and degree nature of their losses, to restore their social and economic base.

Grievance Mechanism	The RF contains a grievance mechanism (There is no need for separate GRM, the GRM mentioned in ESMF will be sufficient to address all the issues under resettlement activities) based on policies and procedures that are designed to ensure that the complaints or disputes about any aspect of the land acquisition, compensation, resettlement, and rehabilitation process, etc. are being addressed. This mechanism includes a procedure for filing of complaints and a process for dispute resolution within an acceptable time period
Household	A household means all persons living and eating together as a single- family unit and eating from the same kitchen whether or not related to each other.
Implementing agency	Implementing agency means the agency, public or private, that is responsible for planning, design and implementation of a development project.
Income restoration	Re-establishing income sources and livelihoods of APs.
Involuntary Resettlement	Land acquisition and resettlement for a public purpose on the basis of eminent domain law without the consent of displaced persons.
Inventory of lost assets	Descriptive list of all assets lost to the project, including land, immovable property (buildings and other structures), and incomes with names of owners.
Market Value	The most probable selling price or the value most often sought by buyers and sellers. It assumes buyers and sellers have reasonable knowledge, act competitively and rationally and are motivated by self-interest to maximize satisfaction and both act independently and without collusion fraud or misrepresentation.
Land Acquisition	Land acquisition means the process whereby a person is compelled by a public agency to alienate all or part of the land she/he owns or possesses, to the ownership and possession of that agency, for public purposes in return for fair compensation.
Physical Displacement	Relocation, loss of residential land, or loss of shelter as a result of (i) involuntary acquisition of land, or (ii) involuntary restrictions on land use or no access to legally designed parks and protected areas.
Subproject 's impacts based relocation	Subproject's impacts-based relocation- depending on the sub-project impacts i.e. if rehabilitation of flood-affected structures goes beyond ROW then spatial extent will be different depending upon the subproject activities.
Rehabilitation	Assistance provided to affected persons to supplement their income losses in order to improve, or at least achieve full restoration of, their pre- project living standards and quality of life.
Replacement Cost	Replacement cost" is defined as a method of valuation yielding compensation sufficient to replace assets, plus necessary transaction costs associated with asset replacement. Where functioning markets exist, replacement cost is the market value as established through independent and competent real estate valuation, plus

	transaction costs. Where functioning markets do not exist, replacement cost may be determined through alternative means, such as calculation of output value for land or productive assets, or the undepreciated value of replacement material and labor for construction of structures or other fixed assets, plus transaction costs. In all instances where physical displacement results in loss of shelter, replacement cost must at least be sufficient to enable purchase or construction of housing that meets acceptable minimum community standards of quality and safety. The valuation method for determining replacement cost should be documented and included in relevant resettlement planning documents. Transaction costs include administrative charges, registration or title fees, reasonable moving expenses, and any similar costs imposed on affected persons. To ensure compensation at replacement cost, planned compensation rates may require updating in project areas where inflation is high or the period of time between calculation of compensation rates and delivery of compensation is extensive
Vulnerable APs	Households that might suffer disproportionately or face the risk of being marginalized from the effects of resettlement and include: (i) female headed households; (ii) disabled-headed households; (iii) child-headed households; iv) households falling under the generally accepted indicator for poverty; (v) elderly-headed households with no means of support and landlessness; (vi) households without security of tenure; and (vii) ethnic minorities and indigenous people. Other groups may also qualify as "vulnerable" in the light of disadvantaged circumstances.

Introduction

This resettlement framework has been prepared to address issues related to land acquisition, voluntary land donation, restrictions on land use and involuntary resettlement (if any) in the READY-KP Project as required by World Bank (WB) Environmental and Social Framework (ESF) Environmental and Social Standard 5 (ESS5) on Land Acquisition, Restrictions on Land Use and Involuntary Resettlement

There is no large to medium scale acquisition of private lands expected under the project. Following the mitigation hierarchy, the project will prioritize the use of existing government lands if required for civil works. Under Component 1, the rehabilitation/construction of flood protection infrastructure and establishment of telemetry/flood forecasting infrastructure may require community lands through Voluntary Land Donation (VLD) where government lands are not available and VLD is acceptable as per requirements of ESS5. Rehabilitation work on existing structures will not have any additional land requirements, while new infrastructure will preferentially be sited on government lands where available. Component 2 will support the construction of new small-scale emergency response structures—there will be no additional land requirement for these. Many of these pipelines run under public rights of way (main roads, markets) with significant existing commercial activity. Temporary physical displacement of people and businesses, and removal of informal settlers is likely for all works, especially those on flood protection infrastructure (canals, drains, riverbanks) where encroachment is likely to be encountered.

The RF focuses on mitigating land taking impacts through negotiated agreement, expropriation and compensation and includes annexures with protocols for acceptance of VLD where circumstances meet requirements under ESS5.

Objective of Resettlement Framework

The RF has been prepared to establish resettlement principles and to provide guidance for assessment and resettlement planning. The RF fulfils the requirements of local laws and WB's ESF ESS5 on Land Acquisition, Restrictions on Land Use and Involuntary Resettlement. Where there are gaps between national and provincial laws and WB's ESS5, a practical approach has been designed which is consistent with Government practices as well as WB's ESS5. The RF also provides guidance on the requirements of ESS5 regarding voluntary land donation and displacement of informal settlers/occupants from public lands.

The RF will clarify resettlement principles, organizational arrangements, and design criteria to be applied to subprojects or project components to be prepared during project implementation. Once the subproject or individual project components are defined and the necessary information becomes available, this framework will be expanded into specific plans proportionate to potential risks and impacts of the sub-project. Project activities that will cause physical and/or economic displacement will not commence until such specific plans have been finalized and approved by the World Bank.

The RF also includes a preliminary identification of potential risks and impacts related to displacement of informal settlers, as well as appropriate design measures to minimize and mitigate adverse economic and social impacts, especially those that affect poor and vulnerable groups.

Requirements of Resettlement Framework

This Resettlement Framework covers the following:

- Description of project components and assessment of potential risks related to ESS5;
- principles and objectives governing resettlement preparation and implementation;
- principles and objectives governing voluntary land donation;
- process for preparing and approving resettlement plans;
- eligibility criteria for defining various categories of displaced persons;
- a legal framework reviewing relevant national and provincial regulations and ESF requirements and measures proposed to bridge any gaps;
- methods of valuing affected assets;
- organizational procedures for delivery of compensation and other resettlement assistance, including;
  - a description of the implementation process;
  - a description of grievance redress mechanisms;
  - a description of the arrangements for funding resettlement;
  - a description of mechanisms for consultations with, and participation of, displaced persons in planning, implementation, and monitoring; and
  - Arrangements for monitoring by the implementing agency and, if required, by third-party monitors.
  - a description of the implementation process;
  - a description of grievance redress mechanisms;
  - a description of the arrangements for funding resettlement;
  - a description of mechanisms for consultations with, and participation of, displaced persons in planning, implementation, and monitoring; and
  - Arrangements for monitoring by the implementing agency and, if required, by third-party monitors.

Stakeholder Consultations

A Stakeholder Engagement Plan (SEP) has been prepared by the project to provide a framework for effective and inclusive engagement with stakeholders under ESS10 Stakeholder Engagement and Information Disclosure. Cultural context requires strategic and continuous engagements with stakeholders especially vulnerable groups and residents in the Newly Merged Districts (NMDs). The SEP is a regular process and will ensure proper consultations conducted throughout the project preparation to inform the project design, including on land acquisition and resettlement. The guidance provided in SEP has covered resource sharing formulae, awareness raising which will lead to mass communications campaigns, and trainings stakeholder communities, watershed communities etc. The SEP also includes a grievance redress mechanism (GRM) to receive and facilitate the resolution of concerns and grievances. The GRM has been designed to receive and respond to SEA/SH incidences as per the requirements detailed in the SEA/SH Action Plan to be developed by the project.

Consultations with provincial and local government and community stakeholders during the preparation of this Resettlement Framework were conducted along with the SEP preparation. Details of these consultations are provided in the SEP.

Legal Framework

Constitution of the Islamic Republic of Pakistan

The Article 24 of the Constitution of Pakistan (1973) clearly addresses the protection of property rights by stating that “no person shall be compulsorily deprived of his property save in accordance with law” and “no property shall be compulsorily acquired or taken possession of save for a public purpose, and save by the authority of law which provides for compensation”. However, it neither fixes the amount of compensation nor specifies the principles and manner in which compensation is to be determined and given. Further, Article 4, sub-clause (2) (a) reiterates the legislative right of people; “no action detrimental to the life, liberty, body, reputation or property of any person shall be taken except in accordance with law”.

Land Acquisition Act 1894

The Land Acquisition Act regulates the land acquisition process and enables the federal and provincial governments to acquire private land for public purposes and for companies through the exercise of the right of eminent domain. Land acquisition is a provincial responsibility and each province has its own interpretation of the LAA manifested in implementation regulations and rules. In the absence of a national resettlement policy, the Land Acquisition Act of 1894 is the *de-facto* legal instrument governing resettlement and compensation.

The LAA establishes the right to acquire land for public purposes and specifies a systematic approach for acquisition and compensation of land and other properties for development projects. It covers notifications, surveys, acquisition, compensation and apportionment awards, along with disputes resolution, penalties and exemptions. Surveys for land acquisition are to be disclosed to the displaced persons. Most notably, only legal owners and tenants registered with the Land Revenue Department or with formal lease agreements are eligible for compensation or livelihood support under the LAA. No laws exist in Pakistan either at federal or at provincial level that consider non-titleholders for compensation, thereby excluding the poor, vulnerable groups, and the severely affected, such as tenants, informal settlers and occupants. The LAA neither provides for rehabilitation of losses in income or livelihood nor for resettlement costs. A brief explanation and salient features of different sections of LAA is given in table

Table 9: Salient Features of Land Acquisition Act 1894 with GoKP Amendments

Section	Feature
4	Publication of preliminary notification by District Collector (DC) to inform the[50] persons interested that the land in a locality is needed or likely to be needed for public purpose and power for conducting survey
5	Formal notification by DC that a particular land needed for a public purpose and inquires for objections or concerns from persons interested (Section 5a)
6	The DC makes a more formal declaration of intent to acquire land. Under the Act, the date of the publication of Section 6 may consider as a cut-off date.
7	The Land Commissioner shall direct the Land Acquisition Collector (LAC) to take order the acquisition of the land.
8	DC directs that land required to be physically marked, measured and planned.
9	DC gives notice to all persons interested that the Government intends to take possession of the land and requests to approach him/her if they have any claims for compensation then these claims are to be made to him at an appointed time.
10	DC delegate power to the LAC to record statements of persons interested in the area of land to be acquired or any part thereof as co-proprietor, sub-proprietor, mortgagee, and tenant or otherwise
11	Enables the Collector to make enquiries into the measurements, value and claim and then to issue the final "award"[51]. 11-A acquisition through private negotiation. 11-B Process of Compensation requires that the land acquisition process should be completed within a period of 6 months
16	Upon issuance of award under Section 11, the Collector may take possession of the land which shall thereupon vest absolutely in the Government, free from all encumbrances.
17	In cases of urgency, whenever the Government can take possession of any land needed for public purposes or for a Company. Such land shall thereupon vest absolutely in the Government, free from all encumbrances:

[50] In the LAA, "persons interested" are those who: (a) claim an interest in compensation to be made for the acquisition of land; and (b) have an interest in an easement affecting the land, such persons may also be the tenants, lessees, mortgages, etc.

[51] 11 A and 11 B Inserted vide Khyber Pakhtunkhwa Ordinance No. XVII Of 2001

18	In case of dissatisfaction with the award, affected people may request the LAC to refer the case onward to the court for a decision. This does not affect the Government taking possession of the land.
23	Matters to be considered in determining compensation: i) market value of the land, ii) loss of standing crops, trees and structures, iii) any damage sustained at the time of possession, iv) injurious affect to other property (moveable or immoveable) or earnings, v) expanses incidental to compelled relocation of the residence or business, and vi) diminution of the profits between the time of publication of Section 6 and the time of taking possession. A 15% premium is added to the amount in view of the compulsory nature of the acquisition for public purposes.
28	Relates to the determination of compensation values and interest premium for land acquisition.
31	The LAC can, instead of awarding cash compensation in respect of any land, make any arrangement with a person having an interest in such land, including the grant of other lands in exchange.
48A	If within a period of one year from the date of publication of declaration under section 6 in respect of any land, the Collector has not made an award under section 11 in respect to such land, the owner of the land shall, unless he has been to a material extent responsible for the delay be entitled to receive compensation for the damage suffered by him in consequence of the delay.

Source: Land Acquisition Act 1894 and Khyber Pakhtunkhwa Ordinance No. XVII of 2001.

The LAA contains provisions for acquisition of land and assets on an emergency basis. If a project of public purpose has to be implemented urgently, the requesting department may ask the revenue department to acquire land, which, as per the LAA, determines the nature of emergency and accordingly applies the law. The LAA and its Implementation rules require that, following an impact identification and valuation exercise, land and crops are compensated in cash at the current market rate to titled landowners. The LAA mandates that land valuation is to be based on the last 3 to 5 years average of registered land sale rates. However, in several recent cases the median rate over the past 1 year, or even the current rates, have been applied with an added 15% Compulsory Acquisition Surcharge in accordance with the law.

World Bank ESS5 Land Acquisition, Restrictions on Land Use and Involuntary Resettlement

World Bank's ESS5 recognizes that project-related land acquisition and restrictions on land use can have adverse impacts on communities and persons. Project-related land acquisition or restrictions on land use may cause physical displacement (relocation, loss of residential land or loss of shelter), economic displacement (loss of land, assets or access to assets, leading to loss of income sources or other means of livelihood), or both. The term "involuntary resettlement" refers to these impacts. Resettlement is considered involuntary when affected persons (APs) or communities do not have the right to refuse land acquisition or restrictions on land use that result in displacement. For these reasons, involuntary

resettlement should be avoided. Where involuntary resettlement is unavoidable, it will be minimized and appropriate measures to mitigate adverse impacts on displaced persons (and on host communities receiving displaced persons) will be carefully planned and implemented. The objectives of ESS5 are:

- To avoid involuntary resettlement or, when unavoidable, minimize involuntary resettlement by exploring project design alternatives;
- To avoid forced eviction;
- To mitigate unavoidable adverse social and economic impacts from land acquisition or restrictions on land use by: (a) providing timely compensation for loss of assets at replacement cost and (b) assisting displaced persons in their efforts to improve, or at least restore, their livelihoods and living standards, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher;
- To improve living conditions of poor or vulnerable persons who are physically displaced, through provision of adequate housing, access to services and facilities, and security of tenure;
- To conceive and execute resettlement activities as sustainable development programs, providing sufficient investment resources to enable displaced persons to benefit directly from the project, as the nature of the project may warrant;
- To ensure that resettlement activities are planned and implemented with appropriate disclosure of information, meaningful consultation, and the informed participation of those affected.

Land Acquisition Act 1894 and World Bank ESS5

In Pakistan, the LAA 1894 governs land acquisition. The LAA regulates the land acquisition process and enables the federal and provincial governments to acquire private land for public purposes through the exercise of the right of eminent domain. Land acquisition is a provincial government's responsibility. The LAA and its implementation rules require that following an impact identification and valuation exercise, land and crops are compensated in cash at the current market rate to the titled landowners. The LAA mandates that land valuation is to be based on the last 3 to 5 years average registered land-sale rates. However, in several recent cases, the median rate over the past 1 year, or even the current rates, has been applied with an added 15% compulsory acquisition surcharge. In case of delay in the land acquisition process, an additional compensation calculated @ 15% per annum from the day of publication of notification under Section-4 to the day when compensation is awarded.

The LAA lays down definite procedures for acquiring private land for projects and payment of compensation. For entering private land or carrying out surveys and investigations, specified formalities have to be observed and notifications to be issued. Damage to any crops during survey and investigations has to be compensated. The displaced persons (DPs), if not satisfied, can go to a court of law to contest the compensation award of the Land Acquisition Collector (LAC).

The law deals with matters related to permanent land acquisition or temporary occupation of private land and impacts on immovable assets that may exist on the land when land is required for public purpose. The right to acquire land for public purposes is established when Section 4 of the LAA is notified. The LAA specifies a systematic approach for acquisition and compensation of land and other properties for development projects. It stipulates various sections pertaining to notifications, surveys, acquisition, compensation and apportionment of awards, along with disputes resolution, penalties and exemptions. The surveys of land acquisition are to be disclosed to the DPs. However, the law only recognizes "legal" owners of property supported by records of ownership such as deeds, title or agreements.

This RF is designed as per the regulatory framework of Pakistan, Khyber Pakhtunkhwa Ordinance No. XVII of 2001, and the World Bank's Environment and Social Framework (ESF) performance standards, specifically ESS 5. The primary objective of ESS 5 is to ensure that APs are assisted to improve, or at a very minimum restore, their pre-project living standards, income earning capacity, and production levels. However, the country's regulation, particularly the LAA does not fully recognize resettlement and rehabilitation of all APs. To bridge such gaps, resettlement principles have been developed for the Project.

The Land Acquisition Act 1894 and the World Bank ESS5 principles are compared in the following table 4.

Table 10: Comparison of Land Acquisition Act 1894 and World Bank ESS5

TOPIC	LAND ACQUISITION ACT	WORLD BANK ESS5	IDENTIFIED GAPS
SCREENING AND SCOPING	• No equivalent requirement.	• Screen the project early on to identify past, present, and future involuntary resettlement impacts and risks. • Determine the scope of resettlement planning through a survey and/or census of displaced persons, including an analysis of poor and vulnerable groups, specifically related to resettlement impacts and risks.	• LAA 1894 does not require screening of the project early on to identify future involuntary resettlement impacts and determine the scope of these impacts. • This RF provides procedures for screening and scoping as per requirements of ESS5 in Section 3
CONSULTATIONS, COMMUNICATION, VULNERABLE GROUPS, GRIEVANCE REDRESS MECHANISM, HIGH IMPACTS AND RISKS	• No specific requirement. • The decisions regarding land acquisition and the rate/amount of compensation to be paid are published in the official Gazette which is notified in accessible places so that the people affected are informed. • The rate/amount of compensation is established under LAA through the formal land acquisition process or through appeals to the court.	• Carry out meaningful consultations with affected persons, host communities, and concerned nongovernment organizations. • Inform all displaced persons of their entitlements and resettlement options. Ensure their participation in planning, implementation, and monitoring and evaluation of resettlement programs. • Pay particular attention to the needs of vulnerable groups, especially those below the poverty line, the	• LAA 1894 not have specific requirements for meaningful consultations with affected persons, other stakeholders and vulnerable groups. • LAA 1894 does not have specific requirements for participation of displaced persons in planning, implementation and monitoring of resettlement programs. • LAA 1894 does not require establishment of a GRM • This RF provides procedures for consultations, information disclosure and GRM with particular attention to the needs of vulnerable groups in Section 4

	• Land Acquisition Collector (LAC) is the pre-land award authority to make decision on objections.	landless, the elderly, women and children, and Indigenous Peoples, and those without legal title to land, and ensure their participation in consultations. • Establish a grievance redress mechanism to receive and facilitate resolution of the affected persons‟ concerns. Support the social and cultural institutions of displaced persons and their host population. • Where involuntary resettlement impacts and risks are highly complex and sensitive, compensation and resettlement decisions should be preceded by a social preparation phase.	
IMPROVEMENT OR RESTORATION OF LIVELIHOODS	• No equivalent requirement.	• Improve, or at least restore, the livelihoods of all displaced persons through: • (i) For persons whose livelihoods are land-based, replacement land that has a combination of productive potential, locational advantages, and other factors at least equivalent to that being lost will be offered where feasible; • (ii) For persons whose livelihoods are natural resource-based and where project-related restrictions on access apply, measures will be implemented to either allow continued access to affected resources or to provide access to alternative resources with equivalent	• LAA 1894 does not provide for compensations related to restoration and improvement of livelihoods. • This RF provides provisions for improvement or restoration of livelihoods of affected persons in Section 5

		livelihood-earning potential and accessibility. Where common property resources are affected, benefits and compensation associated with restrictions on natural resource usage may be collective in nature; and • (iii) If it is demonstrated that replacement land or resources are unavailable, the Borrower will offer economically displaced persons options for alternative income earning opportunities, such as credit facilities, skills training, business start-up assistance, employment opportunities, or cash assistance additional to compensation	
PHYSICAL AND ECONOMICAL ASSISTANCE TO DISPLACED PERSONS	• No equivalent requirement	• Provide physically and economically displaced persons with needed assistance, including the following: (i) if there is relocation, secured tenure to relocation and, better housing at resettlement sites with comparable access to employment and production opportunities, integration of resettled persons economically and socially into their host communities, and extension of project benefits to host communities; (ii) transitional support and development assistance, such as land development, credit	•

		facilities, training, or employment opportunities; and (iii) civic infrastructure and community services, as required.	
STANDARDS OF LIVING OF THE DISPLACED VULNERABLE GROUPS	• No additional support to vulnerable households	• Improve the standards of living of the displaced poor and other vulnerable groups, including women, to at least national minimum standards. • In rural areas provide them with legal and affordable access to land and resources, and in urban areas provide them with appropriate income sources and legal and affordable access to adequate housing.	• LAA 1894 does not require providing additional support to the displaced poor or vulnerable groups • This RF provides provisions for additional support of vulnerable groups in Section 5
TRANSPARENCY, CONSISTENCY AND EQUITABLE LAND EVALUATION	• Equivalent negotiation responds to displaced persons' requested price, but no clear procedure is given.	• Develop procedures in a transparent, consistent, and equitable manner if land acquisition is through negotiated settlement to ensure that those people who enter into negotiated settlements will maintain the same or better income and livelihood status.	• LAA 1894 does not provide clear procedures for negotiated settlement • Procedure to be followed in the case of negotiation settlement provided in this RF, Section 5.
RIGHTS OF DISPLACES PERSONS WITHOUT FORMAL TITLES TO LAND	• Land compensation is only for titled landowners or holders of customary rights.	• Ensure that displaced persons without titles to land or any recognizable legal rights to land are eligible for resettlement assistance and compensation for loss of non-land assets.	• LAA 1894 does not include provisions for compensation of displaced persons without titles or recognizable rights to land. • This RF focuses on rights of informal settlers/occupants and provides details of compensation in Section 5.
ESTABLISHMENT OF RESETTLEMENT PLAN	• No resettlement plan is required.	• Prepare a resettlement plan elaborating on displaced persons"	• LAA 1894 does not require preparation of Resettlement Plans

		entitlements, the income and livelihood restoration strategy, institutional arrangements, monitoring and reporting framework, budget, and time bound implementation schedule.	• Details and requirements for preparing Resettlement Plans are provided in Section 4 of this RF.
DISCLOSURE OF RESETTLEMENT PLAN	• No resettlement plan is required.	• Disclose a draft resettlement plan, including documentation of the consultation process in a timely manner, before Project appraisal, in an accessible place and a form and language/s understandable to affected persons and other stakeholders. • Disclose the final resettlement plan and its updates to affected persons and other stakeholders.	• LAA 1894 does not require preparation of Resettlement Plans • Details and requirements for disclosure of Resettlement Plans are provided in Section 4 of this RF.
CONCEPTION AND IMPLEMENTATION OF RESETTLEMENT PLAN	• No equivalent requirement.	• Conceive and execute involuntary resettlement as part of a development project or program. Include the full costs of resettlement in the presentation of project's costs and benefits. • For a project with significant involuntary resettlement impacts, consider implementing the involuntary resettlement component of the project as a stand-alone operation. • Implement the resettlement plan under close supervision throughout project implementation.	• LAA 1894 does not require preparation of Resettlement Plans • Details and requirements for implementation of Resettlement Plans are provided in Section 4 of this RF.

COMPENSATION AND OTHER ENTITLEMENTS.	• No equivalent requirement.	• Pay compensation and provide other resettlement entitlements before physical or economic displacement.	• LAA 1894 does not require for compensation or entitlements to be paid before physical or economic displacement. • Requirements for payment of compensations and entitlements before displacement are provided in Section 5 of this RF
MONITORING OF RESETTLEMENT PLAN IMPLEMENTATION	• Monitoring reports not required	• Monitor and assess resettlement outcomes, their impacts on the standards of living of displaced persons, and whether the objectives of the resettlement plan have been achieved by taking into account the baseline conditions and the results of resettlement monitoring. Disclose monitoring reports.	• LAA 1894 does not require monitoring of resettlement activities • Details and requirements for monitoring of resettlement activities are provided in Section 6 of this RF.

1 ASSESSMENT OF LAND ACQUISITION AND RESETTLEMENT RISKS

Overview of Land Acquisition and Resettlement Risks

Using the mitigation hierarchy, the project will prioritize the following actions for civil works requiring land:

- Priority 1 – use existing government lands
- Priority 2 – use community donated lands (voluntary land donation)
- Priority 3 (last priority) – acquire private lands

The project will make all efforts to avoid acquisition of private lands and mitigate land taking impacts through negotiated agreement, expropriation and compensation Where voluntary land donation (VLD) cannot be avoided, the project will strictly follow protocols for acceptance of VLD where circumstances meet requirements under ESS5. All VLD and private land acquisition will be submitted to the World Bank for approval before proceeding. The project will also avoid working in areas where there have been documented anti-encroachment drives within 3 years of project preparation, or areas where forced removal of informal settlers/ encroachers may be carried out in anticipation of project civil works.

Component 1: Improving Infrastructure and Planning for Resilience

Based on risk proportionality and material consistency with ESS5, there is a moderate risk of land acquisition and involuntary resettlement under Component 1.

- Sub-Component 1.1 activities will include rehabilitation and construction of flood protection structures; including canals, drains, and riverbank structures.

While the details of land requirements for sub-projects are not finalized at preparation stage, the presence of encroachments and past instances of AED have been confirmed through the field work undertaken for preparation of the ESMF.

Encroachments will be identified during the detailed design stage for each sub-project. For AEDs, a study is being conducted to determine locations in which AEDs have been conducted in the past year, and are therefore ineligible for project activities. Prior to project negotiation, this RF will be updated to reflect the findings and recommendations from the study, and will cover all instances of AEDs in the project area.

Land risks analysis for Component 1 is provided in Table 5 below:

Table 11: Land Risks Analysis Component A

Activity	Risk of Temporary Economic and Physical	Land Required? (Yes/No)	If Yes, please answer the following		
			Will Existing	Will private land be acquired?	Will community

	Displacement & AED		Govt Land be Used?		donated land be used (VLD)?
Sub-component 1.1 Flood Protection Infrastructure	Yes	Yes	Yes	Potential for land acquisition[52]	Potential for VLD

Component 2: Establish Flood Early Warning Systems

There is minimal risk of land acquisition and involuntary resettlement associated with activities under Component 2. There are no construction activities, and the only land requirements are associated with the expansion of the hydromet observation network, including hydrological and meteorological stations. These facilities will have small footprints, and are not highly geographically constrained, so the risk of not finding suitable government owned land is minimal.

Activity	Risk of Temporary Economic and Physical Displacement & AED	Land Required? (Yes/No)	If Yes, please answer the following		
			Will Existing Govt Land be Used?	Will private land be acquired?	Will community donated land be used (VLD)?
Sub-component 2.1 Flood Telemetry, Data Integration, and Forecasting	No	Yes	Yes	No	No

Component 3: Strengthening Institutional and Community Preparedness

Activities under Component-3 have been categorized as having low risk of land acquisition and involuntary resettlement. Rehabilitation/upgradation works of existing Rescue 1122 structures under Subcomponent 3.1 will be limited to existing structures already situated on government land. Enhancement of emergency response systems under Subcomponent 3.2 will include the establishment of additional rescue stations in underserved districts, and district level warehouses for stockpiling of emergency supplies. Activities under subcomponent 3.2 will similarly be limited to government lands (e.g. existing Rescue 1122 facilities, and river/canal banks that are under ownership of the Irrigation Department. However, there is a low risk that

[52] At preparation stage, the sites for newly constructed schemes and detailed designs are not finalized, however there is potential that land in addition to government land may be required.

land required for these activities may be encroached. For activities under sub-component 3.2, there is also a risk of encountering past instances of AEDs, as some of these interventions (particularly water rescue stations) will be located on river/canal banks, where encroachments were observed during the field work conducted for the ESMF.

Land risks analysis of Component 3 is provided in Table 6.

Table 12: Land Risks Analysis Component B

Activity	Risk of Temporary Economic and Physical Displacement & AED	Land Required? (Yes/No)	If Yes, please answer the following (Yes/No)		
			Will Existing Govt Land be Used?	Will private land be acquired?	Will community donated land be used (VLD)?
Sub-component 2.1 Strengthening Disaster Preparedness and Community Resilience	No	Yes	Yes	No	No
Sub-component 2.2 Enhancing Emergency Response Systems	Yes	Yes	Yes	No	No

1.1.1 Anti Encroachment Drives Along Canals, Drains, and Riverbanks

During the field work conducted for the ESMF preparation, encroachments were observed in the vicinities of various drains, canals, and riverbanks where project activities are planned to be implemented. Past occurrences of AEDs were also confirmed through key-informant interviews, however the exact dates, locations, and outcomes of these AEDs were not determined.

A dedicated AED study is underway and shall be completed before project negotiation, to determine the details of AEDs conducted. The objective of the assignment is to conduct an investigative study to determine the risks related to removal of encroachment in the project areas. The study will assess and document land ownership status in the project sites, highlight areas with encroachments, and ring-fence areas with legacy anti-encroachment drives.

The study will include:

- Secondary data review and analysis, as required from background documents and literature review

- GIS mapping of the project sites
- Assessment of land requirements for project sites and identification of government, private, and communal lands, to be mapped
- Cross check and determine land ownership with BOR
- Identification and mapping of project sites where there are encroachments
- Identify any AEDs that have taken place in the project sites within the last three years before project concept approval and ringfence these areas on GIS
- Cross check and verifying AEDs with affected persons
- Cross checking and verifying AEDs and their extents with DC, BOR, and other involved government entities
- Presentation of results in the form of a report with clear findings and recommendations
- GIS map of the project sites with identified land types, encroached areas, and areas where AED has taken place

This RF will be updated to include the findings and recommendations from the study.

Areas ring-fenced for AEDs conducted within 3 years of project preparation will be avoided by the project. The project will also take all measures to ensure that no AEDs are conducted in anticipation of project civil works.

1.1.2 Component 1: Improving Infrastructure and Systems for Resilience

Construction of New Flood Protection Infrastructure

The purpose of flood protection infrastructure is to mitigate riverine foods, flash floods, and GLOFs in high risk areas of KP. Investments will include infrastructure such as embankments, flood carrier channels, spurs, retaining walls, revetments, gabion works, and check dams to attenuate peak flows and reduce downstream impacts. Prioritization of candidate schemes is currently underway.

Additional land will be required for the construction of new flood protection infrastructure, and encroachments may be present. VLD may be required in cases where no suitable government land is identified. AEDs may have also been conducted at proposed sub-project sites.

Rehabilitation of Existing Flood Protection Infrastructure.

Rehabilitation works will be carried out on existing flood protection infrastructure. The list of candidate schemes has been prepared by the KP Irrigation Department, and prioritization and finalization of these schemes is underway.

The rehabilitation of flood protection infrastructure carries a risk of land acquisition and resettlement as chosen infrastructures may require additional land, and encroachments may be present. AEDs may also have been conducted at proposed sub-project sites.

1.1.3 Component 2: Establish Flood Early Warning Systems

Telemetry and Flood Forecasting

A province-wide Flood Forecast and Warning System (FFWS) will be established to improve real-time data collection, transmission, and analysis. Civil works will be limited to the construction of monitoring

stations on and around water channels. The works are expected to be minor in scale and carry very little resettlement risk, as they will be constructed on the RoW of the water channels.

The construction of monitoring stations carries a risk of encountering encroachments, however due to the small scale and footprint of these stations, the risk is minimal. AEDs may have been conducted at proposed sub-project sites.

1.1.4 Component 3: Strengthening Institutional and Community Preparedness

Establishment of Additional Rescue 1122 Stations

Civil works will involve the construction of rescue stations in underserved districts, improving operational logistics and strengthening of command-and-control systems. These will be small-to medium scale structures, and will be built on government lands. Water rescue stations will be constructed on or around water channels.

The construction of rescue stations carries a minimal risk of encountering encroachments, particularly for water rescue stations which will be built in close proximity to water channels. AEDs may have been conducted at the proposed sites, particularly for water rescue stations.

Category 1: Involuntary Resettlement due to Civil Works

1.1.5 Land Acquisition in Areas where Communal or individual Land is not available with its Official Land Records

The areas where official land records do not exist and lands did not settle or are communal lands, under the requirements of the lands through LAA 1894 and ESS5 the Project will follow the requirements of the Land Acquisition by setting up Community Development Council (CDC) keeping the areas in view where acquisition of lands anticipated. The Resettlement Plan will include detailed processes and TORs therefore, the CDC to ensure the practice does not result in elite capture, conflict of interest and exploitation. Due diligence for acquiring land through the CDC and choosing members of the CDC must include at least the following:

- A new Community Development Council (CDC) must be established for each land acquisition;
- The CDC members must not be direct blood relatives of the land owners;
- The CDC members must not be employees of the DC Office, Revenue, Acquiring Department or Local Government;
- The PIUs must ensure the Community Development Council (CDC) members do not benefit financially from the land acquisition
- The PIUs must verify and document that land being acquired is free from any dispute on ownership or any other encumbrances;
- The land must be jointly identified by the Collector, Revenue Department, tribal elders and project representative. PIUs must ensure that the land is appropriate for sub-project purposes and that the sub-project will not result in any adverse social or environmental impacts by using this land;
- The PIUs must ensure the land is not being acquired through force or coercion;
- The PIUs must ensure that the price set by the Community Development Council (CDC) is not below the prevailing market price;

- The PIUs must ensure the price set by the Community Development Council (CDC) includes compensation for assets, trees, crops and economic displacement as per the Project Entitlement Matrix;
- The PIUs must ensure free and informed decision-making through meaningful consultations conducted in good faith with all potential land sellers;
- The PIUs must ensure that the community has knowledge of and access to a fair system of grievance redress, and that the system for project monitoring and reporting is in place.

A **Screening Checklist** will be used for the due diligence and has been provided as Annexure 3.

1.1.6 Compensation for Informal Settlers/Occupants (encroachers)

In addition to legal titleholders and those with traditional rights to land, the World Bank's ESS5 recognizes Affected Persons as those who have no recognizable legal right or claim to the land or assets they occupy and will be displaced from.

Consultations with the relevant government departments reveal there is no consistent approach and written guidance or procedures for the removal of informal settlers from state owned lands. Where necessary, removal of informal settlers is conducted by the relevant local administration (DC Office) on the request of the BOR.

There is no impediment under national and provincial laws, in getting public lands forcibly vacated from the possession of informal settlers. All informal settlers/occupants present on government owned lands identified for use by the Project must be compensated based on the requirements of ESS5 and the Entitlements Matrix provided in this RF.

There is a risk of removal of informal settlers/encroachers during civil works around water channels, particularly rivers, drains, and canals.

Areas ring-fenced for AEDs conducted within 3 years of project preparation will be avoided by the project. The project will also take all measures to ensure that no AEDs are conducted in anticipation of project civil works.

Category 2: Voluntary Land Donation due to Civil Works

1.1.7 Identification of Risks

The project may require Voluntary Land Donation (VLD) for activities under Component 1 as described in the sections above. The need for communal land acquisition for Component 1 will be determined during the design phase for each sub-project

The project will ensure that all local infrastructure is constructed on existing land, government lands, or on land provided by the community through Voluntary Land Donation (VLD) process.

1. Preference 1: Use of government or state-owned land
2. Preference 2: Voluntary Land Donation (VLD) (in exceptional circumstances)

1.1.8 Mitigation Measures

All project activities/subprojects which include civil works under Component 1 and its sub-components will be screened by the Project to identify any potential impacts related to land acquisition and resettlement. The **'Involuntary Resettlement Screening Checklist for Civil Works'** provided as Annexure 1 will be used for this purpose and will be completed through a rapid assessment of the subproject site.

Based on the findings of the screening activity, the Project will determine the need for conducting due diligence and preparing the required VLD documentation as per guidance provided in the **VLD Framework** (Annexure 2), **VLD/Due Diligence Screening Checklist** (Annexure 3) and **Sample Agreements for VLD** (Annexure 4).

VLD in Settled Districts/Areas with Land Records

In the targeted districts or their areas where land records have been established, the Project must use the 'VLD Sample Agreement for Settled Areas' (Annexure 4).

VLD in Areas without Land Records

In areas without established land records, the Project must use the 'VLD Sample Agreement for Areas without Land Records' (Annexure 4). In such cases, as land ownership is not documented, the agreement following tribal customs will require the proposed land to be transferred to a nominated tribal elder, who will then donate the land to the project.

2 PREPARING RESETTLEMENT PLANS

Resettlement Plans (RP) are proposed to be prepared for where it is identified that medium or small scale acquisition of land is required, or there is a risk of removal of informal settlers/occupants (encroachers) from public lands. The Project will ensure that priority is given to use existing lands of the flood affected infrastructures, government owned lands and communal or individual lands for the construction activities the process for preparing a RP is provided in this section.

The scope of requirements and level of detail of the resettlement plan varies with the magnitude and complexity of resettlement. The plan is based on up-to-date and reliable information about;

(a) The proposed project and its potential impacts on the affected persons and other adversely affected groups,

(b) Appropriate and feasible mitigation measures, and

(c) The legal and institutional arrangements required for effective implementation of resettlement measures.

Methodology of Screening

Following the RF, the PIUs will be overall responsible for each component of the project and shall undertake assessment of all impacts of different project activities, any unanticipated impacts or additional land acquisition required during the implementation of the project. Screening for resettlement impacts will be conducted for all construction activities using the **Involuntary Resettlement Screening Checklist (Annexure 1)**. The checklist will be filled by the project staff by conducting a rapid assessment of the resettlement impacts and consultation with the affected persons and communities, if any. This will help the PIUs to identify any potential involuntary resettlement risks and the need for preparing RPs.

Assessment of Impacts from Land Acquisition and Resettlement

If the Involuntary Resettlement Checklist identifies potential resettlement impacts associated with land acquisition or use of government lands, including those who refused to provide their lands in any case and related to removal of informal settlers/occupants (encroachers), or prior acquisition of land which is not in line with the requirements of this Resettlement Framework, detailed assessments will be conducted as following:

1. For public lands, if any, conduct a social, legal and institutional assessment as per the requirements of ESS1. The assessment will identify potential risks and impacts, as well as appropriate design measures to minimize and mitigate adverse economic and social impacts, especially those that affect poor and vulnerable groups, including informal settlers/occupants (encroachers).
2. Based on the social, legal and institutional assessment, consider measures to minimize impacts and or options to reduce impacts.
3. Conduct a full assessment of resettlement impacts by involving all stakeholders, particularly the affected persons including informal settlers/occupants (encroachers) and establish a full inventory of all assets to be acquired or displaced.
4. Prepare Resettlement Plans for all activities requiring land acquisition or resulting in displacement of formal or informal settlers
5. Use the approved entitlement matrix to guide the planning and compensation for all losses incurred due to the unanticipated impacts and/ or acquisition of additional properties. New entitlements may be developed depending on the scale of any specific impacts caused by the project.
6. Project will not start civil works or remove informal settlers until all relevant entitlements are paid to affected persons

Share the draft RP with WB for concurrence and approval and explain and disclose to the APs (translated into Urdu and other local languages, if needed).

Community Participation and Consultations

PIUs will ensure engagement with and consultations with all APs and affected communities through the process of stakeholder engagement defined in the Project's Stakeholder Engagement Plan. Detailed consultations will be conducted to gather their views and feedback to incorporate into the resettlement plans. Decision-making processes related to resettlement and livelihood restoration will include options and alternatives from which affected persons may choose. Disclosure of relevant information and meaningful participation of flood and land affected communities and persons will take place during the consideration of alternative project designs, and thereafter throughout the planning, implementation, monitoring, and evaluation of the compensation process, livelihood restoration activities, and relocation process. The Project will also put in place institutional arrangements by which affected people can communicate their concerns to project authorities throughout planning and implementation.

The consultation process should also ensure that women's perspectives are obtained and their interests factored into all aspects of resettlement planning and implementation. Addressing livelihood impacts may require intra-household analysis in cases where women's and men's livelihoods are affected differently. Women's and men's preferences in terms of compensation mechanisms, such as replacement land or alternative access to natural resources rather than in cash, should be explored.

Field Surveys

Field surveys for the RP consist of four different[53] but interrelated surveys that will prepare a census of all affected persons, households, public sector places, businesses and community infrastructure and identify all impacts.

Valuation of Assets

The RP will include a detailed valuation of assets such as productive land, houses, structures, crops, trees and loss of livelihoods.

Approval of Resettlement Plan

All Resettlement Plans (RPs) will be prepared in accordance with this RF. Once the RPs are finalized, verified and approved by the PIUs, it will further be sent to the World Bank for review and endorsement via a No Objection Letter. After the endorsement, the government of Khyber Pakhtunkhwa will be responsible for the approval of the RP and all resettlement related issues, as well as implementation of the RPs in accordance with the RF. The RF will apply to the entire project irrespective of source of financing.

Disclosure of Resettlement Plan

During project preparation, the Resettlement Plan (RP) will be disclosed after approval of the World Bank, on the Bank and Project websites in English and at project sites in local language(s). Both the World Bank and government of Khyber Pakhtunkhwa will disclose the final version of RP.

Adaptive Management of Resettlement Plan

Resettlement Plans should include provisions for adapting resettlement implementation in response to unanticipated changes in project conditions, or unanticipated obstacles to achieving satisfactory resettlement outcomes. Resettlement Plans will be updated to reflect changes that lead to substantive changes in the nature of resettlement impacts. Any updated RP should be submitted to the World Bank for review prior to implementation of new design. The updated RP once approved by government of Khyber Pakhtunkhwa and accepted by the Bank, must be disclosed on the Bank and Project websites in English and at project sites in local language(s).

3 ELIGIBILITY AND ENTITLEMENTS MATRIX

APs losing land (agriculture, barren or houses), structures (residential or commercial), assets, or income, are entitled for compensation and rehabilitation subsidies, including a relocation subsidy, and a business losses allowance. The informal land users without traditional/recognizable rights and encroachers losing land will not be entitled to land compensation but will be provided compensation for their assets including structures, businesses and resettlement and rehabilitation assistance. The ***table 7*** entitlement matrix presented below defines the eligibility and criteria for providing compensation and assistance for various types of resettlements impacts that are likely to be caused by the project.

Table 13: Eligibility and Compensation Entitlement Matrix

Type of Loss	*Specification*	*Eligibility*	*Entitlements*

[53] Census of Affected Persons and Project Impacts; Household Profile Survey; Affected Businesses Survey; Public and Community Infrastructure Survey

			1. LAND
Permanent impact on arable land	**All land losses independent of impact severity**	**Owner (titleholder, or holder of traditional rights**	*Land for land compensation through provision of plots of equal value and productivity as that of lost, or* *Cash compensation at full replacement cost either through negotiated settlement between the IA and the landowners or assessed based on provisions of Section 23 of Land Acquisition Act 1894 (LAA) including fair market value plus damages/costs applicable free from taxes and levies plus 15% compulsory land acquisition surcharge from publication date of section-4 to the date of compensation.*
			If Board of Revenue (BoR)[54] compensation falls below replacement cost (RC), the project will pay the differential as resettlement assistance to the APs to restore affected livelihoods.
			Resettlement Assistance equivalent to six months of provincial government announced monthly minimum wages, if the impact is 10% or more of productive arable land.
		Leaseholder titled/untitled	*Compensation commensurate to lease type and as appropriate for recovery of paid advance or paid lease amount for the remaining lease period but up to two years maximum.*
			Crop compensation for standing crop with an additional crop (based on relevant cropping pattern/cultivation record) and other appropriate rehabilitation as transitional support under other entitlements.
		Sharecropper / tenant (titled/untitled)	*Cash compensation equal to gross market value of crop compensation (see crop compensation below) to be shared with the land owner based on the sharecropping arrangement.*
		Agriculture laborers	*The agricultural laborers facing employment/wage loss because of land acquisition will be entitled to*

[54] Board of Revenue, provincial agency with a mandate to approve compensation rate/ amount.

			income rehabilitation allowance in cash equal to net value of one crop season based on relevant cropping pattern/cultivation record or 3 months officially designated minimum wage.
		Encroachers	*No compensation for land loss* *Income rehabilitation allowance in cash equal to net value of annual crop production, including payment for crop loss, and other appropriate rehabilitation to be defined in the RPs based on project specific situation and AP consultation.*
Residential/ commercial land	**All land losses independent of impact severity**	**Titleholder, or holder of traditional rights**	*Cash compensation at full replacement cost (RC) including fair market value plus 15% compulsory acquisition surcharge all transaction costs, applicable fees and taxes and any other payment applicable* *Lump sum Relocation grant per affected Household to cover transport expenses and livelihood expenses for one month (to be calculated on the basis of Cost of Basic Needs (CBN) per person).* *Special assistance of one-time payment CBN for each female, disabled, elderly headed and very poor households.* *If BoR compensation falls below RC, the project will pay the differential as resettlement assistance to the APs to restore affected livelihoods.*
		Lessee, tenant	*Cash refund/payment at the rate of lease or house rent for remaining lease period or house rent*
		Renter/ leaseholder	*Rent allowance in cash equivalent to 3-6 months' rent to be decided in consultation meetings with APs.*
		Non-titled user without traditional rights (squatters)	*No compensation for land loss* *Self-relocation allowance in cash equivalent to 3-6 months livelihood based on minimum wage rate, or as assessed based on income analysis.* *Where required, additional support required ensuring improved standard of living to be determined through the social impact assessment.*
Temporary land occupation	**Land temporarily required**	**Owner, lessee, tenant**	*Rental fee payment for period of occupation of land, as mutually agreed by the landowner and contractor;* *Restoration of land to original state; and*

	during civil works		*Guaranteed access to structures (if any) and remaining land with restored infrastructure and water supplies.*
		Non-titled user	*Guaranteed access to land and structures located on remaining land with restored access to water supplies for irrigation (if applicable)* *Restoration of land to original state; and* *Income rehabilitation support, i.e., compensation for lost crops/trees as per entitlements provided (refer crop and tree section below).*
			2. STRUCTURES
Residential, agricultural, commercial, public, community	**Partial Loss of structure**	**Owner (including non-titled land user)**	*Cash compensation for affected structure (taking into account functioning viability of remaining portion of partially affected structure) for its restoration to original use) at full replacement cost computed at market rate for materials, labor, transport and other incidental costs, without deduction of depreciation.* *Right to salvage materials from lost structure*
		Lessee, **Tenant**	*Cash refund at rate of rental fee proportionate to size of lost part of structure and duration of remaining lease period already paid.* *Any improvements made to lost structure by a tenant will be taken into account and will be compensated at full replacement cost payable as per agreed apportionment through consultation meetings.*
	Full loss of structure and relocation	**Owner (including non-titled land user)**	*The AP may choose between the following alternatives:* *Provision of fully titled and registered replacement structures at relocation site (if any) comparably of equal size and value as that of lost one including payment of all transaction costs, fees and taxes applicable under law or* *Cash compensation at full replacement cost, including all transaction costs, such as applicable fees and taxes, without deduction of depreciation for age, for self-relocation.* *In either case, AP has the right to salvage the affected structure.*

		Lessee, tenant	*Cash refund at rate of rental fee proportionate to duration of remaining lease period;* *Any improvements made to lost structure by lessee/ tenant will be taken into account and will be compensated at full replacement cost payable as per agreed apportionment through consultation meetings.*
	Moving of minor structures (fences, sheds, latrines etc.)	**Owner, lessee, tenant**	*Cash compensation for self-relocation of structure at market rate (labor, materials, transport and other incidental costs, as required, without deduction of depreciation for age) or relocation of the structure by the Project.*
	Stalls, kiosks, cabins	**Vendors (including titled and non-titled land users)**	*Allocation of alternative location comparable to lost location, or* *Cash compensation for self-relocation of stall/kiosk at market rate (labor, materials, transport and other incidental costs, as required, without deduction of depreciation for age)*
			3. CROPS
Crops	**Affected crops**	**Cultivator**	*Cash compensation (one- year crop) at current market rate proportionate to size of lost plot, based on crop type and highest average yield over past 3 years or as assessed through the Agricultural Department.*
		Parties to sharecrop arrangement	*Same as above and distributed between landowner and tenant according to legally stipulated or traditionally/informally agreed share.*
			4. TREES
Trees	**Affected trees**	**Landowner/ Cultivator**	*Cash compensation for fruit trees at current market rate of crop type and average yield (i) multiplied, for immature non-bearing trees, by the years required to grow tree to productivity or (ii) multiplied, for mature crop bearing trees, by the average years of crops forgone; plus, cost of purchase of seedlings and required inputs to replace trees.* *Cash compensation for timber trees at current market rate of timber value of species at current volume, plus cost of purchase of seedlings and*

			required inputs to replace trees.
		Parties to sharecrop arrangement	*Same as above and distributed between landowner and tenant according to legally stipulated or traditionally/informally agreed share*
			5. RESETTLEMENT & RELOCATION
Relocation Assistance	**All types of structures affected**	**All APs titled/untitled requiring to relocate as a result of losing land and structures**	*The project will provide logistic support to all eligible APs in relocation of affected structures whether project-based relocation or self-relocation as applicable.* *Subproject's impacts-based relocation- depending on the sub-project impacts i.e. if rehabilitation of flood-affected structures or improvement of rains-affected road goes beyond ROW then spatial extent will be different depending upon the subproject activities., APs will be provided with access to civic amenities including electricity, water supply and sewage as well as school and health center (if applicable).*
Security of tenure	**Replacement land and structures**	**All APs and tenants needing to relocate to project relocation sites.**	*If APs are required to relocate to project relocation sites, they will be provided with secure tenure to the replacement land and structures.*
Transport allowance	**All types of structures requiring relocation**	**All APs and tenants required to relocate as a result of losing land and structures**	*For residential structure a lump sum amount of Pakistan Rupees (PKR) 30,000 or higher depending upon the situation on ground.* *For commercial structure or agricultural farm structure a lump sum amount of PKR 20,000 or higher depending upon the situation on ground.*
House rent	**All types of structures requiring relocation**	**All APs and tenants required to relocate as a result of losing land and structures**	*Rental assistance as a lump sum amount computed on the basis of prevailing rental rate for a period as agreed between the AP and project team, to assist the APs in renting house or commercial structure.*
Transition allowance	**All types of structures**	**All APs and tenants**	*On a case-to-case basis, transitional allowance equal to 3 months of recorded income or equal to officially*

	requiring relocation	**required to relocate**	*designated minimum wage rate.*
			6. INCOME RESTORATION
Impacted land-based livelihoods	**All land losses**	**All APs with land-based livelihoods affected**	*Partial loss of arable land: APs will be provided support for investing in productivity enhancing inputs, such as land leveling, erosion control, irrigation infrastructure and farming tools, fertilizers and seeds etc., as feasible and applicable.* *Full Loss of arable land: Project based employment for the willing APs will be worked out and included in bidding documents or training with additional financial support to invest as well as organizational/logistical support for establishing alternate means of livelihood.*
Restricted access to means of livelihood	**Avoidance of obstruction by subproject facilities**	**All APs**	*Un-interrupted access to remaining agricultural fields, business premises and residences of persons in the project area will be ensured in consultation with the APs.*
Businesses	**Temporary business loss due to LAR or construction activities by Project**	**Owner of business (registered, informal) This also includes hawkers and vendors.**	*Cash compensation equal to lost income during period of business interruption up to 3 months based on officially designated minimum wage rate of the provincial government.*
	Permanent business loss due to LAR without possibility of establishing alternative business	**Owner of business (registered, informal) This also includes hawkers and vendors.**	*Cash compensation equal to lost income for 6 months based on officially designated minimum wage rate; and* *Provision of project-based employment or a training opportunity to one of the adult household members.*
Employment	**Employment loss (temporary or permanent) due to LAR.**	**All laid-off employees of affected businesses**	*Cash compensation equal to lost wages at comparable rates as of employment record for a period of 3 months (if temporary) and for 6 months (if permanent) or in absence of record computed based on official minimum wage rate or* *Provision of project-based employment or re-training, with additional financial as well as organizational/logistical support to establish AP in*

			alternative income generation activity.
			7. PUBLIC SERVICES AND FACILITIES
Loss of public services and facilities	**Schools, health centers, administrative services, infrastructure services, graveyards etc.**	**Service provider**	*Full restoration at original site or re- establishment at relocation site of lost public services and facilities, including replacement of related land and relocation of structures according to provisions under sections 1 and 2 of this Entitlement Matrix.*
			8. SPECIAL PROVISIONS
Vulnerable Aps	***Livelihood improvement***	***All vulnerable APs including those below the poverty line, the landless, households headed by elderly, disabled, transgenders, women and children***	*In addition to applicable compensation entitlements for lost assets, relocation and livelihood restoration, the vulnerable APs will be provided with:* *Subsistence allowance for 3 months computed on the basis of officially designated minimum wage rate and other appropriate rehabilitation measures to be defined in the* *RPs and consultations with APs.* *Preference for provision of project-based employment.*

4 IMPLEMENTING ARRANGEMENTS

Proposed Project Management

Both PIUs will be responsible for the facilitation of all resettlement functions including preparation, implementation, financing and supervision of all relocation and resettlement, social development tasks and cross-agency coordination. The PIUs will have the ultimate responsibility to prepare and implement Resettlement Plans under overall supervision, coordination and technical backstopping through their Social Development Specialists for data collection and implementation of the RF at the district, tehsil and village level. PIUs with the support of a consultant will provide support in conducting surveys, census and assessments during preparation of Resettlement Plans.

Proportionate with the substantial risk of the project, implementation of the RF, screening of sub-projects, and preparation and implementation of the Resettlement Plans will be the responsibility of Social Specialists of the PIUs, who will report to their respective Project Directors. The PIUs Social Specialists will also conduct field surveys, assessments and implementation of Plans through filed staff. The responsibilities will be:

- Screening of subprojects in term of involuntary resettlement.
- Train project key staff on RF requirements, with a special focus on ESS5 requirements.
- Elaboration of terms of reference for preparing a Resettlement Plan for each project.

- Engaging and supervising consultants for the preparation of a Resettlement Plan.
- Providing comments on draft Resettlement Plans prepared by the consultants.
- Reviewing and approving the final Resettlement Plan.
- Disclosure of the approved Resettlement Plan.
- Establishing the grievance redress mechanism to address and resolve resettlement related complaints.
- Supporting PIUs for engaging the monitoring and evaluation consultant.
- Preparing quarterly progress reports on resettlement and other related safeguard aspects in cooperation with the Environment Specialist to be hired for the project.
- Supporting PIUs in planning and implementing consultation with stakeholders.
- Maintaining liaison with key stakeholders, including regulatory agencies and the World Bank.
- Elaborating a project closure report on resettlement aspects.

District Agencies

District based agencies have jurisdiction over land acquisition and compensation activities. Land acquisition functions rest with the Deputy Commissioner (formerly known as District Revenue Office), which is a provincial Board of Revenue's represented at the district level. Other staff members of the Revenue Department are to identify titles and verify ownership. Functions pertaining to compensation of non-land assets rest on provincial line agencies and their District level offices. Compensation for houses and other structures considered part of housing pertains to the Department of Housing; productive trees compensation to the Department of Agriculture; and the compensation for wood trees losses to the Department of Forestry, Environment and Wildlife.

Grievances Redressal Mechanism

A GRM detailed in the ESMF and SEP will be set up to address grievances arising from project impacts, including land acquisition and resettlement. The purpose of the GRM with regard to land acquisition and resettlement is to receive, review and resolve grievances from physically and economically displaced persons, and thereby facilitate implementation of this RF as well as related RPs. The GRM is likely to address issues on: (i) location of the subproject so as to avoid specific affected assets; (ii) omission of some APs in a census; (iii) identification, measurement and valuation of losses; (iv) assessment and disbursement of compensation relative to entitlements stipulated in a RP; (v) disputes about ownership of affected assets; (vi) delays in compensation payments, relocation activities or livelihood restoration measures; (vii) design and completion of relocation sites and facilities; (viii) adequacy and appropriateness of income restoration measures; or (ix) concerns with the selection or decision of the Community Development Council (CDC). Special care will be taken to make the GRM accessible to vulnerable persons, including the poor, elderly, handicapped, female heads of households, as well as women and members of ethnic and religious minorities in general. Each RP will indicate specific mechanisms to ensure accessibility for specific groups of APs.

Internal Monitoring

Internal monitoring will be carried out routinely by the Social Specialists of both PIUs under the guidance of the Project Directors. This will include monitoring of:

- Preparation and implementation of Resettlement Plans
- Administration of entitlements and assistance to affected persons
- Status of resolution of all complaints (with details) and consultation plans

Results of internal monitoring will be compiled and shared with the implanting agencies and the World Bank through quarterly progress reports (QPRs). Indicators for the internal monitoring will be those related to process, immediate outputs and results.

External Monitoring

Both PIUs will hire External Monitors for conducting independent monitoring and evaluation during implementation of Resettlement Plans.

Budget

Adequate budgetary support will be fully committed and made available to cover the costs of land acquisition (including compensation and income restoration measures) within the agreed implementation period. The funds for all resettlement activities will come from the Government of Khyber Pakhtunkhwa

All land acquisition and resettlement (LAR) implementation costs, including cost of compensation and LAR administration, will be considered an integral part of Project cost. Each RP will include a budget section indicating unit compensation rates for all affected items and allowances, relocation of structures, rehabilitation of livelihood, methodology followed for the computation of unit compensation rates and a cost table for all compensation expenses including administrative costs and contingencies. Total cost of the RP will also include 10 percent contingencies. Finances for compensation, relocation of structures, rehabilitation of livelihood, allowances, and administration of RP preparation and implementation will be provided by the Project Irrigation department will ensure that all the required funds are available for different resettlement activities before the start of particular activities as scheduled in the RP.

Annexure 1: Involuntary Resettlement Screening Checklist for Civil Works

To be filled for all project related civil works.

Project/Subproject Title: ☐

Implementing Agency: ☐ Processing Stage: ☐

City/Town/Village: _____UC_____ Tehsil_____

District_____ Province_____ Pakistan

Name of Tehsil Council_____

Name of Village Council/Neighborhood Council_____

Categorization Status: New project/subproject ☐ Revision of project/subproject ☐ Other ☐

Name of Enumerator: _____ Date: _____

SECTION 1: Potential Impacts	**Yes**	**No**	**Expected**	**Remarks**
Does the subproject involve any physical construction work, i.e. rehabilitation, reconstruction or new construction? Specify in "remarks" column.				
Land:				
Will the subproject use Government or state owned land?				
Does the Government or state owned land have any occupation (agriculture, settlement, structures, informal settlers?) If "Yes", please refer to Resettlement Framework (RF)				
Does the Governmetn or state owned land have any conflicts or pending compensation to persons it was acquired from?				

SECTION 1: Potential Impacts	**Yes**	**No**	**Expected**	**Remarks**
If “Yes”, the land cannot be used for construction activities till conflicts or pending issues are resolved				
Was adequate compensation provided for the prior acquisition of land as per requirements of the Resettlement Framework and World Bank ESS5. If “No”, the land cannot be used for construction activities till adequate compensation is provided				
Did the acqusition of land prior to the projec involve removal of informal settlers/occupants without adequate compensation as defined in the Resettlement Framework? If “Yes”, the land cannot be used for construction activities till adequate compensation is provided				
Will the subproject acquire and use private or communal land? If “Yes”, please refer to Resettlement Framework (RF)				
Are government land records available for the identified parcel of land? If “No”, please refer to Resettlement Framework (RF) and follow requirements for acquisition of land in Khyber Pakhtunkhwa				
Others (specify in “remarks”).				
Land-based assets:				
Impacts on residential structures				
Impacts on commercial structures (specify in “remarks”)				
Impacts on community structures (specify in “remarks”)				
Impacts on agriculture structures (specify in “remarks”)				
Impacts on public utilities (specify in “remarks”)				
Others (specify in “remarks”)				
Agriculture related impacts:				

SECTION 1: Potential Impacts	**Yes**	**No**	**Expected**	**Remarks**
Impacts on crops and vegetables (specify types and cropping area in "remarks)				
Impacts on Trees (specify number and types in "remarks").				
Others (specify in "remarks").				
Affected Persons (APs):				
Number of APs				
Males				
Females				
Titled land owners				
Tenants and sharecroppers				
Leaseholders				
Agriculture wage laborers				
Informal settlers/occupants (specify in remarks column).				
Vulnerable Aps (e.g. women headed households, minors and aged, orphans, disabled persons and those below the poverty line). Specify the number and vulnerability in "remarks".				
Others (specify in "remarks")				
SECTION 2				
Others:				
Are there any other minority groups affected by land acquisition or project activities? If "Yes" specify in "remarks"				
Minority groups (specify in "remarks"). Describe nature of impacts				

Annexure 2: Voluntary Land Donation (VLD) Framework

This Voluntary Land Donation (VLD) Framework has been prepared to ensure that due diligence will be conducted by the project before the implementation of any interventions/sub-projects require community lands. A sub-project requiring land on a permanent or temporary basis will be dropped if the VLD related criteria provided in this framework are not met.

VLD is an act of free and informed consent. Project staff must ensure that voluntary contributions are obtained without coercion or duress. Project affected persons (PAPs) have the right to refuse to donate assets and receive their entitlement and compensation for their land and assets lost. They will be fully informed of their rights and access to grievance mechanisms described in the project's Resettlement Framework.

1. VLD Due Diligence

Due diligence for VLD will be conducted and documented during the screening phase of each sub-project/intervention requiring land. Due diligence will be carried out by the social safeguards specialist of the Project Implementation Units (PIUs). Due diligence will cover at least the following:

- PIUs must verify and document that land required for the sub-project is given voluntarily and the land to be donated is free from any dispute on ownership or any other encumbrances;
- The land must be jointly identified by the Revenue Department, beneficiary community and project representative.
- PIUs must ensure that the land is appropriate for sub-project purposes and that the sub-project will not result in any adverse social or environmental impacts by using this land;
- The titleholder/s or land owners donating land should be made to understand that they will have equal access to the infrastructure built on the donated land like any other community member and that they cannot claim for any priority treatment;
- PIUs must verify that the donated land does not cause any physical or economic displacement;
- PIUs must verify that the donated land/assets are no more than 10% of the total land assets of the individual;
- In case of communal land, PIUs must acquire consent of 90% of land owners through a consultative process;
- The land titleholders/owners should not belong to vulnerable sections of society, unless he/she is a direct beneficiary of the sub-project (i.e., donated parcel of land would result in net gains in that person's livelihood). Vulnerable sections are:
    - households below the poverty line (with a valid government issued proof);
    - women headed households with women as sole earners who may lose their shelter or livelihood due to land donation;
    - handicapped persons who may lose their shelter or livelihood due to land donation.
- PIUs must ensure free and informed decision-making through meaningful consultations conducted in good faith with all potential land donors. Documented verification must be maintained of this consultation showing that land donors are in agreement with the sub-project and its benefits, and agree to donate their land;

- PIUs must ensure that separate discussions are held with vulnerable donors such as women, elderly and orphans to facilitate meaningful participation and ensure there is no coercion by other land donors;
- PIUs must verify that land is free from any encroachments;
- PIUs must verify that land donation will not displace tenants or bonded labour, if any, from the land;
- PIUs must ensure that the community has knowledge of and access to a fair system of grievance redress, and that the system for project monitoring and reporting is in place.

2. VLD Documentation

PIUs will document the VLD due diligence for each sub-project that requires donation of private or communal land through the following means:

- Completion of VLD Due Diligence/Screening Checklist at sub-project planning/screening stage (format provided as Annexure 5);
- Completion and signing of the written consent form for VLD on Stamp Paper of the amount required by the Revenue Department for land donation. This needs to be verified by notary public, and by all donors (in Urdu) (format provided as Annexure 6);
- Verification of donation and signing of consent form by two witnesses who are community notables to ensure that the land was voluntarily donated without any form of coercion or duress;
- The VLD due diligence information will be verified during detailed design preparation of the sub-project and updated as necessary.

3. VLD Monitoring

VLD will be monitored by the social safeguards specialists at PIUs and periodically reviewed by the WB as per the requirements provided in the ESMF. During review missions, WB will verify that land donation due diligence has been conducted in accordance with the above procedures.

4. Grievance Redress Mechanism

Anticipated grievances may relate to coercion for land donation or a donation of more than 10% of private land holding. Any complaint will go to the grievance redress mechanism (GRM) established for the project.

5. Consultations

This VLD Framework will be included in consultations with communities about the project, the rights and options available to them, and proposed mitigation measures for adverse effects. To the extent possible, communities will be involved in the decisions that are made concerning VLD and resettlement.

Annexure 3: VLD/Due Diligence Screening Checklist

Screening for Due Diligence	Yes	No	Remarks
Is the land in question free from any dispute on ownership or any other encumbrances?			
Has the land been jointly identified by the Revenue Department, beneficiary community and project representative?			
Has the Project team ensured that the land is appropriate for sub-project purposes and that the sub-project will not result in any adverse social or environmental impacts by using this land?			
Have efforts must be taken by the project team to spread land donation over a number of owners rather than one influential land-owner?			
Have the Titleholders or land owners donating land been made to understand that they will have equal access to the infrastructure built on the donated land like any other community member and that they cannot claim for any priority treatment?			
Is the land to be donated no more than 10% of the total land holding of the individual?			
In case of communal land, has consent of 90% of land-owners through a consultative process been acquired?			
1. Has it been ensured that the land titleholder/owner does not belong to vulnerable sections of society, unless he/she is a direct beneficiary of the subproject (i.e., donated parcel of land would result in net gains in that person's livelihood)? Vulnerable sections are: households below the poverty line (with a valid government issued proof); Women headed households who may lose their shelter of livelihood due to land donation; Handicapped persons who may lose their shelter or livelihood due to land donation,			
Has free and informed consent through meaningful consultations in good faith with all potential land donors been ensured?			
Have separate discussions been held with vulnerable donors such as women, elderly and orphans to facilitate meaningful participation and ensure there is no coercion by other land donors?			

Screening for Due Diligence	**Yes**	**No**	**Remarks**
Has it been verified that land is free from any encumbrances?			
Has it been verified that land donation will not displace tenants or bonded labor, if any, from the land?			
Has it been verified that land donated is not land used by indigenous peoples either traditionally or customarily?			

If the answer to any of the above is NO, the land in question does not qualify for Voluntary Land Donation

Annexure 4: Sample Agreements for Voluntary Land Donation (to be translated into Urdu/Pashto)

1. Sample Agreement for VLD in Settled Districts/Areas with Land Records

(Voluntary Donation of Land on Stamp Paper of value prescribed by Revenue Department

2. 1. This deed of voluntary donation is made and executed on ..... day of ..... between Mr./Ms./Mrs .....S/O W/O D/O Mr. ---------- ---------- AND the Government of Khyber Pakhtunkhwa to render ---------- services (insert project title and location here). Herein after called the "Recipient" which term denotes to "for and on behalf of Project Implementation Units, Resilience, Early Action, and Disaster Readiness for Khyber Pakhtunkhwa (READY-KP) Project, Government of Khyber Pakhtunkhwa, on the other part and shall mean and include his successors – in office, nominees and assignees etc.

3. 2. Whereas, the details of the title holder and location of the land are given below:

4. **Land and Location Details**

Land record No:	Location /Village:
Tehsil and UC:	District:
Land Area:	Details of Structures on land:
Description of North Boundary:	Description of East Boundary:
Description of West Boundary:	Description of South Boundary:

5. Note: Detailed Map to scale is appended.

6. **Title Holder Details**

Title Holder Name and CNIC Number:	Name of Father/Husband and CNIC Number:
Age: Occupation	Status: Title Holder/ Encroacher
Residence:	Gender:

7.

8. 3. Whereas the Title Holder is presently using/ holds the transferable right of the above mentioned piece of land in the village mentioned above. Whereas the Encroacher does not hold any transferable rights of the above mentioned piece of land in the village mentioned above but has been a long standing encroacher, dependent on its usufruct hereditarily.

9. 4. Whereas the Title Holder/Encroacher testifies that the land is free of encumbrances and not subject to other claims/ claimants.

10. 5. Whereas the Title Holder/Encroacher hereby voluntarily surrenders the land/structure without any type of pressure, influence or coercion what so ever directly or indirectly and hereby surrender all his/her subsisting rights in the said land with free will and intention.

11. 6. Whereas the Recipient shall construct and develop infrastructure facilities under READY-KP, Government of KP and take all possible precautions to avoid damage to adjacent land/structure/other assets.

12. 7. Whereas both the parties agree that the infrastructure so constructed/developed shall be for the project purpose.

13. **Signatories**

<table>
<tr><td colspan="2">Title Holder</td><td colspan="2">Tehsildar</td></tr>
<tr><td>Name</td><td></td><td>Name</td><td></td></tr>
<tr><td>CNIC</td><td></td><td>Official seal</td><td></td></tr>
<tr><td></td><td></td><td>Transfer registration No.</td><td></td></tr>
<tr><td colspan="2">Village Council/Neighborhood Council Chairman</td><td></td><td></td></tr>
<tr><td>Name</td><td></td><td></td><td></td></tr>
<tr><td>CNIC</td><td></td><td></td><td></td></tr>
<tr><td colspan="4">Witnesses*</td></tr>
<tr><td rowspan="2">1. Chairman/ President/General Secretary of the Community Organization</td><td>Name</td><td></td><td rowspan="2">Signature</td></tr>
<tr><td>CNIC</td><td></td></tr>
<tr><td rowspan="2">2. Revenue Officer/Patwari</td><td>Name</td><td></td><td rowspan="2">Signature</td></tr>
<tr><td>CNIC</td><td></td></tr>
<tr><td rowspan="2">3. PIU Representative</td><td>Name</td><td></td><td rowspan="2">Signature</td></tr>
<tr><td>CNIC</td><td></td></tr>
</table>

*Witnesses may be changed

2. Sample Agreement for VLD in Areas of NMDs without Land Records

(Voluntary Donation of Land on Stamp Paper of value prescribed by Revenue Department

1. This deed of voluntary donation is made and executed on ..... day of .....

2. Between Mr. .....S/O Mr. ----------, Community Notable/Elder on behalf of Mr/Ms/Mrs ----------SO/DO/WO ---------- ---------- CNIC Number ---------- AND the Government of Khyber Pakhtunkhwa to render ---------- services (insert sub-project title and location here). Herein after called the "Recipient" which term denotes to "for and on behalf Project Implementation Unit, Resilience, Early Action, and Disaster Readiness for Khyber Pakhtunkhwa (READY-KP) Project, Government of Khyber Pakhtunkhwa" on the other part and shall mean and include his successors – in office, nominees and assignees etc.

14. 2. Whereas, the details of the title holder and location of the land are given below:

15. **Land and Location Details**

GIS Coordinates:	Location /Village:
Tehsil and UC:	District:
Land Area:	Details of Structures on land:
Description of North Boundary:	Description of East Boundary:
Description of West Boundary:	Description of South Boundary:

16. Note: Detailed Map to scale is appended.

17. **Title Holder Details**

Land Owner Name and CNIC Number:	Name of Father/Husband and CNIC Number:
Age: Occupation	Status: Land Owner as Verified by Tribal Elder
Residence:	Gender:

18.

19. 3. Whereas the land owner is presently using/ holds the transferable right of the above mentioned piece of land in the village mentioned above. Whereas the Encroacher does not hold any transferable rights of the above mentioned piece of land in the village mentioned above but has been a long standing encroacher, dependent on its usufruct hereditarily.

20. 4. Whereas the land owner/encroacher testifies that the land is free of encumbrances and not subject to other claims/ claimants.

21. 5. Whereas the land owner/encroacher hereby voluntarily surrenders the land/structure without any type of pressure, influence or coercion what so ever directly or indirectly and hereby surrender all his/her subsisting rights in the said land with free will and intention.

22. 6. Whereas the Recipient shall construct and develop infrastructure facilities READY-KP and take all possible precautions to avoid damage to adjacent land/structure/other assets.

23. 7. Whereas both the parties agree that the infrastructure so constructed/developed shall be for the project purpose.

24. **Signatories**

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<tr><td></td><td></td><td>Transfer registration No.</td><td></td></tr>
<tr><td colspan="2">Village Council/Neighborhood Council Chairman</td><td>Tribal Notable/Elder</td><td></td></tr>
<tr><td>Name</td><td></td><td>Name</td><td></td></tr>
<tr><td>CNIC</td><td></td><td>CNIC</td><td></td></tr>
<tr><td colspan="4">Witnesses*</td></tr>
<tr><td rowspan="2">1. VC/NC /General Secretary</td><td>Name</td><td></td><td rowspan="2">Signature</td></tr>
<tr><td>CNIC</td><td></td></tr>
<tr><td rowspan="2">2. Village Numberdar</td><td>Name</td><td></td><td rowspan="2">Signature</td></tr>
<tr><td>CNIC</td><td></td></tr>
<tr><td rowspan="2">3. PIU Representative</td><td>Name</td><td></td><td rowspan="2">Signature</td></tr>
<tr><td>CNIC</td><td></td></tr>
</table>

*Witnesses may be changed

Annexure 5: Elements of a Resettlement Plan

Minimum Elements of a Resettlement Plan

A Resettlement Plan must include at least the following elements:

1. ***Description of the project***. General description of the project and identification of the project area.
2. ***Potential impacts***. Identification of:
    a) The project components or activities that give rise to displacement, explaining why the selected land must be acquired for use within the time frame of the project;
    b) the zone of impact of such components or activities;
    c) the scope and scale of land acquisition and impacts on structures and other fixed assets;
    d) any project-imposed restrictions on use of, or access to, land or natural resources;
    e) alternatives considered to avoid or minimize displacement and why those were rejected; and
    f) The mechanisms established to minimize displacement, to the extent possible, during project implementation.
3. ***Objectives.*** The main objectives of the resettlement program.
4. ***Census survey and baseline socioeconomic studies.*** The findings of a household-level census identifying and enumerating affected persons, and, with the involvement of affected persons, surveying land, structures and other fixed assets to be affected by the project. The census survey also serves other essential functions:
    a) identifying characteristics of displaced house- holds, including a description of production systems, labor, and household organization; and baseline information on livelihoods (including, as relevant, production levels and income derived from both formal and informal economic activities) and standards of living (including health status) of the displaced population;
    b) information on vulnerable groups or persons for whom special provisions may have to be made;
    c) identifying public or community infrastructure, property or services that may be affected;
    d) providing a basis for the design of, and budgeting for, the resettlement program;
    e) in conjunction with establishment of a cutoff date, providing a basis for excluding ineligible people from compensation and resettlement assistance; and
    f) Establishing baseline conditions for monitoring and evaluation purposes.

As the Bank may deem relevant, additional studies on the following subjects may be required to supplement or inform the census survey:

    g) land tenure and transfer systems, including an inventory of common property natural resources from which people derive their livelihoods and sustenance, non-title-based usufruct systems (including fishing, grazing, or use of forest areas) governed by local recognized land allocation mechanisms, and any issues raised by different tenure systems in the project area;
    h) the patterns of social interaction in the affected communities, including social net- works and social support systems, and how they will be affected by the project; and

i) Social and cultural characteristics of displaced communities, including a description of formal and informal institutions (e.g. community organizations, ritual groups, nongovernmental organizations (NGOs)) that may be relevant to the consultation strategy and to designing and implementing the resettlement activities.

5. ***Legal framework****.* The findings of an analysis of the legal framework, covering*:*

a) the scope of the power of compulsory acquisition and imposition of land use restriction and the nature of compensation associated with it, in terms of both the valuation methodology and the timing of payment;
b) the applicable legal and administrative procedures, including a description of the remedies available to displaced persons in the judicial process and the normal timeframe for such procedures, and any available grievance redress mechanisms that may be relevant to the project;
c) laws and regulations relating to the agencies responsible for implementing resettlement activities; and
d) gaps, if any, between local laws and practices covering compulsory acquisition, imposition of land use restrictions and provision of resettlement measures and ESS5, and the mechanisms to bridge such gaps.

6. ***Institutional framework****.* The findings of an analysis of the institutional framework covering*:*

a) the identification of agencies responsible for resettlement activities and NGOs/CSOs that may have a role in project implementation, including providing support for displaced persons;
b) an assessment of the institutional capacity of such agencies and NGOs/CSOs; and
c) Any steps that are proposed to enhance the institutional capacity of agencies and NGOs/CSOs responsible for resettlement implementation.

7. ***Eligibility.*** Definition of displaced persons and criteria for determining their eligibility for compensation and other resettlement assistance, including relevant cutoff dates.

8. ***Valuation of and compensation for losses*****.** The methodology to be used in valuing losses to deter- mine their replacement cost; and a description of the proposed types and levels of compensation for land, natural resources and other assets under local law and such supplementary measures as are necessary to achieve replacement cost for them.

9. ***Community participation*****.** Involvement of displaced persons (including host communities, where relevant):

a) A description of the strategy for consultation with, and participation of, displaced persons in the design and implementation of the resettlement activities;
b) a summary of the views expressed and how these views were taken into account in preparing the resettlement plan;
c) a review of the resettlement alternatives presented and the choices made by displaced persons regarding options available to them; and
d) Institutionalized arrangements by which displaced people can communicate their concerns to project authorities throughout planning and implementation, and measures to ensure that such vulnerable groups as indigenous people, ethnic minorities, the landless, and women are adequately represented.

10. ***Implementation schedule****.* An implementation schedule providing anticipated dates for displacement, and estimated initiation and completion dates for all resettlement plan

activities. The schedule should indicate how the resettlement activities are linked to the implementation of the overall project.

11. ***Costs and budget***. Tables showing categorized cost estimates for all resettlement activities, including allowances for inflation, population growth, and other contingencies; timetables for expenditures; sources of funds; and arrangements for timely flow of funds, and funding for resettlement, if any, in areas outside the jurisdiction of the implementing agencies.
12. ***Grievance redress mechanism***. The plan describes affordable and accessible procedures for third-party settlement of disputes arising from displacement or resettlement; such grievance mechanisms should take into account the availability of judicial recourse and community and traditional dispute settlement mechanisms.
13. ***Monitoring and evaluation***. Arrangements for monitoring of displacement and resettlement activities by the implementing agency, supplemented by third-party monitors as considered appropriate by the Bank, to ensure complete and objective information; performance monitoring indicators to measure inputs, outputs, and outcomes for resettlement activities; involvement of the displaced persons in the monitoring process; evaluation of results for a reasonable period after all resettlement activities have been completed; using the results of resettlement monitoring to guide subsequent implementation.
14. ***Arrangements for adaptive management***. The plan should include provisions for adapting resettlement implementation in response to unanticipated changes in project conditions, or unanticipated obstacles to achieving satisfactory resettlement outcomes

ANNEX – E
ENVIRONMENTAL AND SOCIAL SCREENING CHECKLIST

A	**General Information**	
1	Location	
2	Date	
3	Name of Scheme	
4	Important geographic / topographic feature (if any)	

Sr. No.	Checklist Item	Yes/No /N-A	Risk Level				Comments/Actions
			Low	Moderate	Substantial	High	
ENVIRONMENTAL RISKS							
1.	Why was this scheme originally built?						
2.	When and why was it damaged?						
3.	What are the reasons to rehabilitate or improve this scheme?						
4.	What is the historical frequency and severity of extreme weather events in the project area (particularly floods)?						
5.	Will the project require significant land disturbance or clearance?						
6.	Is the project in/near protected areas, Buffer zone of protected area, Ramsar sites, wildlife sanctuaries, reserved forests?						
7.	Will the project impact critical natural habitats or endangered species?						
8.	Will there be any impact on flora or removal of trees and fauna.						
9.	Impediments to movements of people and animals?						
10.	Will the project alter hydrology, surface/groundwater regimes?						

Sr. No.	Checklist Item	Yes/No /N-A	Risk Level				Comments/Actions
			Low	Moderate	Substantial	High	
11.	Will the project involve the storage, handling, or transport of hazardous substances?						
12.	Is there risk of water contamination, sedimentation, or drainage changes?						
13.	Will the project require a large amount of raw or construction materials, energy and/or water?						
14.	Will the project cause land degradation, changes in hydrology, erosion, or soil loss?						
15.	Are there risks of soil and water contamination from project activities?						
16.	Will the project generate significant dust, emissions, or noise?						
17.	Is the area prone to extreme weather (floods, cyclones, earthquakes)?						
18.	Are climate resilience measures integrated into project design?						
19.	Are slope stabilization and soil retention measures integrated for mountainous areas prone to landslides?						
20.	Are dams/flood protection structures involved? Do they meet dam safety requirements?						
21.	Is independent dam safety review or Panel of Experts needed?						
22.	Impairment of downstream water quality and therefore, impairment of downstream beneficial uses of water?						
23.	Noise, Air, Dust issues from construction activities?						
24.	Will the project generate large amounts of residual wastes, construction material waste?						
25.	Waterlogging and soil salinization due the project.						
26.	Clogging of canals by sediments?						
27.	Risks to community and occupational health and safety due to the transport, storage, and use and/or disposal of materials such as explosives, fuel, and other chemicals during construction and operation?						
28.	Could changes in temperature, precipitation, or extreme events patterns over the Project lifespan affect technical or financial sustainability						

Sr. No.	Checklist Item	Yes/No /N-A	Risk Level				Comments/Actions
			Low	Moderate	Substantial	High	
29.	Will the project cause any significant loss or degradation of critical habitats?						
SOCIAL RISKS							
30.	Will the project require land acquisition, physical and/or economic displacement, or eminent domain?						
31.	Will rehabilitation work affect existing community safety during construction? (e.g. impeding access to roads for evacuation, essential services, etc)						
32.	Are resettlement action plans and compensation mechanisms in place?						
33.	Will the project restrict access to water, grazing, or other natural/community resources?						
34.	Is there risk of severe loss of livelihood or displacement?						
35.	Will the project involve large-scale labor influx?						
36.	Are there risks of forced labor, child labor, or human trafficking?						
37.	Are labor standards and grievance mechanisms established?						
38.	Is there risk of sexual exploitation, abuse, or harassment (SEA/SH)?						
39.	Are SEA/SH mitigation measures and reporting protocols in place?						
40.	Will the project expose communities to hazardous materials, diseases, or accident risk?						
41.	Are emergency response and health facilities adequate?						
42.	Will rehabilitated/rebuilt infrastructure affect the current distribution of flood risk between communities? (e.g. will new risks arise for downstream communities, etc)						
43.	What were the primary adverse impacts of extreme weather events (especially floods) on the local communities?						
44.	Are marginalized groups (women, children, indigenous peoples) at risk of exclusion or adverse impact?						

Sr. No.	Checklist Item	Yes/No /N-A	Risk Level				Comments/Actions
			Low	Moderate	Substantial	High	
45.	Has the project been designed to ensure that project benefits are equitably distributed and reach all beneficiaries, especially vulnerable groups?						
46.	Is stakeholder engagement inclusive and culturally appropriate?						
47.	Will the project affect graves, temples, churches, relics, archaeological sites, or cultural assets?						
48.	Are chance-find procedures and protection measures in place?						
49.	Has meaningful consultation been conducted with affected communities?						
50.	Are stakeholder concerns documented and addressed?						
51.	Are project documents (ESMP, ESRS, ESMF, ESCP) publicly disclosed and accessible?						
52.	Is a robust grievance redress mechanism established and accessible (e.g. available in local languages, accessible to illiterate beneficiaries)?						
53.	Does the grievance mechanism include provisions for anonymous reporting of grievances (e.g. for sensitive grievances?)						
54.	Do agencies have adequate capacity for E&S risk management, monitoring, and reporting?						
55.	Are monitoring plans in place for E&S risks and impacts?						
56.	Is adaptive management integrated to respond to changing risks?						
57.	Are all relevant WB ESF standards (ESS1-ESS10) addressed?						
58.	Will the project use involve the use of international waterways?						
59.	Will the project or any component of the project fall within any disputed areas?						
60.	Have any anti-encroachment drives been conducted in the past three (3) years?						
61.	Any other unanticipated risks?						

Khyber Pakhtunkhwa Environmental Protection Agency (KEPA) NOC / Environmental Approval Required	[ ] Yes, [ ] No, if Yes, select the required study from below
Type of Environmental and Social Study	EIA [ ], IEE [ ], GEA [ ]
Any other NOC from Government of Khyber Pakhtunkhwa (GoKP)/ Government of Pakistan (GoP) Required	[ ] Yes, [ ] No, if Yes, please specify
For World Bank Approval	
Further assessment required	[ ] Yes [ ] No, if Yes, select the required study from below
Type of Environmental and Social Assessment	ESIA [], ESMP [ ], E&S Checklist shall suffice [ ], RAP [ ], LRP [ ], PCRMP [ ], Water Balance Study [ ], GHG Estimation [ ], BAP [ ], E&S Audit [ ] Other [ ]

ES Risk Classification:_____

Note: The presence of any activity falling under the Exclusion List shall automatically elevate the subproject/activity to High risk and may render it ineligible for financing under this Project.

Survey Performed By:

Name: _____Designation: _____ Signature: _____ Date: _____

Reviewed and Approved By:

Name: _____Designation: _____ Signature: _____ Date: _____

PICTORIAL REPRESENTATION OF PROJECT SITE

ANNEX – F
TEMPLATE OF ESMP

Proposed ESMP Structure

The content of the ESMP will include, but not limited to the following:

- **Abbreviations And Glossary**
- **Executive Summary:** Concisely discusses significant findings and recommended actions including summary Table of ESMP.
- **Introduction,** including background, objective of ESMP, Approach and Methodology, Project Area; Study Team
- **Legal and policy framework,** GoP/ Khyber Pakhtunkhwa requirements (legislation; guidelines and rules; policies; international treaties signed by Pakistan; national and provincial authorities; environmental procedures), their applicability, and compliance status for the Project. World Bank requirements (ESF and ESS; and WBG Environmental Health and Safety guidelines) and their triggering and compliance status for the Project.
- **Description of the proposed subprojects**, including need of the project, layout and location, salient features, resource requirements, wastes to be generated, manpower requirement, a brief description of construction activities, and a brief description of operation and maintenance activities.
- **Baseline description,** primarily describing the proposed site and its immediate surrounding aided with maps, photographs and schematics, key environmental and social aspects/resources of the surroundings such as land form and land use, water resources, settlements, any critical habitat or protected area, any cultural heritage sites or graveyards, any sensitive receptor such as schools and hospitals, access routes, and other relevant details.
- **Stakeholder consultations**, recording the key concerns and suggestions of the community regarding the proposed subprojects and its potential impacts, and a description of the way these concerns will be addressed.
- **Impact assessment:** methods and techniques for analyzing the anticipated environmental and social impacts.
- Discussion of the potentially adverse **environmental and social impacts** of the proposed sub-project along with their significance.
- **Mitigation plans,** listing all the impacts, their mitigation measures, assigning responsibility of implementing these measures, and also assigning responsibility for monitoring. Also identifying cumulative impacts if applicable.
- **Institutional Arrangement** including roles and responsibilities and capacity available
- **Monitoring plan**, describing the monitoring requirements, frequency, and responsibility of conducting the monitoring.
- **Capacity development and training plan,** describing the training requirements, contents, frequency, training recipients, and responsibility of conducting the desired trainings.
- **Documentation and reporting,** describing the requirement, frequency, and responsibility of documentation and reporting.
- **Grievances redress mechanism (GRM),** a mechanism to define roles and responsibilities of the persons responsible to address the grievances of the affectees.
- **ESMP implementation budget,** providing the cost estimate of its implementation.

ANNEX – G
INCIDENT REPORTING FORM

B1: Incident Details			
Date of Incident:	**Time:**	**Date Reported to PIU:**	**Date Reported to WB:**
Reported to PIU by:	**Reported to WB by**:	**Notification Type**: Email/'phone call/media notice/other	
Trading Name of Main Contractor:		**Trading Name of Subcontractor**:	

B2: Type of Incident (please check all that apply)

Fatality ☐ Lost Time Injury ☐ Displacement Without Due Process ☐ Child Labor ☐ Acts of Violence/Protest ☐ Disease Outbreaks ☐ Forced Labor ☐ Unexpected impacts on heritage resources ☐ Unexpected impacts on biodiversity resources ☐ Environmental pollution incident ☐ Dam failure ☐ Other ☐

B3: Description/Narrative of Incident

Please replace text in italics with brief description, noting for example:

I. *What is the incident?*
II. *What were the conditions or circumstances under which the incident occurred (if known)?*
III. *Are the basic facts of the incident clear and uncontested, or are there conflicting versions? What are those versions?*
IV. *Is the incident still ongoing or is it contained?*
V. *Have any relevant authorities been informed?*

B4: Actions taken to contain the incident

Short Description of Action	**Responsible Party**	**Expected Date**	**Status**

For incidents involving a contractor:

Have the works been suspended (*for example, under Contract GCC7.6 or GCC8.9 of Works*)? Yes ☐**;** No ☐**; Please attach a copy of the instruction suspending the works.**

B5: What support has been provided to affected people

C1: Investigation Findings

Please replace text in italics with findings, noting for example:

I. *where and when the incident took place*
II. *who was involved, and how many people/households were affected*
III. *what happened and what conditions and actions influenced the incident*
IV. *what were the expected working procedures and were they followed*
V. *did the organization or arrangement of the work influence the incident*
VI. *were there adequate training/competent persons for the job, and was necessary and suitable equipment available*
VII. *what were the underlying causes; where there any absent risk control measures or any system failures*

C2: Corrective Actions from the investigation to be implemented (to be fully described in Corrective Action Plan)

Action	**Responsible Party**	**Expected Date**

C3a: Fatality/Lost time Injury information

Cause of fatality/injury for worker or member of the public (please check all that apply):

1. Caught in or between objects ☐ 2. Struck by falling objects ☐ 3. Stepping on, striking against, or struck by objects ☐

4. Drowning ☐ 5. Chemical, biochemical, material exposure ☐ 6. Falls, trips, slips ☐ 7. Fire & explosion ☐

8. Electrocution ☐ 9. Homicide ☐ 10. Medical Issue ☐ 11. Suicide ☐ 12. Others ☐

***Vehicle Traffic:* 13. Project Vehicle Work Travel ☐ 14. Non-project Vehicle Work Travel ☐ 15. Project Vehicle Commuting ☐**

16. Non-project Vehicle Commuting ☐ 17.Vehicle Traffic Accident (Members of Public Only) ☐

Name	Age/DOB	Date of Death/Injury	Gender	Nationality	Cause of Fatality/Injury	Worker (Employer)/Public

C3b: **Financial Support/Compensation Types (To be fully described in Corrective Action Plan template)**

1. Contractor Direct ☐ 2. Contractor Insurance ☐ 3. Workman's Compensation/National Insurance ☐

4. Court Determined Judicial Process ☐ 5. Other ☐ 6. No Compensation Required ☐

Name	Compensation Type	Amount (US$)	Responsible Party

C4: Supplementary Narrative

For incidents involving a contractor:

Have the works been suspended in part or whole (for example, while corrective actions are put in place under Contract GCC7.6 or 8.9 of Works)? Yes ☐**;** No ☐**;**

Please attach a copy of the instruction suspending the works.

ANNEX-H
SAMPLE ENVIRONMENTAL AND SOCIAL MONITORING CHECKLIST

Project Name: _____ Activities Inspected_____
Location _____ Weather Condition_____
Date: _____ Time: _____

Sr. No.	Performance Indicators	Yes	No	N/A	Description	Remarks
Environment						
1.	Heavy Dust					
2.	Excessive noise or vibration					
3.	Water sprinkling at the construction and disposal sites					
4.	Discharge of waste water to nearby water course/water body					
5.	Soil erosion					
6.	Any spillage of fuel/oil observed					
7.	Dumping of solid waste at designated Site					
8.	Dumping of construction waste/spoil at designated Site					
9.	Burning of waste materials					
10.	Unattended borrow areas					
11.	Awareness and training					
Ecological						
12.	Protection of Flora/Fauna					
13.	Cutting of trees / vegetation					
14.	Compensatory plantation					
15.	Hunting, trapping or poaching					
16.	Introduction alien or non-native species					
17.	Awareness and training					
Social						
18.	Availability of Drinking water					
19.	Site housekeeping					
20.	Warning signs displayed near construction zone.					
21.	Use of PPEs by the beneficiaries and workers					

Sr. No.	Performance Indicators	Yes	No	N/A	Description	Remarks
22.	Any incident/accident (use separate proforma)					
23.	Labour influx					
24.	Any GBV/SEA and privacy related complaints					
25.	Availability of first aid boxes at site					
26.	Any land acquisition					
27.	Any involuntary resettlement under the project					
28.	Disturbance due to construction camp, if any					
29.	Security issues					
30.	Proportion of local labor in the project					
31.	Child/Forced Labor					
32.	Is the GRM properly in place					
33.	Regular monitoring of complaint register is in practice					
34.	Training and awareness					
35.	Any exclusion, specially to women, disadvantaged groups and marginalized people from project forums					
36.	Any elite capture related grievance					
37.	Participation of women, children, and vulnerable groups in consultations and project activities					
38.	Any Unusual Conditions (e.g., heavy rain, extreme weather)					
39.	Chance finds during construction					
40.	Unanticipated impact, if any					
Note If any:						

Filled By:	**Extra Note if needed:**
_____ **Signature** **Name:** _____ **Position:** _____	

Annex-I: Sample for E&S Monitoring Report

1. Introduction of the Project
2. Summary of Ongoing and Recently Completed Works along with Overall Progress (%)
3. Purpose of EHS Report and Reporting Period
4. EHS Applicable Legislative Requirements
5. Summary of EHS Activities Performed in the Reporting Period
6. List of EHS Staff Posted at Site including First Aiders
7. Key Performance Indicators
8. Description of Worker's Facilities and Labor Accommodation
9. List of Heavy Machinery and Equipment engaged at Site
10. First Aid and Emergency Response Facilities
11. Environmental Monitoring Activities including Third Party Environmental Monitoring, Sampling and Testing Results
12. Waste Management System including waste production and disposal logs for construction waste, camp/site municipal waste and camp wastewater
13. Soil Erosion and Soil Contamination
14. Oil Spills and Preventive Measures
15. Status of PPE's compliance
16. EHS Toolbox Talks, Trainings and Drills
17. Equipment/Material Transportation and Handling
18. Labor Code of Conduct
19. Labor Wages
20. Child Labor Labor and Gender Based Violence
21. Electrical Safety Measures
22. Permit to Work System
23. Site Inspections/Audits
24. EHS Meetings and Visits
25. Incident/Accident Reporting
26. Fire Prevention Measures
27. Grievance Redress Mechanism
28. Good Practices and Opportunities for Improvement
29. Conclusion and Recommendations
30. Any supporting attachments to above contents